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Belting Technology

Volta Belting Technology

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About Volta Belting

Volta Belting Technology Ltd. has been a world leader in the manufacture of Thermoplastic Elastomer (TPE) belting and profiles for over 50 years. Volta Belting's homogeneous belts are known for their high material strength, superior dimensional exactitude and stability. The materials are cut and wear -resistant and impervious to water, oils and other fluids. They are easy to install on-site, with a minimum of contamination to the work area, and, if damaged, can be repaired efficiently by closing tears or replacing sections. Volta belting's positive drive flat belts are uniquely designed to overcome the numerous shortcomings associated with conventional conveyor belts: suitability in wet (even submerged)conditions without off-tracking and without the need for friction rollers, thereby saving on conveyor design and bringing the food processing industry closer to its goal of providing safe, affordable food for all. The food-grade belts are FDA/USDA/USDA Dairy approved and confirm to EC regulations. The materials also support HACCP principles and are suited to CIP procedures. In general industries, the belts come into their own by offering superior durability (for a ''lifetime'') and savings in maintenance and downtime. Volta Belting serves specialized industries such as wood and furniture, paper and packaging production, metal processing, automotive, recycling and mechanized logistic facilities. Volta Belting offers the largest range of round and trapezoid (V) profiles. In a number of key industries, the profiles can be used as rings to drive roller beds. Volta Belting provides experienced sales and technical service support in more than 50 countries, covering major industrial centers throughout North and South America, Europe, Asia and Africa. On site training is available at Volta Belting's main fabrication centers in North America and Europe. Volta Belting's innovative belting technology guarantees extended productivity, lower costs of ownership and optimal operation in every installation.

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Belting Technology

Flat Belts Food Industry

Conveying Solutions

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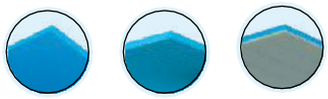
Volta has been manufacturing belts from homogenous Thermoplastic Elastomer (TPE) materials for over 55 years.
The base belts are cut and abrasion resistant and have no ply or hinged elements which harbor bacteria.
Volta products are the optimal choice where superior hygiene, conveying and cost efficiency are targets.

Homogeneous Belts											
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (Bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
FHB	Blue16		59D	-20° C to 75°C -5° F to 170°F	0.28	2	70	2 3/4	2	11.20	FDA/USDA /EU
						3	90	3 9/16	3	16.80	
						4	110	4 3/8	4	22.40	
						5	150	5 7/8	5	28.00	
						6	180	7	6	33.60	
FHB	Blue13		59D	-20° C to 75°C -5° F to 170°F	0.28	4	110	4 3/8	4	22.40	FDA/USDA /EU
FHW	Off white		59D	-20° C to 75°C -5° F to 170°F	0.28	1.5	50	2	1.50	8.40	FDA/USDA /EU
						2	70	2 3/4	2	11.20	
						3	90	3 9/16	3	16.80	
						4	110	4 3/8	4	22.40	
						5	150	5 7/8	5	28.00	
						6	180	7	6	33.60	
FMB	Blue		95A/46D	-30° C to 70°C -20° F to 158°F	0.40	2.5	35	1 3/8	1.50	8.40	FDA/USDA /EU
						3	40	1 5/8	1.80	10.10	
						4	60	2 3/8	2.40	13.50	
						5	80	3 1/8	3	16.90	
						6	90	3 9/16	3.60	20.25	
FMW	Beige		95A/46D	-30° C to 70°C -20° F to 158°F	0.40	2.5	35	1 3/8	1.50	8.40	FDA/USDA /EU
						3	40	1 5/8	1.80	10.10	
						4	60	2 3/8	2.40	13.50	
						5	80	3 1/8	3	16.90	
						6	90	3 9/16	3.60	20.25	
FMWC	Clear		95A/46D	-30° C to 70°C -20° F to 158°F	0.40	2.5	35	1 3/8	1	8.40	FDA/USDA /EU
						3	40	1 5/8	1.2	6.70	
						4	60	2 3/8	1.6	9	
						5	80	3 1/8	2	11	
						6	90	3 9/16	2.4	13.4	
FTB	Blue13		72A	-40°C to 40°C -40°F to 104°F	1.25	3	19	3/4	0.57	3.2	FDA/ EU
Hydrolysis & Chemical Resistant (DR) Homogenous Belts											
FDR	Blue15		53D	-30° C to 70°C -20° F to 158°F	0 .55	4	80	3 1/16	2.4	13.5	FDA/USDA/ EU
Low Temperature (LT) Homogeneous Belts											
FMB-LT	Blue15		95A/46D	-35°C to 65°C -31°F to 149°F	0.36	3	40	1 5/8	1.20	6.70	FDA/ EU
						4	60	2 3/8	1.60	9	
						5	80	3 1/8	2	11.20	
						6	90	3 9/16	2.40	13.40	
Metal Detectable (MD) Homogeneous Belts											
FMB-MD	Blue 09		95A	-20°C to 60°C -5°F to 140°F	0.50	3	75	3	1.80	10.1	FDA/ EU

Standard belt width = 1524mm (60”).Some of the belts are also available in 2032mm (80”) width.
Please contact Volta Belting representative for additional information.

Flat Belt Bottom Surfaces



Smooth Embossed Reinforced

Flat Belt Impression Top Surfaces

ITM Matt Top | ITS - 70 Impression Top Square | ITO - 50 Impression Top Oval | ITR -10 Impression Top Rough | IRT Impression Roof Top | SP Spikes | CT Crescent Top | MC Mini Cleats | IST Impression Saw Tooth | INT Impression NubTop | ITP Impression Top Fine Points | ITD - 60 Impression Top Diamond

Homogeneous Embossed Bottom Belts											
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (Bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
FEHB	Blue 16		59D	-20° C to 75°C -5° F to 170°F	0.20	3	90	3 9/16	3	16.80	FDA/USDA /EU
FEMB	Blue		95A/46D	-30° C to 70°C -20° F to 158°F	0.25	1.6	24	15/16	0.60	3.60	FDA/USDA /EU
						2	30	1 3/16	0.80	4.50	
						2.5	35	1 3/8	1	5.60	
						3	40	1 5/8	1.20	6.80	
						4	60	2 3/8	1.60	9.20	
						5	80	3 1/8	2.10	11.70	
FEMW	Beige		95A/46D	-30° C to 70°C -20° F to 158°F	0.25	2	30	1 3/16	0.80	4.50	FDA/USDA /EU
						2.5	35	1 3/8	1	5.60	
						3	40	1 5/8	1.20	6.80	
						4	60	2 3/8	1.60	9.20	
						5	80	3 1/8	2.10	11.70	
FEMB-MD**	Blue 09		95A	-20° C to 60°C -5° F to 140°F	0.25	2	50	2	0.80	4.5	FDA/EU
						3	75	3	1.20	6.8	
FELB	Blue		80A	-40° C to 50°C -40° F to 120°F	0.45	1.6	10	3/8	0.32	1.79	FDA/EU
						2	12	½	0.40	2.24	
						2.5	15	19/32	0.50	2.80	
						3	20	13/16	0.60	3.36	
FELB	Blue 02		80A	-40° C to 50°C -40° F to 120°F	0.45	1.6	10	3/8	0.32	1.79	FDA/EU
						2	12	½	0.40	2.24	
FELW	White 16		80A	-40° C to 50°C -40° F to 120°F	0.45	1.6	10	3/8	0.32	1.79	FDA/EU
						2	12	½	0.40	2.24	
						2.5	15	19/32	0.50	2.80	
						3	20	13/16	0.60	3.36	
						4	26	1 1/32	0.80	4.48	
FETB	Blue 10		72A	40°C to 40°C -40°F to 104°F	1	1.6	10	3/8	0.29	1.6	FDA/EU
						2	13	1/2	0.36	2	
						3	19	3/4	0.55	3	
Reinforced Belts											
FRMB	Blue		95A/46D	-30° C to 70°C -20° F to 158°F	0.20	2	25	1	6	33.50	FDA/USDA /EU
						3	35	1 3/8	7	39	
FRMW	Beige		95A/46D	-30° C to 70°C -20° F to 158°F	0.20	2	25	1	6	33.50	FDA/USDA /EU
						2.5	30	1 3/16	6.50	36.20	
						3	35	1 3/8	7	39	
						4	70	2 3/4	7.5	42	
FRLB	Blue		80A	-40°C to 50°C -40°F to 120°F	0.20	1.6	8	5/16	4	22	FDA/ EU
						2	10	3/8	5	28	
FRLW	White 16		80A	-40°C to 50°C -40°F to 120°F	0.20	1.6	8	5/16	4	22	FDA/ EU
						2	10	3/8	5	28	
						3	18	11/16	7.50	42	
FRTB*	Blue 10		72A	-40°C to 40°C -40°F to 104°F	0.20	1.6	8	5/16	2.60	14.90	FDA/ EU

Note: Standard belt width = 1524mm (60”).Some of the belts are also available in 2032mm (80”) width. Please contact Volta Belting representative for additional information.

*FRTB-Blue10 - Pull Force (PF) calculated with Finger Splice welding.

**FEMB-MD-Blue09-Metal Detectable belt.

Impression Top Belts

	Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (Bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		Certifications
							mm	mm	Inch	kg/cm	lbs/in	
ITM	FEMB-ITM-LT*	Blue 15		95A/46D	-35°C to 50°C -20°F to 120°F	0.25	1	10	3/8	0.26	1.45	FDA/EU
ITS70	FELB- ITS70	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	1.6 2	10 12	3/8 1/2	0.24 0.30	1.40 1.74	FDA/EU
IST	FELB - IST	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	4**	35	1 3/8	0.40	2.20	FDA/EU
ITD60	FLB -ITD60	Blue 02		80A	-40°C to 50°C -40°F to 120°F	0.55	2	12	1/2	0.46	2.58	FDA/EU
	FELB - ITD60	Blue 02		80A	-40°C to 50°C -40°F to 120°F	0.45	1.8	11	7/16	0.3	1.68	FDA/EU
ITO50	FELB - ITO50	Blue		80A	-40° C to 50° C -40° F to 120° F	0.45	2* 2.5 3 5	12 15 18 35	1/2 9/16 11/16 1 3/8	0.32 0.40 0.50 0.90	1.87 2.32 2.80 5	FDA/EU
	FELB - ITO50	Blue 02		80A	-40° C to 50° C -40° F to 120° F	0.45	3	18	11/16	0.50	2.80	FDA/EU
	FMB-ITO50	Blue		95A/46D	-30°C to 70°C -20°F to 158°F	0.36	2.5	35	1 3/8	1.50	8.40	FDA/USDA/ EU
	FEMB-ITO50	Blue		95A/46D	-30°C to 70°C -20°F to 158°F	0.25	2 2.5 3	30 35 40	1 3/16 1 3/8 1 5/8	0.60 0.74 0.94	3.36 4.20 5.26	FDA/USDA/ EU
	FEMW-ITO50	Beige		95A/46D	-30°C to 70°C -20°F to 158°F	0.25	2.5 3	35 40	1 3/8 1 5/8	0.74 0.94	4.20 5.26	FDA/USDA/ EU
	FEMB -ITO50-MD**	Blue 09		95A	-20°C to 60°C -5°F to 140°F	0.25	2 3	50 75	2 3	0.60 1	3.36 5.6	FDA/EU
ITR10	FELW - ITR10	White16		80A	-40°C to 50°C -40°F to 120°F	0.45	4	25	1	0.70	3.92	FDA/ EU
IRT	FELB - IRT	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	4	25	1	0.60	3.40	FDA/USDA/ EU
	FEMB - IRT	Blue		95A/46D	-30°C to 70°C -20°F to 158°F	0.25	3.5	40	1 5/8	1	5.60	FDA/EU
Spikes SP**	FELB-SP	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	2 2.5 3	20 24 28	1 3/16 1 5/16 1 1/8	0.40 0.50 0.60	2.24 2.80 3.36	FDA/USDA/ EU
	FEMB-SP	Blue		95A/46D	-30°C to 70°C -20°F to 158°F	0.25	2 2.5 3	40 45 50	1 5/8 1 3/4 2	0.80 1 1.20	4.50 5.60 6.80	FDA/USDA/ EU
	FEMW-SP	Blue		95A/46D	-30°C to 70°C -20°F to 158°F	0.25	2 2.5	40 45	1 5/8 1 3/4	0.80 1	4.50 5.60	FDA/USDA/ EU
ITP	FELB - ITP	Blue 02		80A	-40°C to 50°C -40°F to 120°F	0.45	2	12	1/2	0.40	2.24	FDA/EU
INT	FEMB - INT	Blue		95A/46D	-30°C to 70°C -20°F to 158°F	0.25	2	50	2	0.80	4.50	FDA/USDA /EU
CT	FELB - CT	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	3	35	1 3/8	0.60	3.36	FDA/EU
Crescent Top - CT	FMB - CT	Blue		95A/46D	-30°C to 70°C -20°F to 158°F	0.36	3	60	2 3/8	1.80	10.12	FDA/USDA /EU
	FEMB - CT	Blue		95A/46D	-30°C to 70°C -20°F to 158°F	0.25	3	60	2 3/8	1.20	6.75	FDA/USDA /EU
	FEMW - CT	Beige		95A/46D	-30°C to 70°C -20°F to 158°F	0.25	2.5	50	2	1	5.60	FDA/USDA /EU
	FEMB - CT-MD**	Blue 09		95A	-20°C to 60°C -5°F to 140°F	0.25	3	95	3 3/16	1.2	6.75	FDA/EU
Mini Cleats	FELB - MC	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	40	1 5/8	0.50	2.80	FDA/EU
	FEMB - MC	Blue		95A/46D	30°C to 70°C -20° F to 158°F	0.25	3	70	2 3/4	1.20	6.80	FDA/USDA /EU

Standard belt width = 1524mm (60").Some of the belts are also available in 2032mm (80") width. Please contact Volta Belting representative for additional information.

Note: *FEMB-ITM-LT - Min. Pulley diameter for temperature ≥5°C / 41°F. *FELB-2-ITO50 - not standard.

** FELB-IST - Base - 2mm; total belt height 4mm. **Spikes -Height of Spikes above base belt is 2.8mm.

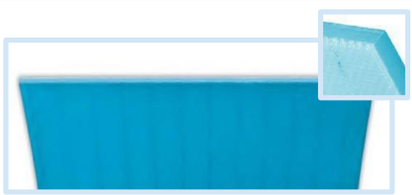
**FEMB-ITO50-MD & FEMB-CT-MD-Blue09-Metal Detectable belts.

Reinforced Impression Top Belts

Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (Bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
FRMB - ITO50	Blue		95A/46D	30° C to 70° C -20° F to 158°	0.20	2.5	32	1 1/4	4.10	24	FDA/USDA /EU
FRMW - ITO50	Beige		95A/46D	30° C to 70° C	0.20	2.5	32	1 1/4	4.10	24	FDA/USDA /EU
						3	36	1 7/16	4.30	25.20	
FRLB - ITO50	Blue		80A	-40° C to 50° C -40° F to 120° F	0.20	2.5	15	9/16	3.20	18	FDA/EU
FRLW - ITO50	White 16		80A	-40° C to 50° C -40° F to 120° F	0.20	2.5	15	9/16	3.20	18	FDA/EU
						3	18	11/16	3.48	21.60	
FRLW - ITR10	White 16		80A	-40° C to 50° C -40° F to 120° F	0.20	4	30	1 3/16	3.40	19	FDA/EU
FRLB - ITS70	Blue 02		80A	-40° C to 50° C	0.20	2	10	3/8	5	28	FDA/EU

Covered Bottom Flat Belts

Ideal for special applications, for example in bakeries and confectioneries where reinforcement is necessary and hygiene cannot be compromised. The fabric reinforcement is thermally- coated with a thin layer of Volta TPE to provide a seal, preventing both contamination and delamination. As an extra precaution, belt edges can be thermo-sealed or recessed to prevent fraying and the ingress of contaminants.

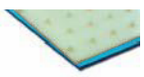


Fabric Reinforcement coated with homogeneous Volta material.

Covered Bottom/ Covered Bottom Impression Top Belts

Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (Bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
FRLB - CEB - B	Blue		80A	-40° C to 50° C -40° F to 120° F	0.30	2	19	3/4	2.20	12.40	FDA/EU
FRLW - CEB - C	White 16				0.30	3	30	1 1/4	2.80	15.60	FDA/EU
FRLW - CB	White 16				0.40	2	19	3/4	3.10	17.40	FDA/EU
FRMB - CEB - B	Blue		95A/46D	-30°C to 60°C -20°F to 120°F	0.30	0.80	12	1 5/13	3.50	19.6060	FDA/USDA /EU
					0.30	3	40	1 5/8	4.80	38	
FRMW - CEB - C	Beige		95A/46D	-30°C to 60°C -20°F to 120°F	0.30	3	40	1 5/8	4.80	38	

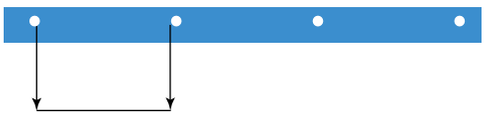
Belt Coating Materials for the Food Industry

Products		GIB*-Blue17	MIB*-Blue17	WIB*-Blue17	FEIB-Blue-17	FEMB-SP-Blue FEMW-SP-Beige	FELB-SP-Blue	FELB-IST-Blue
Illustration								
Description		Super Grip	Multi Grip	Wood Grip	High Grip	Spikes**	Spikes**	Saw Tooth
Hardness		62A	62A	62A	62A	95A	80A	80A
Size (mm)	Width*	50	50	70	1524	1524	1524	1524
	Thickness	4	6	4	2/2.5/3	2/2.5/3	2/2.5/3	4***
CoF (Stainless Steel)		0.98	1.08	1.05	0.95	0.25	0.45	0.45
Temperature Range		-20º C to 40º C				-30° C to 70° C	-40º C to 50º C	
Certifications		FDA/EU				FDA/USDA/EU	FDA/ EU	

Note: *Width - Maximum available width | * For dry use only | ** Height of Spikes above the base belt is 2.8mm | *** FELB-IST - Total belt thickness.

Aramid Cord Reinforced Belts

A food grade flat belt with special tensioning members, hermetically encased in non-porous homogeneous material which has been tested for durability. Used mainly in applications with significant loads on long narrow belts with small diameter pulleys.



10mm / 3/8”

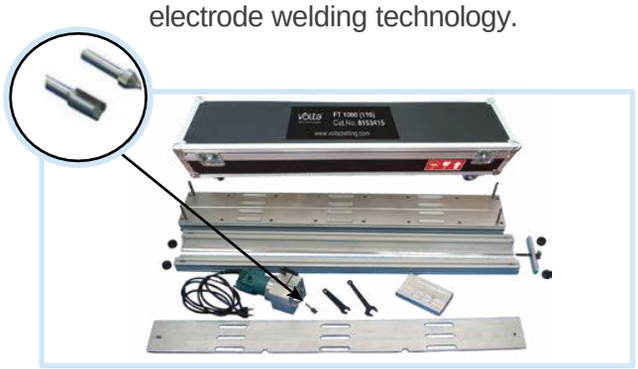
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (Bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 0.2%		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
Aramid Cord Reinforced (ACR) Embossed Bottom Belts											
FELB-ACR	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	20	0.79	4	22.40	FDA/EU
Aramid Cord Reinforced (ACR) Impression Top & Embossed Bottom Belts											
FELB-ACR -ITO50	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	20	0.79	4	22.40	FDA/EU
FELB-ACR-ITO50	Blue 02		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	20	0.79	4	22.40	FDA/EU
FELB-ACR-IST	Blue 02		80A	-40°C to 50°C -40°F to 120°F	0.45	4*	35	1.38	4.2	23.40	FDA/EU
Low Temperature (LT) Aramid Cord Reinforced (ACR) Impression Top & Embossed Bottom Belts											
FELB-ACR-ITO50-LT	Blue 15		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	18	0.70	4	22.40	FDA/EU
FEMB- LT ITO50-ACR	Blue 15		95A/46D	-35°C to 50°C -30°F to 120°F	0.25	2.5	40	1.57	4	22.40	FDA/EU

Note: Standard belt width = 1524mm (60”).Some of the belts are also available in 2032mm (80”) width.
Please contact Volta Belting representative for additional information.
*FELB-ACR-IST – Base belt thickness = 2mm // Total belt thickness including Saw tooth impression top = 4mm.
Pull force in table relates to a finger splice weld 20x50 mm. The calculation takes into account the weld splice which has strength of 28kg/cm. Note that various finger splice methods and different tools can result in differing belt strengths.

Endless Splicing Techniques

FBW - Flat Butt Welding System The FBW System performs a butt-weld, fusing belts edge to edge.

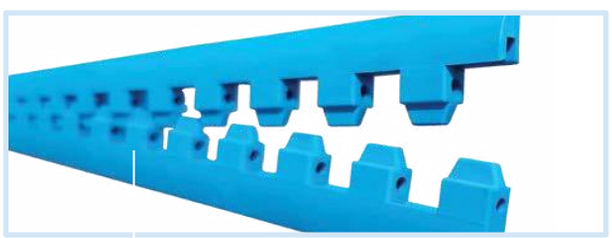
FT - Electrode Welding System
The FT Welding System provides electrode welding technology.



Volta RoundFlex™ Lace

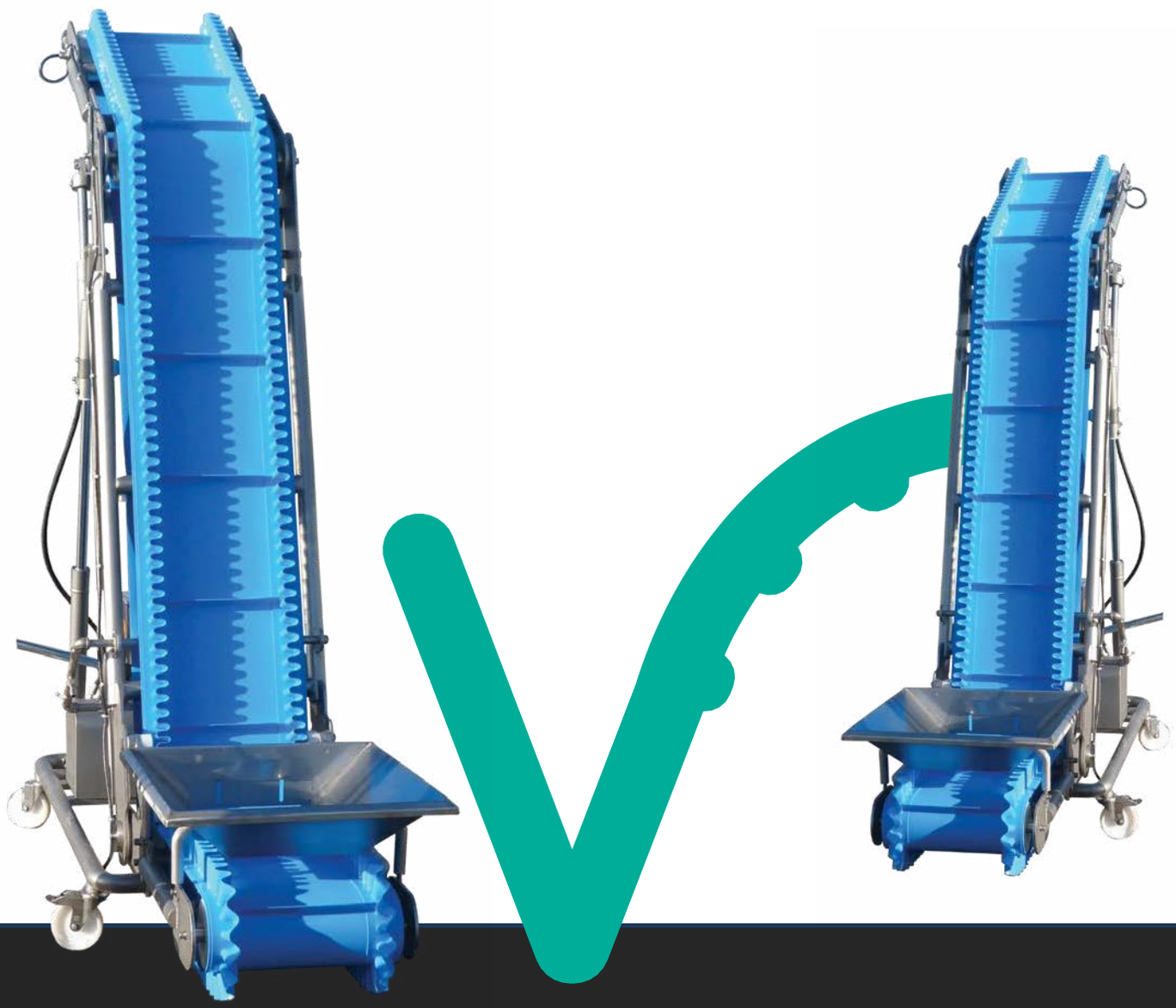
New, improved geometry for a better grip on pulleys. Compatible with Volta MB,MW,MB-MD and DR material belts from 2.5 to 5mm thickness. All Volta flat belt materials are easy to clean without removing from conveyor and therefore lace is used only where absolutely necessary. The strength of the belt will be affected at the joint where lace is used.

RoundFlex™ Lace



volta™
Belting Technology

The Next Step in Belting

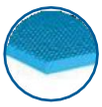


Food Grade Positive Drive Line

Conveying Solutions

Motech

SuperDrive™



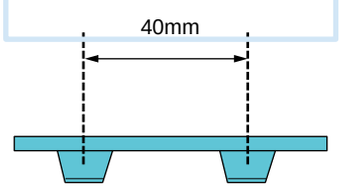
ITE
Impression Top Embossed

ITO-50
Impression Top Oval

MC
Mini Cleats

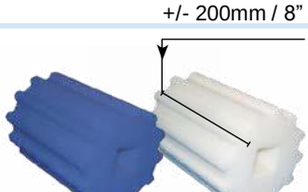
The homogeneous Positive Drive, recognized worldwide as the best choice where hygiene and conveying efficiency are essential.

Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on UHMW	Thickness	Minimum Pulley Diameter		Maximum Pull Force		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
Smooth Top SuperDrive™ Belts											
FHB-SD	Blue 16		55D	-20°C to 90° C -5°F to 194° F	0.20	3	126	4 31/32	7	39.2	FDA/USDA/EU
						4	176	6 15/16	9	50.40	
						6	300	11 13/16	14	78.40	
FHW-SD	Off White		55D	-20°C to 90°C -5°F to 194°F	0.20	3	126	4 31/32	7	39.2	FDA/USDA/EU
						4	176	6 15/16	9	50.40	
FHB-SD	Blue 13		55D	-20°C to 90°C -5°F to 194°F	0.20	3	126	4 31/32	7	39.2	FDA/USDA/EU
						4	176	6 15/16	9	50.40	
FEHB-SD-ITM2	Blue 16		55D	-20°C to 90°C -5°F to 194°F	0.18	3	126	4 31/32	7	39.2	FDA/USDA/EU
						4	176	6 15/16	9	50.40	
FMB-SD	Blue		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6.25	35	FDA/USDA/EU
						4	120	4 3/4	8	44.80	
						6	240	9 3/4	12.50	70	
FMW-SD	Beige		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6.25	35	FDA/USDA/EU
						4	120	4 3/4	8	44.80	
FMB-SD	Blue 02		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6.25	35	FDA/USDA/EU
FEMB-SD-ITM2	Blue		53D	-20°C to 70°C -5°F to 158°F	0.22	3	80	3 1/4	6.25	35	FDA/USDA/EU
						4	120	4 3/4	8	44.80	
Impression Top SuperDrive™ Belts											
FHB-SD-ITO50	Blue 16		55D	-20°C to 90°C -5°F to 194°F	0.20	3	126	4 31/32	7	39.2	FDA/USDA/EU
						4	176	6 15/16	9	50.40	
FHB-SD-ITE	Blue 16		55D	-20°C to 90°C -5°F to 194°F	0.20	3	126	4 31/32	7	39.2	FDA/USDA/EU
FMB-SD-ITO50	Blue		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6.25	35	FDA/USDA/EU
FMB-SD-ITE	Blue		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6.25	35	FDA/USDA/EU
FMW-SD-ITE	Beige		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6.25	35	FDA/USDA/EU
FMB-SD-MC	Blue		53D	-20°C to 70°C -5°F to 158°F	0.28	3	100	4	6.25	35	FDA/USDA/EU
Hydrolysis & Chemical Resistant SuperDrive™ Belts											
FDR-SD	Blue 15		53D	-20°C to 70°C -5°F to 158°F	0.30	3	80	3 1/4	4.7	26.3	FDA/USDA/EU
						4	120	4 3/4	6.25	35	
FDR-SD-ITO50	Blue 15		53D	-20°C to 70°C -5°F to 158°F	0.30	3	80	3 1/4	4.7	26.3	FDA/USDA/EU
FEDR-SD-ITM2	Blue 15		53D	-20°C to 70°C -5°F to 158°F	0.22	3	80	3 1/4	4.7	26.3	FDA/USDA/EU
FEDR-SD-ITO50	Blue 15		53D	-20°C to 70°C -5°F to 158°F	0.22	3	80	3 1/4	4.7	26.3	FDA/USDA/EU
Low Temperature (LT) SuperDrive™ Belts											
FMB-SD-LT	Blue 15		95A/46D	-35°C to 65°C -31°F to 149°F	0.30	3	80	3 1/4	3	16.80	FDA/EU
Metal Detectable (MD) SuperDrive™ Belt											
FMB-SD-MD	Blue 09		53D	-20°C to 60°C -5°F to 140°F	0.28	3	100	4	6	33.6	FDA/EU
FMB-SD-ITO50-MD	Blue 09		53D	-20°C to 60°C -5°F to 140°F	0.28	3	100	4	6	33.6	FDA/EU



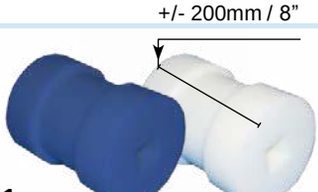
Pitch size for reference only

+/- 200mm / 8”



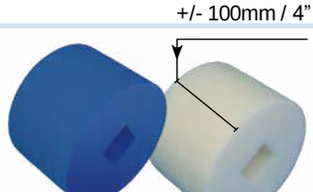
SuperDrive™ Drive Pulley

+/- 200mm / 8”



SuperDrive™ Tail Pulley

+/- 100mm / 4”



SuperDrive™ Support Pulley

Mini SuperDrive™

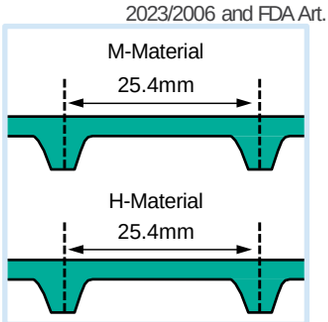
Food Grade - Positive Drive Line

The only trackable Mini Positive Drive product.

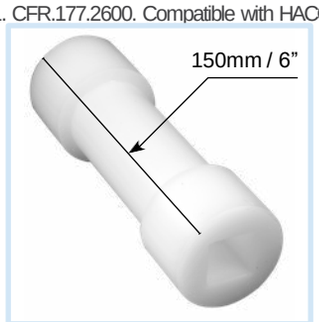
The MiniSD™ design is similar to the world leader, Volta SuperDrive™; scaled down for a smaller minimum pulley.Standard belt width: 1524mm/60”or 2032mm/80”. Please contact Volta Belting representative for additional information.

Smooth Top Mini SuperDrive™ Belts											
Product & Color			Shore Hardness	Temperature Range***	Coefficient of Friction on UHMW	Thickness	Minimum Pulley Diameter*		Maximum Pull Force**		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
FHB-MSD	Blue 16		55D	-20°C to 90°C -5°F to 194°F	0.20	2	80	3.15	4.5	25.2	FDA/USDA/EU
						2.5	100	4	5.6	31.36	
FMB-MSD	Blue		95A/46D	-20°C to 70°C -5°F to 158°F	0.28	2.5	48	1.89	4	22.4	FDA/USDA/EU
Impression Top Mini SuperDrive™ Belts											
FMB-MSD-ITO50	Blue		95A/46D	-20°C to 70°C -5°F to 158°F	0.28	2.5	48	1.89	4	22.4	FDA/USDA/EU
FMB-MSD-MC	Blue		95A/46D	-20°C to 70°C -5°F to 158°F	0.28	2.5	80	3.15	4	22.4	FDA/USDA/EU

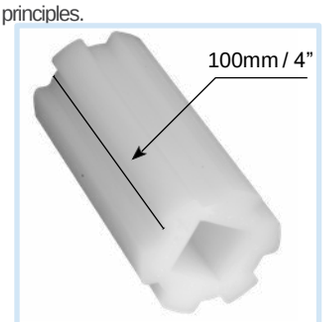
Note: * Minimum Pulley Diameter – Normal Flex. Dimensions are relevant for an ambient temperature above 0°C / 32°F.
** Maximum Pull Force – in kg/cm width & lb/in width.
***To determine the allowable Pull force, check the “Temperature Correction Factor” table.
Declaration of Conformity in compliance with Food Contact Regulations: EU No.-10/2011 amended by 2017/752, 1935/2004 and 2023/2006 and FDA Art. 21. CFR.177.2600. Compatible with HACCP principles.



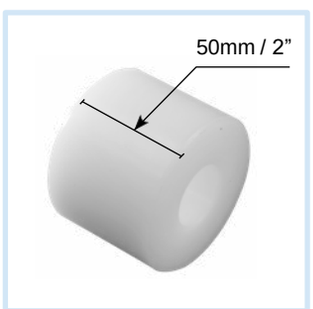
Pitch size for reference only



Tail Pulley



Drive Pulley



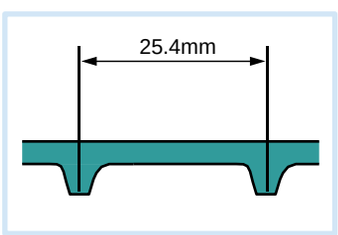
Support Pulley

Mini DualDrive™

A scaled-down version of the original DualDrive™ tooth geometry. Standard belt width: 2032mm/80”.

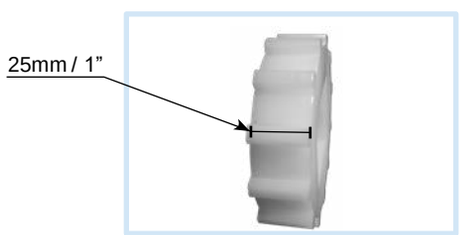
Smooth Top Mini DualDrive™ Belts											
Product & Color			Shore Hardness	Temperature Range***	Coefficient of Friction on UHMW	Thickness	Minimum Pulley Diameter*		Maximum Pull Force**		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
FMB-MDD	Blue		95A/46D	-20°C to 70°C -5°F to 158°F	0.28	2.5	48	1.89	4	22.4	FDA/USDA/EU
Impression Top Mini DualDrive™ Belts											
FMB-MDD-ITO50	Blue		95A/46D	-20°C to 70°C -5°F to 158°F	0.28	2.5	48	1.89	4	22.4	FDA/USDA/EU

Note: * Minimum Pulley Diameter – Normal Flex. Dimensions are relevant for an ambient temperature above 0°C / 32°F.
** Maximum Pull Force – in kg/cm width & lb/in width.
***To determine the allowable Pull force, check the “Temperature Correction Factor” table. Declaration of Conformity in compliance with Food Contact Regulations: EU No.-10/2011 amended by 2017/752, 1935/2004 and 2023/2006 and FDA Art. 21. CFR.177.2600. Compatible with HACCP principles.



Pitch size for reference only

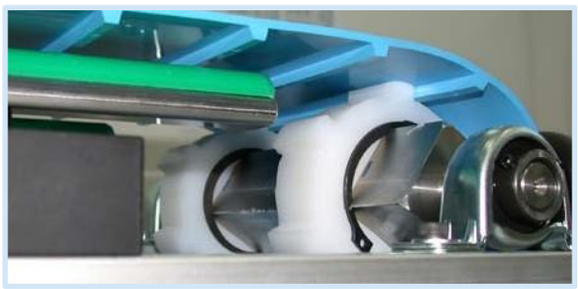
MDD Sprocket

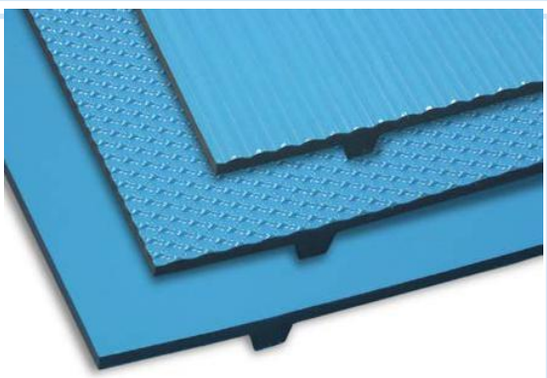


MDD Sprocket

DualDrive™

- Minimal retrofitting required. DualDrive™ is suited to some 2" pitch modular belt sprockets but for both reliability and hygiene these should be replaced.
- DualDrive™ is a fully extruded Positive Drive belt with drive teeth running the full width of the belt at a 2" pitch.





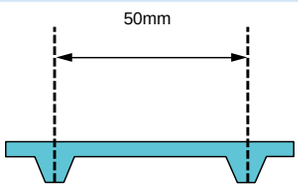
Mechanical Benefits:

- Replaces modular systems that require extensive cleaning and lengthy soaking and wear quickly at the joints.
- Greatly reduced noise levels in comparison with to modular belts.
- Integrated teeth for a Positive Drive with no slippage.
- No pretension of the belt is needed.
- Extruded in 30 or 60m (100 or 200ft) length and 1524mm (60") width.

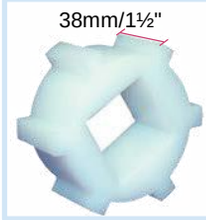
Material Features:

- Smooth or textured homogeneous surface.
- Special texture available for non-stick applications.
- No ply/fraying of fibers.
- Easy and effective cleaning.
- No cracks or crevices that can potentially harbor bacteria.

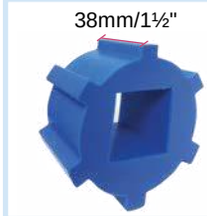
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on UHMW	Thickness	Minimum Pulley Diameter		Maximum Pull Force		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
Smooth Top DualDrive™ Belts											
FHB-DD	Blue 16		55D	-20°C to 90°C -5°F to 194°F	0.20	3	126	4 31/32	7	39.2	FDA/USDA/EU
FHB-DD	Blue 02		53D	-20°C to 90°C -5°F to 194°F	0.28	3	80	3 1/4	6	33.6	FDA/USDA/EU
FMB-DD	Blue		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6	33.6	FDA/USDA/EU
						4	120	4 3/4	7.7	43	
FMB-DD-ITM2	Blue		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6	33.6	FDA/USDA/EU
FMW-DD	Beige		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6	33.6	FDA/USDA/EU
FMW-DD-ITM2	Beige		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6	33.6	FDA/USDA/EU
Impression Top DualDrive™ Belts											
FMB-DD-ITO50	Blue		53D	-20°C to 70°C -5°F to 158°F	0.28	3	80	3 1/4	6	33.6	FDA/USDA/EU
FMB-DD-IRT	Blue		53D	-20°C to 70°C -5°F to 158°F	0.28	4	100	4	6	33.6	FDA/USDA/EU
Hydrolysis & Chemical Resistant DualDrive™ Belts											
FDR-DD	Blue 15		53D	-20°C to 70°C -5°F to 158°F	0.30	3	80	3 1/4	4.7	26.3	FDA/USDA/EU
FDR-DD-ITM2	Blue 15		53D	-20°C to 70°C -5°F to 158°F	0.30	3	80	3 1/4	4.7	26.3	FDA/USDA/EU
Low Temperature (LT) DualDrive™ Bel											
FMB-DD-LT	Blue 15		95A/46D	-35°C to 65°C -31°F to 149°F	0.30	3	80	3 1/4	3	16.80	FDA/EU
Metal Detectable (MD) DualDrive™ Belt											
FMB-DD-MD	Blue 09		53D	-20°C to 60°C -5°F to 140°F	0.28	3	100	4	6	33.6	FDA/EU



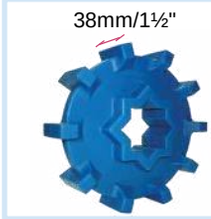
Pitch size for reference only



Machined Drive Sprockets



Machined Drive Sprockets



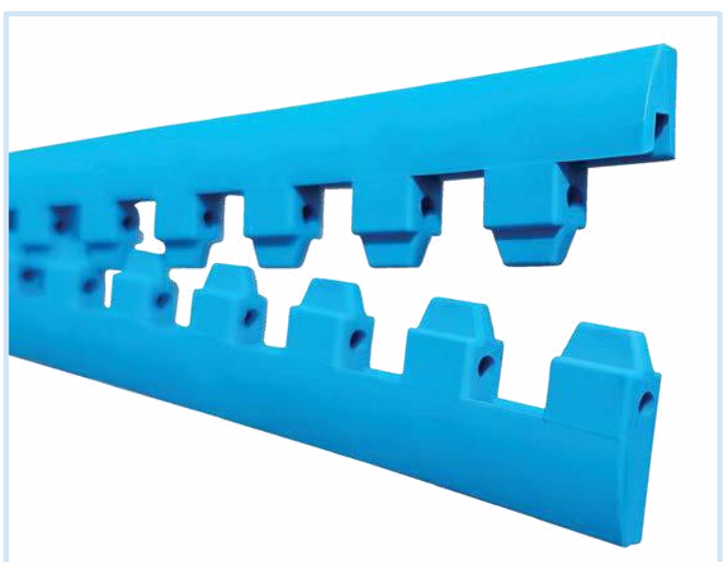
Molded Drive Sprocket

Molded Tail Roller

Volta RoundFlex™ Lace

New, improved geometry for a better grip on pulleys. Compatible with Volta MB,MW,MB-MD and DR material Flat and Positive Drive belts including MSD & MDD belts from 2.5 to 5mm thickness.
All Volta belt materials are easy to clean without removing from conveyor and therefore we only recommend lace when absolutely necessary. The strength of the belt will be affected at the joint where lace is used.

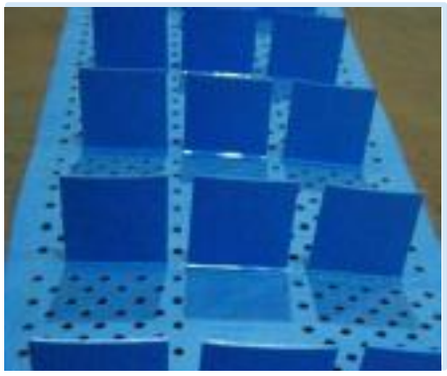
RoundFlex™ Lace



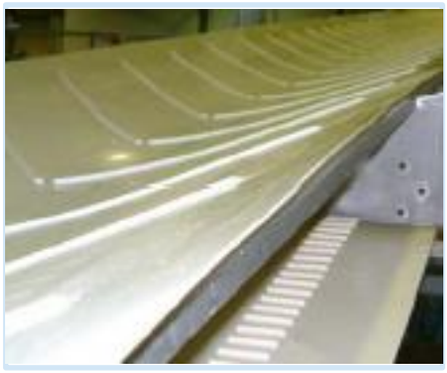
RoundFlex™ Lace

We are committed to providing a complete package focusing on servicing our customers all the way, up until the belts are safely installed and the conveyor is running smoothly.

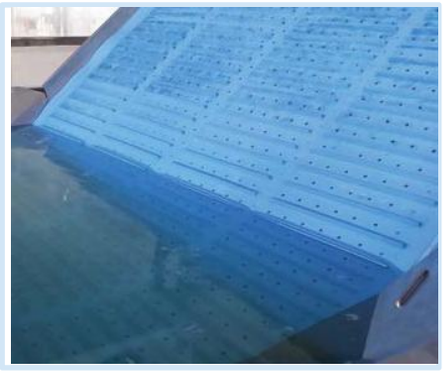
Fabrications on Positive Drive Belts



Perforated SuperDrive™
with Spaced Flights



SuperDrive™ Trough Conveyor with
Chevron Flights



Perforated Mini DualDrive™ Belt

Mini SuperDrive™ Belt

Perforated DD-IRT Belt

SuperDrive™ Z-elevator with Flights,
Guides and Sidewalls

DualDrive™ with Impression Top IRT
Flights & Guides

SuperDrive™ with Flights Working
under Water

SuperDrive™ with Sidewalls
and Special Flights

Volta™ Belting Technology

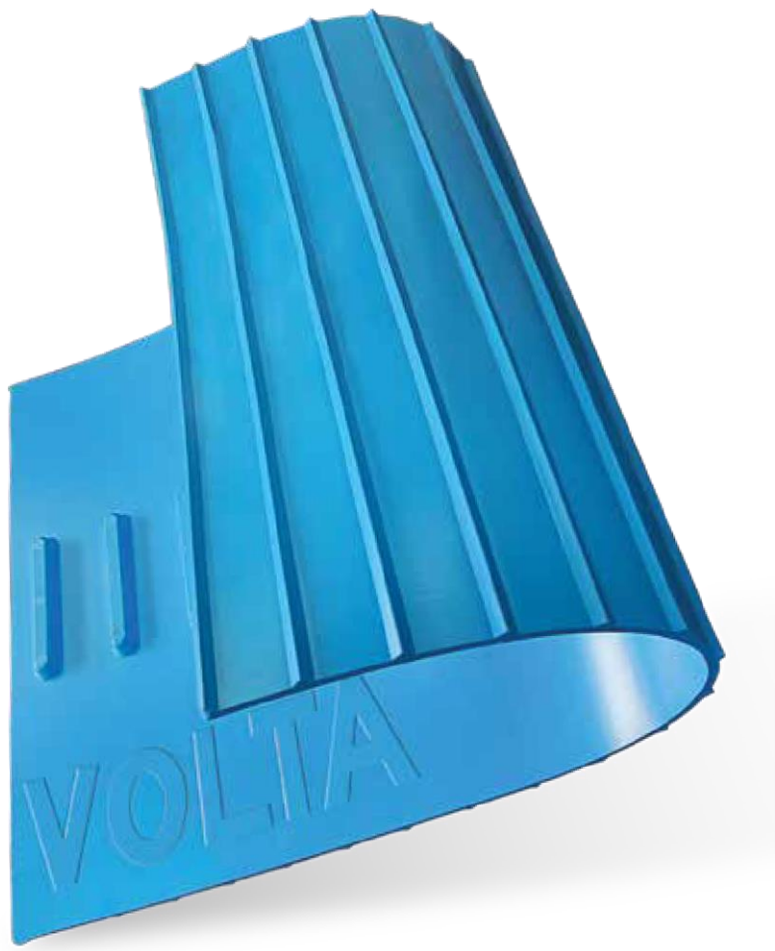
The Next Step in Belting

New SuperDrive™ Belt with Mini Cleat (MC)

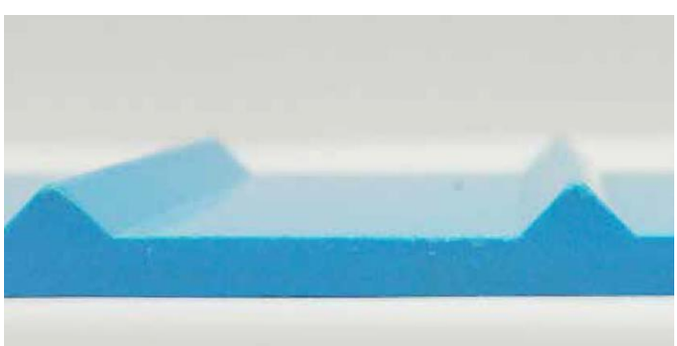
The built-in guide mechanism and the new textured top keep your product safe and steady.

We are excited to present our new Positive Drive Belt: FMB-SD-MC

- The fully extruded Mini Cleat (MC) top on our SuperDrive™ homogeneous material enhances the incline conveyance capability of carrying bulk product by up to 25 degrees.
- The MC profile prevents product rollback on the incline without requiring flights.
- Mini Cleat (MC) top eliminates the need for fabricated cleats.
- The fully extruded, integrated teeth of the Super Drive™ function as a positive drive system and serve as a built-in guide mechanism to reduce tension and off-tracking.
- The result is eco-friendly SuperDrive™ belts that allow for a drastic reduction in water usage as well as the conversion of precious lost time spent on cleaning to increased production time.
- SuperDrive™ belt with Mini Cleat (MC) top are a cutting-edge solution for the potato, meat, fruit, and cheese industries. Suitable applications include, but are not limited to, French fries, chicken cutlets, cold cuts, bacon, sliced peaches and pears, shreded cheese, and nuts.



Use this belt to keep your products safe and steady and earn more money than before.



volta™ Belting Technology
The Next Step in Belting

Molded BLUE Sprockets for DualDrive™

Molded Drive Sprocket

Molded Tail Roller

Volta offers molded sprockets in blue Acetal for the DualDrive™ belts.
These are offered in addition to the standard white and blue machined sprockets.

DualDrive™ Molded Sprockets

Number of Teeth	Drive Sprocket	Tail Roller
6T	DD-I-Sprocket-93.4mm/3.67"	DD-I-Tail Sprocket-84.3mm/3.32"
8T	DD-I-Sprocket-125.6mm/4.94"	DD-I-Tail Sprocket-116.5mm/4.59"
10T	DD-I-Sprocket-157.7mm/6.20"	DD-I-Tail Sprocket-148.5mm/5.85"

- Compatible with 40mm and 1.5” square bore shafts
- Have excellent chemical and abrasion resistance
- Light weight
- Easy to clean

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Belting Technology

The Next Step in Belting

Metal Detectable Flat Belts

Conveying Solutions

Motech

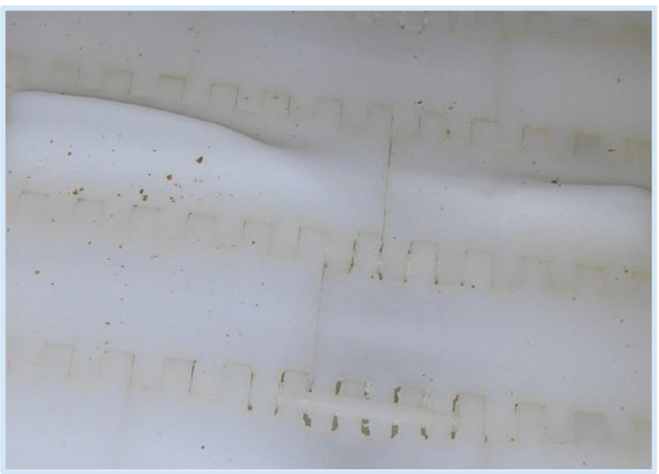
Metal Detectable (MD) Volta belts for the food industry

As you are aware, consumer safety has become a prominent issue in recent years due to heightened public awareness, increasingly stringent legal regulations, and the challenging responsibility of managing an automated food processing line. The ever-changing demands and pressures for superior food safety are driven internally by managers along with external pressures from consumers, industry regulators, and global associations.

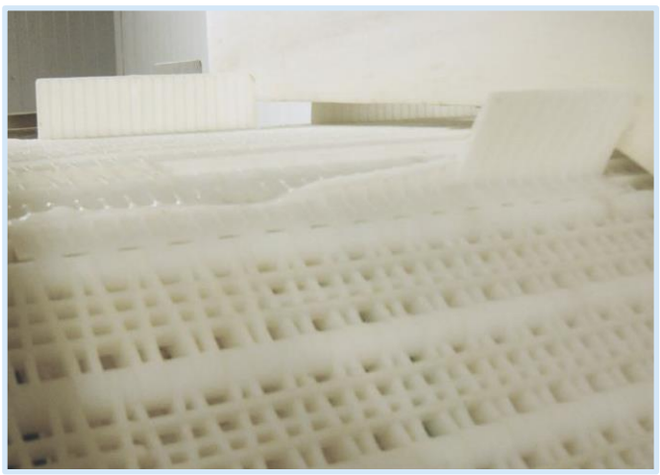
Often called “farm to fork”, the path from raw food to a finished and packaged product is one that has hazardous contact points. Before consumers have their food on their tables, that food has come into contact with harvesting equipment, slaughterhouses, freezers, cold storages, a wide array of transportation means, and various processing machinery. Although most contaminants (much of which is ferrous) are removed in early processing stages, trace contaminants can still remain in foods. Thus, metal detection is often used as a last line of defense in most processing facilities.

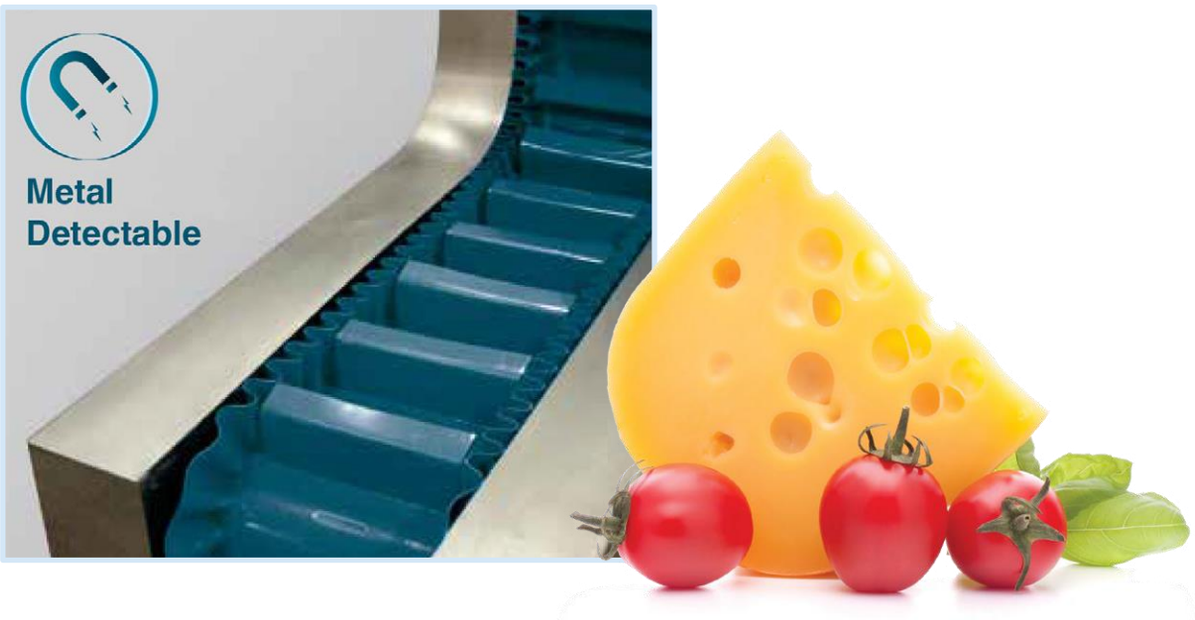
Food routinely makes contact with conveyor belting and with the widespread use of fragile modular belting, concerns arise over plastic contaminants being deposited into the flow of food due to wear and tear. Volta firmly stands behind the safety and stability of all Volta food grade belts as a solution for alternative inferior belting types. Our ultimate goal is to eliminate any concerns and fears held by processors and consumers regarding food safety.

Abraded by Frozen Food



Broken cleats/flights





Metal detectable plastic is an important necessity to all types of food processors. Many would never consider allowing pens, electric ties, and plasters within the hygienic zone if they were not detectable.

While Volta Belting's materials are resistant to cuts and breakage, food grade metal detectable belts have been developed to meet high demands and to give quality assurance and production teams the confidence in knowing that their products will meet the strictest food safety requirements.

Detectability is determined by contaminant type, size, the size of the detector's aperture, the orientation of the detectable material, and the frequency at which the detector is calibrated. Small particles may pass undetected if the food product has a similar phase angle to the contaminant (dry and moist products produce different signals), or if the particle passes through the center of a sufficiently large detector.

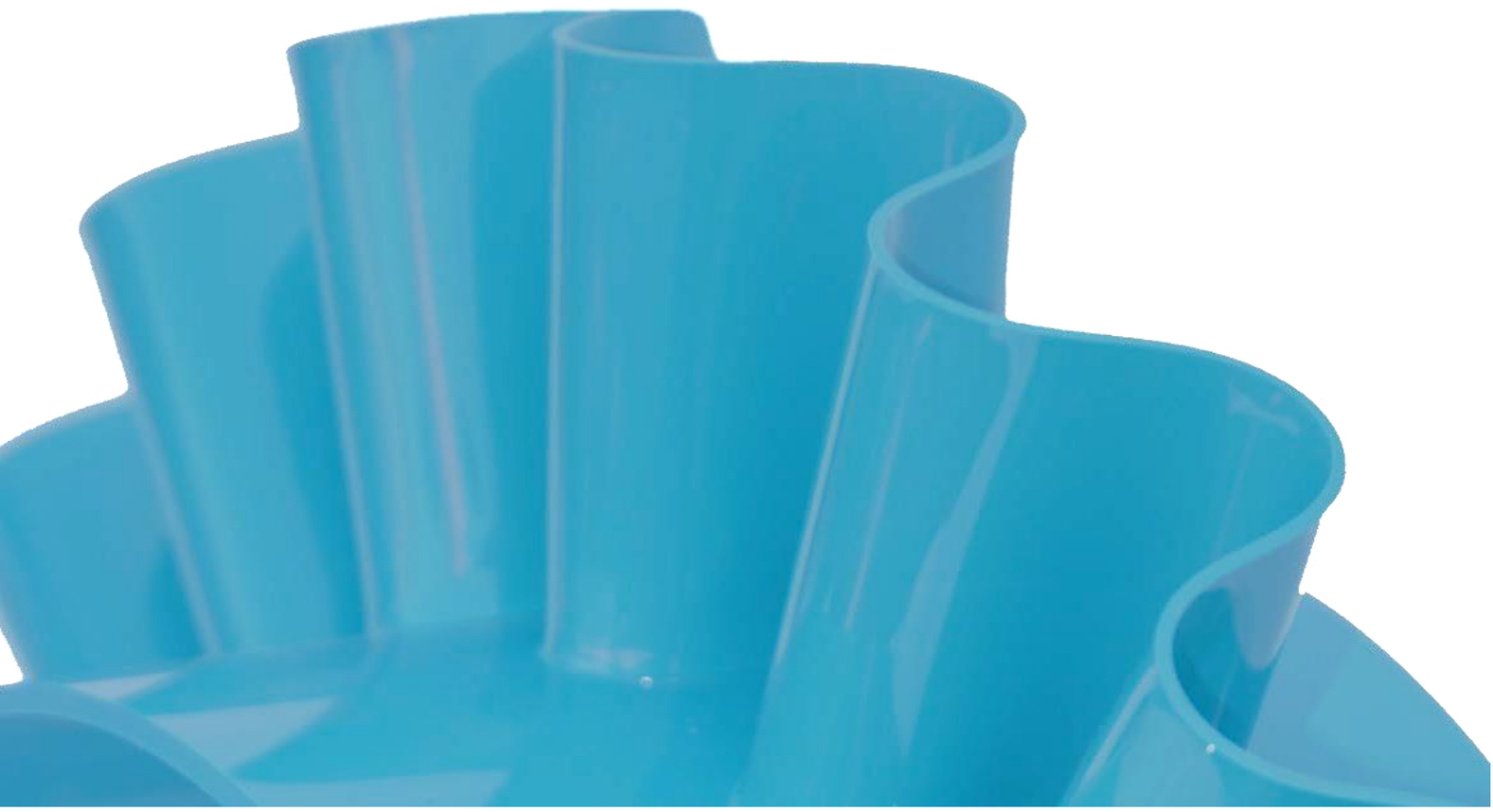
Metal Detectable (MD) Positive Drive Belts											
Product & Color			Shore Hardness	Temperature Range	CoF UHMW (bottom)	Thickness	Minimum Pulley Diameter		Maximum Pull Force		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
SuperDrive™ Metal & Detectable Belt											
FMB-SD-MD	Blue 09		53D	-20°C to 60°C -5°F to 140°F	0.28	3	100	4	6	33.6	FDA/EU
FMB-SD-ITO50-MD	Blue 09		53D	-20°C to 60°C -5°F to 140°F	0.28	3	100	4	6	33.6	FDA/EU
DualDrive™ Metal Detectable Belt											
FMB-DD-MD	Blue 09		53D	-20°C to 60°C -5°F to 140°F	0.28	3	100	4	6	33.6	FDA/EU

Metal Detectable (MD) Food Conveying Belts											
Product & Color			Shore Hardness	Temperature Range	CoF UHMW (bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension 1%		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
Flat, Homogeneous Metal Detectable Belts											
FMB-MD	Blue 09		95A	-20°C to 60°C -5°F to 140°F	0.28	3	75	3	1.80	10.1	FDA/EU
Flat, Homogeneous Embossed Bottom Metal Detectable Belts											
FEMB-MD	Blue 09		95A	-20°C to 60°C -5°F to 140°F	0.20	2	50	2	0.80	4.5	FDA/EU
						3	75	3	1.20	6.8	
Flat, Homogeneous Impression Top Metal Detectable Belts											
FEMB -ITO50-MD	Blue 09		95A	-20°C to 60°C -5°F to 140°F	0.20	2	50	2	0.60	3.36	FDA/EU
						3	75	3	1	5.6	
FEMB - CT-MD	Blue 09		95A	-20°C to 60°C -5°F to 140°F	0.20	3	95	3 3/16	1.2	6.75	

Guidelines and Suggested Materials for the Fabrication of Metal Detectable (MD) belts:

- The Metal Detectable material (MD) should be treated as a separate family of materials in terms of fabrications.
- Sidewalls: It is possible to weld Sidewalls from MD material (FMB-MD) with a thickness of 2mm only.
- Flights: It is recommended to use MD material for flights – FMB-MD.
- Guides: Use the VLB-MD guide for the Metal Detectable belts.
- Electrodes: Use EVMB-MD electrode.
- RoundFlex™ Lace: Item code LMD-R

Endless Closure of Belts: Volta recommends joining the Metal Detectable (MD) Positive Drive belts with a butt weld using an FBW Tool.



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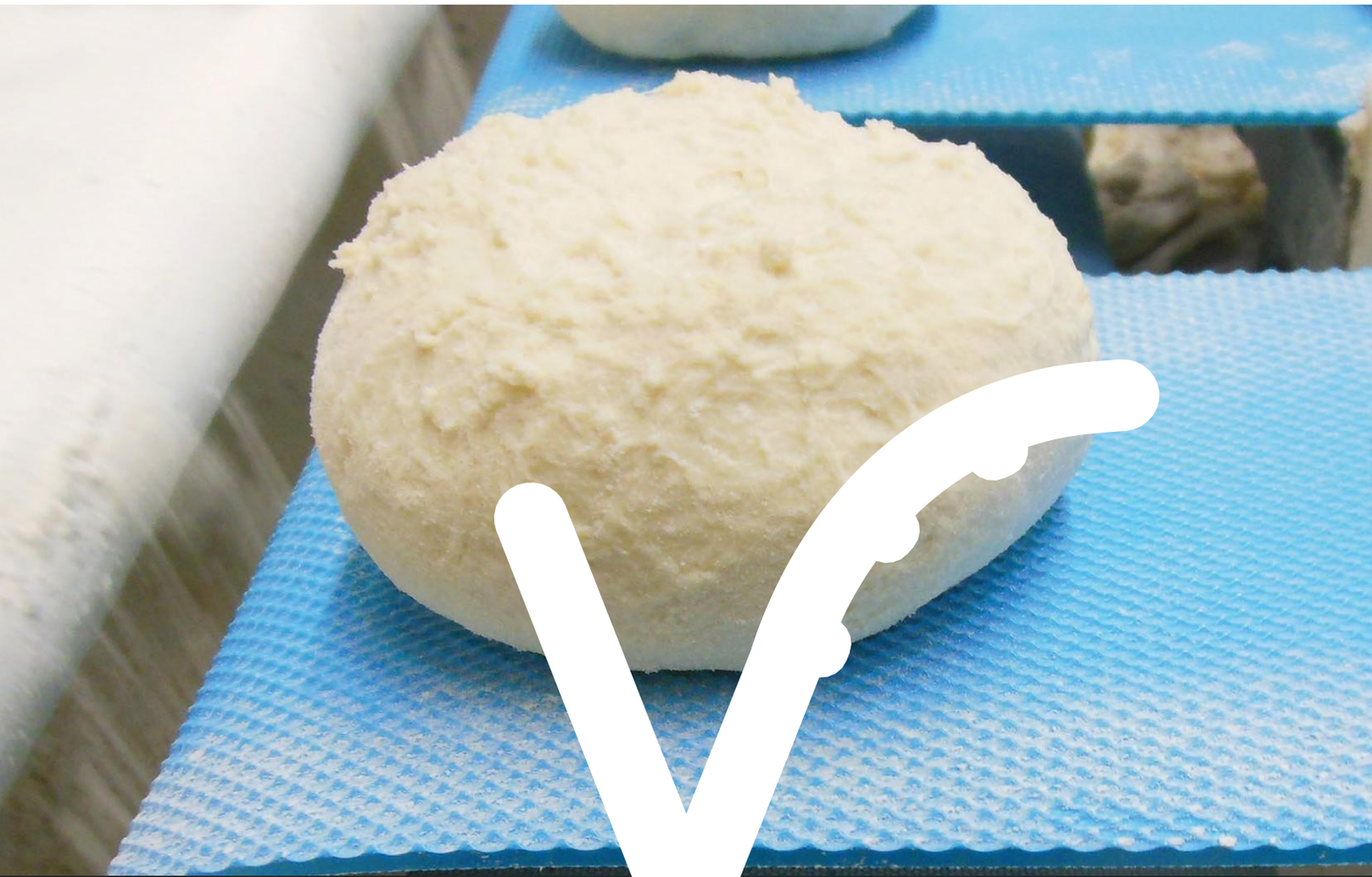


Aramid Cord Reinforced Flat Belts

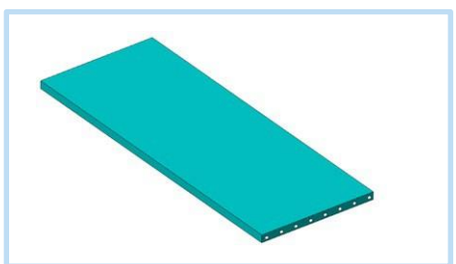
Conveying Solutions

Motech

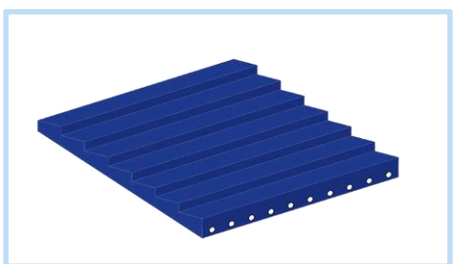
A food grade flat belt with special tensioning members fully sealed in a dense homogeneous material which has been tested for durability. Used,for example,where heavy or unevenly loaded products are carried. The Volta code for this Aramid cord reinforcement is ACR and the splicing method advised is a finger splice.

Aramid Cord Reinforced Flat Belt Range

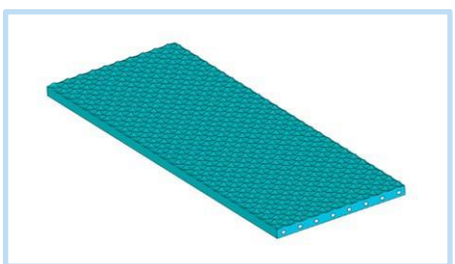
Embossed Bottom Belt



IST - Impression Saw Tooth



ITO50-Impression Top Oval

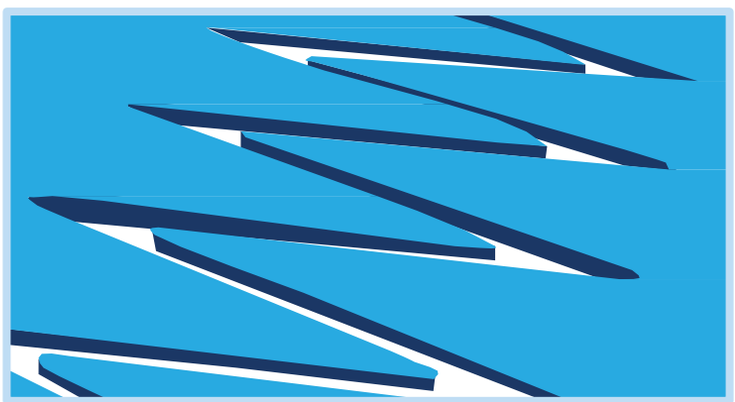


Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (Bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 0.2%		Certifications
						mm	mm	Inch	kg/cm	lbs/in	
Aramid Cord Reinforced (ACR) Embossed Bottom Belts											
FELB-ACR	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	20	0.79	4	22.40	FDA/EU
Aramid Cord Reinforced (ACR) Impression Top & Embossed Bottom Belts											
FELB-ACR -ITO50	Blue		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	20	0.79	4	22.40	FDA/EU
FELB-ACR-ITO50	Blue 02		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	20	0.79	4	22.40	FDA/EU
FELB-ACR-IST	Blue 02		80A	-40°C to 50°C -40°F to 120°F	0.45	4*	35	1.38	4.2	23.40	FDA/EU
Low Temperature (LT) Aramid Cord Reinforced (ACR) Impression Top & Embossed Bottom Belts											
FELB-ACR-ITO50-LT	Blue 15		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	18	0.70	4	22.40	FDA/EU
FEMB-LT ITO50-ACR	Blue 15		95A/46D	-35°C to 50°C -30°F to 120°F	0.25	2.5	40	1.57	4	22.40	FDA/EU

Note: * FELB-IST-ACR – Base belt thickness = 2mm // Total belt thickness including Saw tooth impression top = 4mm.
** Available belt width: 1524mm/60inch-standard or 2032mm/80inch. Please contact Volta Belting representative for additional informations. Pull force in table relates to a finger splice weld 20x50 mm. The calculation takes into account the weld splice which has strength of 28kg/cm. Note that various finger splice methods and different tools can result in differing belt strengths

Guidelines for Finger Splice Welding of the Volta Aramid Cord Reinforced (ACR) Belts

The Finger splice, with its increased contact area overlapping reinforcement cords, ensures the best weld in terms of belt strength.



Important Note: All information in the finger splice instructions is to be used as general guidelines only, based on experience from service centers using a variety of equipment. It has been noted that the exact temperature of a specific welding bar and the pressure required will vary from press to press or even on the same press when used in a workshop and then on site. Prior to first use,it is recommended to run a small set of trials to calibrate a given press. Prior to repeated use in a different environment and/or with a different thickness or texture, a test should be made to confirm the quality of weld is consistent and that every splice is hermetically closed and free from bubbles and cracks.

For Splicing 'L" Material Belts:

- After switching on the press, wait for both the top and bottom platens to heat to 180°C.
- When cutting the belt to the finger pattern, cut away any protruding Aramid fibers.
  Do not attempt to drill out the ends of these fibers into the belt surface.
- Place belt in position on heated area. Do not leave for any length of time without continuing the operation.
- Place an appropriate silicone pad across the top side of the belt in order to preserve the original belt surface (smooth or textured) as far as is possible.
- Apply 2 Bar of pressure for 4 minutes.
- Wait for the belt to cool down in the press (approx. 15 minutes) and then release.

For Splicing "M-LT" Material Belts

- After switching on the press, wait for both platens to heat to 180°C.
- When cutting the belt to the finger pattern, cut away any protruding Aramid fibers.
  Do not attempt to drill out the ends of these fibers into the belt surface.
- Place belt in position on heated area. Do not leave for any length of time without continuing the operation.
- Place an appropriate silicone pad across the top side of the belt in order to preserve the original belt surface (smooth or textured) as far as is possible.
- Apply 2.5 Bar of pressure for 6 or 7 minutes.
- Wait for the belt to cool down in the press (approx. 20 minutes) and then release.

Benefits:

- Reinforced belts with no fabric exposed
- No fraying, no delamination
- Eliminate contaminated reinforced fabric which is difficult to clean
- Fully extruded
- Food approved
- Compatible with HACCP principles
- Permits versatile applications such as soft base belts on small pulley diameters
- Can replace reinforced belts in wet applications where the sealed reinforcement hinders contamination and in bakery applications using flour
- High resistance to oils, fats and hydrolysis

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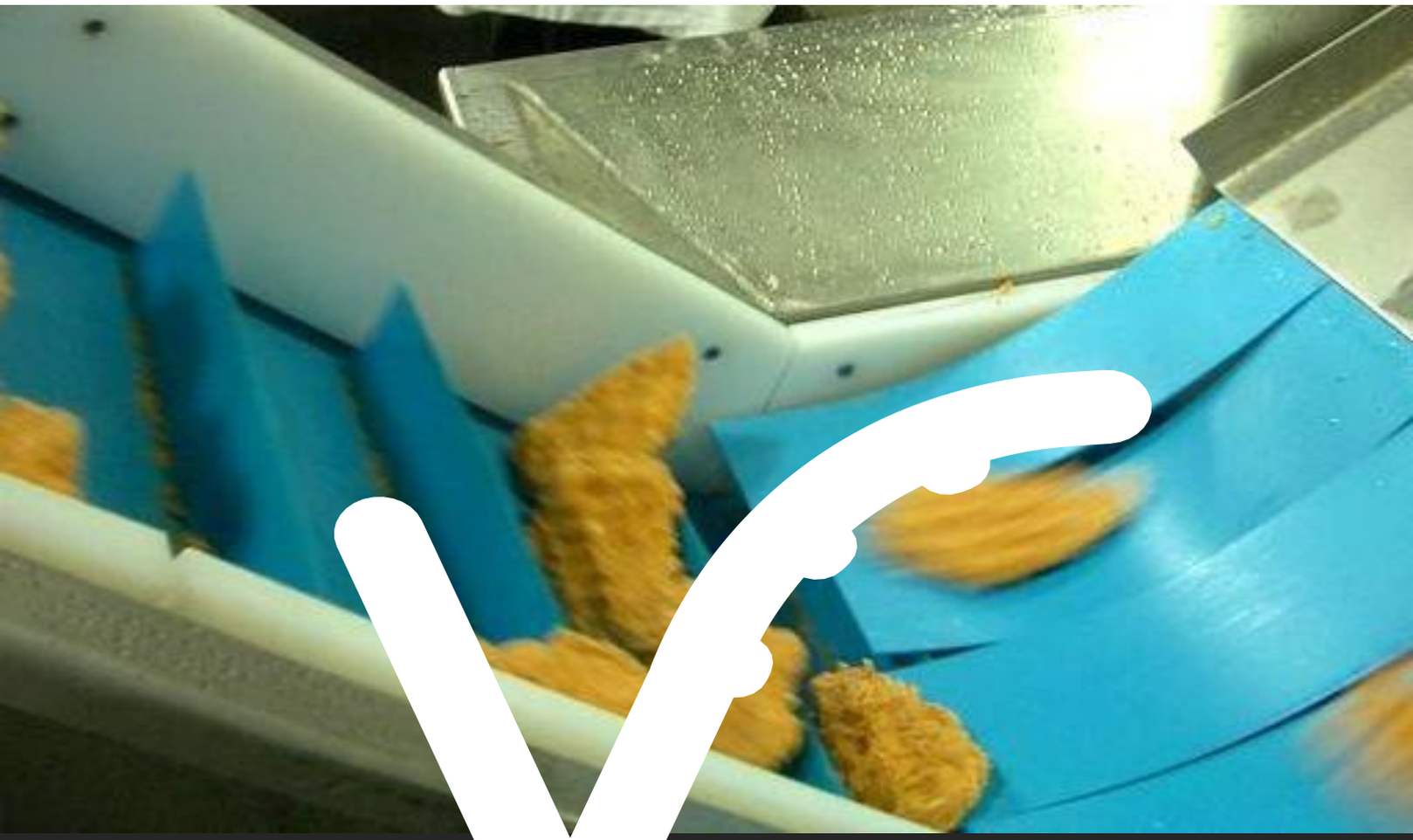

Food Grade Accessories

Conveying Solutions

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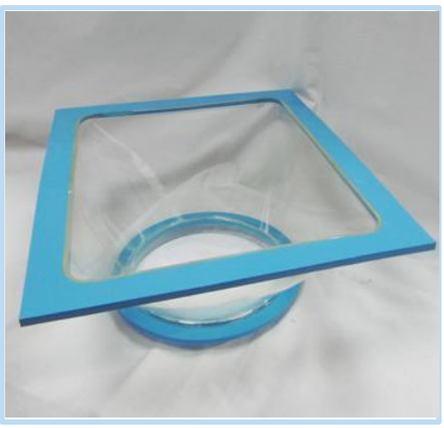
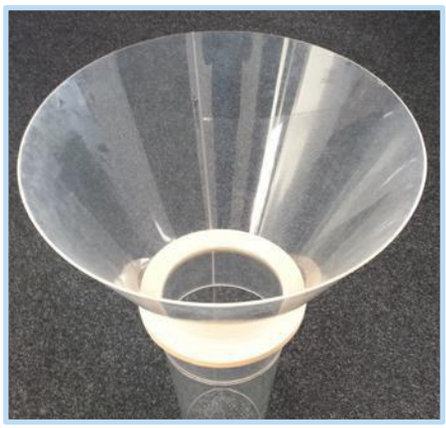
Volta food grade materials possess mechanical characteristics which make them ideally suited to static elements such as funnels or chutes. These elements are common in free fall of food products and chemicals and, when fabricated from conventional, inflexible materials such as polycarbonate or steel, can be hazard points or elements of concern in production for a number of reasons;

- Hard elements causing damage to product in free fall
- Elements from inflexible materials can jam when (irregular and bulky) product flow is at maximum
- Polycarbonate elements are often cracked when removed for cleaning and refastened with bolts by maintenance staff
- With solids, noise levels can be high
- Bolts and fasteners can be difficult to open
- Steel elements do not offer visibility into the product flow
- Low cleanability

Volta uses homogeneous food grade materials, including transparent and translucent conform to designs for funnels, chutes, pipes and similar elements to eliminate all the above problems. Flanges can be welded on to facilitate the fixing of the Volta funnels in the flow line.



Square to round flanged funnel



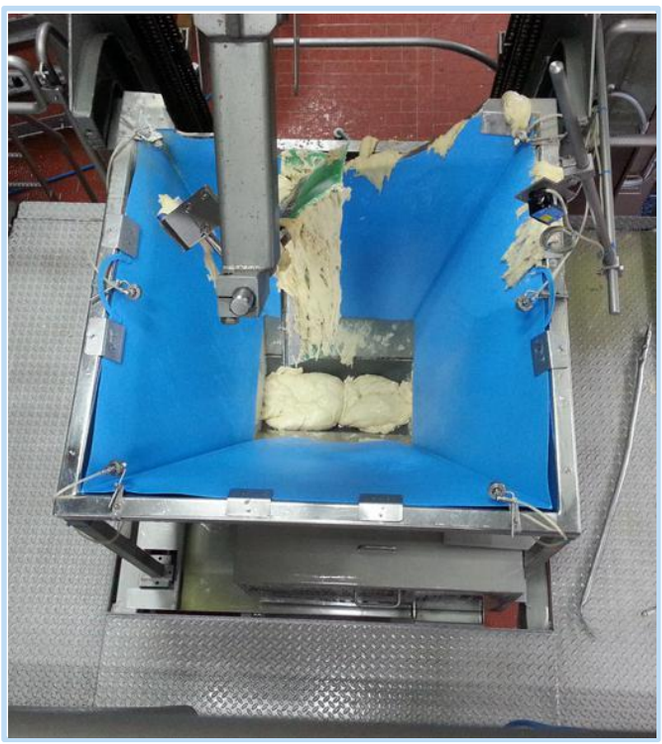
Double funnel

Double-flanged funnels

Base Materials used for funnels

Product & Color			Shore Hardness	Temperature Range	Thickness	Certifications
FMB	Blue		95A / 46D	-30° C to 70° C / -20° F to 158° F	2	FDA/USDA/EU
FMW	Beige				2.5	
FMWC	Clear				3	

- All elements are custom-made and can even be fitted and welded on site where measurements are difficult or inaccurate such as for hopper linings.



Hopper

- Hammocks are used to reduce noise and damage to sensitive products in freefall - examples range from vegetables to hard boiled sweets.

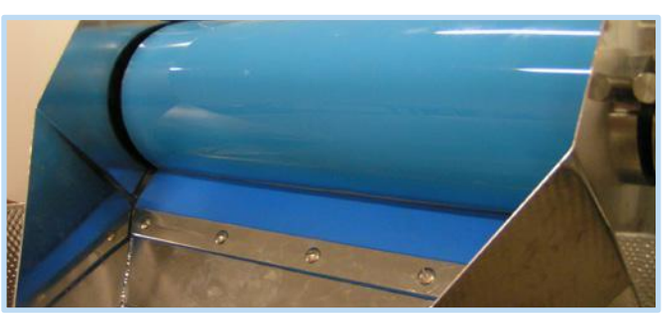
Hammock

- Simple flat pieces are available for use on tables, intake chutes and as skirting and scrapers. Skirting can be used as a simple means of containment and is an effective means of protecting conveyor features such as bearings and supports. Product is not lost and will not fall into the conveyor bed and support structure.

Chute Installed

Skirting

Sorting Table



Scraper

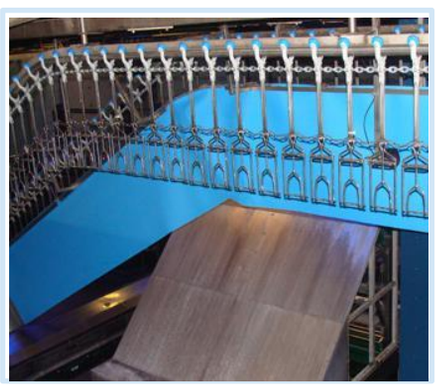
The use of correctly selected Volta material will not groove or damage the moving Volta conveyor belt.

Volta - Food Grade Accessories

Custom made funnels

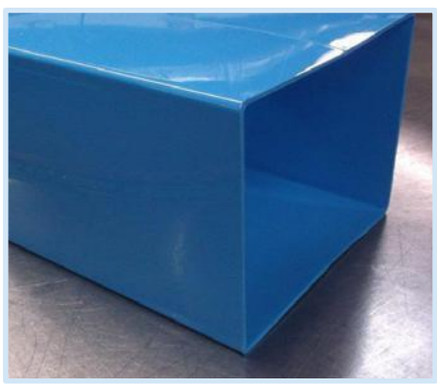
Pipes

Special funnel



Skirting

Chute lining



Squared-off tube

Funnels from Volta material

Double funnel

Silo funnel

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Flat Belts
Industrial Applications

Conveying Solutions

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Flat Belts Industrial Applications

For over 55 years Volta has been manufacturing conveyor belting for industrial applications from highest quality Thermoplastic Elastomer (TPE) material with unique homogenous characteristics. These belts are most suitable for conveying ceramics, glass, cardboard, metal parts and recycling, etc. A wide range of colors, thicknesses, hardnesses and surface textures are available. Standard Belt Width = 1524 mm (60") / 2032mm (80").

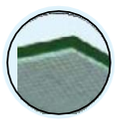
- Does not absorb industrial oils, fluids and chemicals.
- Absorbs the impact of falling products well to ensure a long belt life.
- Very low abrasion - no joints prone to wear and tear.
- Improved resistance to cuts and punctures.
- High carrying capacity with excellent grip.
- Safer product conveyance on shock-absorbing materials.
- On magnetic conveyors and separators, thinner belting means more intensity in a given magnetic field.

Homogeneous Belts										
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%	
						mm	mm	Inch	kg/cm	lbs/in
FK	Green 17		59D	-20° C to 75° C -5° F to 170° F	0.28	3	88	3 1/2	3.20	17.60
						4	105	4 1/4	4.20	23.50
						6.5	195	7 11/16	6.50	36.40
FZ	Green 05		95A/46D	-30° C to 70° C -20° F to 158° F	0.36	2.5	35	1 3/8	1.50	8
						3	40	1 5/8	1.8	9.6
						4	60	2 3/8	2.60	13.60
						5	80	3 1/8	3.20	16.80
FL	Brown		80A	-40° C to 50° C -40° F to 120° F	0.55	2.5	17	21/32	0.30	1.80
						3	20	3/4	0.40	2.20
						4	30	1 3/16	0.60	3.40
						5	35	1 3/8	0.70	3.90
Homogeneous Embossed Bottom Belts										
FEPZ	Green 05		86A	-30° C to 50° C -20° F to 120° F	0.35	3	30	1 3/16	0.80	5.10
FEST	Green 05		65A	-40° C to 55° C -40° F to 125° F	0.70	2	9	11/32	0.30	1.68
						3	14	9/16	0.45	2.52
FEZ	Green 05		95A/46D	-30° C to 70° C -20° F to 158° F	0.20	2	30	1 3/16	0.80	4.50
						2.5	35	1 3/8	1	5.60
						3	40	1 5/8	1.30	6.60
						4	60	2 3/8	1.60	9
						5	80	3 1/8	2.10	11.80

Conveyor Belts Top & Bottom Surfaces


Smooth Top


Embossed Bottom


Reinforced Bottom

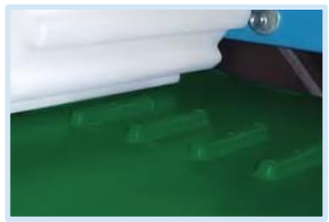
Reinforced Belts										
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%	
						mm	mm	Inch	kg/cm	lbs/in
FRL*	Brown		80A	-40° C to 50° C -40° F to 120° F	0.20	2	10	3/8	5	28
						3*	30	1 3/16	12	67
						5*	60	2 3/8	13	73
FRZ*	Green 05		95A/46D	-30° C to 70° C -20° F to 158° F	0.20	2	25	1	6	33.50
						2.5	32	1 1/4	6.50	36
						3*	36	1 7/16	7	39
						4	50	2	7.50	41.70
						5	65	2 9/16	9	50
FRG*	Grey		95A/46D	-30° C to 70° C -20° F to 158° F	0.20	2	27	1 1/16	6	33.50
						3	36	1 3/8	7	39
						4	60	2 3/8	7.50	41.70
FRG ST	Green 05		65A 95A/46D	-30° C to 60° C -20° F to 140° F	0.20	3	35	1 3/8	6	33
						3.5	40	1 5/8	6	33
	Grey					5	60	2 3/8	7	39
FRPZ*	Green 05		86A	-30° C to 50° C -20° F to 120° F	0.20	2	20	3/4	5.20	29.12
						3	30	1 3/16	5.60	31.36
						4	40	1 5/8	6	33.60
						6	80	3 1/8	6.80	38.08
						8	100	4	7.60	42.56

Note: *Check availability before placing the order.

Tips for Splicing & Fabricating:

- Reinforced belts should be butt welded on an angle (bias). Increasing the contact zone improves belt strength and means the break in the reinforcement is not stressed across the width at one point.
- When welding guides onto reinforced belts, it is preferable to machine the reinforcement off with an end mill/ router and to heat weld directly onto the homogeneous base belt.
- Volta offers a number of cleat/flight configurations including scooped and angled. Throughput assessments can be made to assist in designing elevators for given volumes of material transfer.
- Unlike modular belts where molds can restrict design, Volta material offers more scope for ingenuity and innovation.

The Positive Drive Concept - SuperDrive™



The additional advantage of the Positive Drive mechanism prevents any slippage or off-tracking, reducing maintenance costs dramatically. Lack of tensioning prevents elongation and allows for simple cleaning procedure and long belt life.

SuperDrive™ Belts

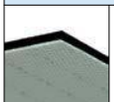
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on UHMW* (bottom)	Thickness	Minimum Pulley Diameter **		Maximum Pull Force width	
						mm	mm	Inch	kg/cm	lbs/in
FEZ-SD-ITM2	Green 05		95A	-30° C to 70° C -20° F to 158° F	0.25	3	80	3 1/4	5	28
						4	120	4 3/4	6.6	37

Note: All Inch sizes have been converted from metric sizes.
*UHMW - Ulta-High Molecular Weight material (PE-1000).
**Minimum Pulley Diameter - Normal Flex

Electro Static Dissipative (ESD) Belts

This special belt is created from Electro Static Dissipative (ESD) material that ensures the continuous release of electro static charge and prevents the build-up and impulsive, unwanted release of static charge.

Electro Static Dissipative (ESD) Belts

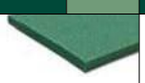
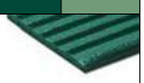
Product & Color				Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		ESD
							mm	mm	Inch	kg/cm	lbs/in	
	FRBL - ESD	Black		90A	0°C to 50°C / -32°F to 120°F	0.20	2	30	1 3/16	2.5	14	10^7 - 10^8
	FNBL-CB-ESD*	Black		90A	0°C to 50°C / -32°F to 120°F	0.38	1	20	25/32	1.8	10.08	10^7 - 10^8
							2.4	40	1 5/8	2.4	13.44	

Note: *Belts can only be made endless with mechanical systems or finger splice. Pull force values are recommended only when using finger splice.

Warning: Volta ESD belts are not ATEX certified at this time.

Belt Coating Materials

These materials are supplied in strips for welding onto suitable surfaces (PU timing) to give a variety of effects.

Belt Coating Materials									
Products		GST - 4	MST - 6	GWG - 4	FEST	FSTF		FSTF - ST	FSTF - ST Strips	
Color		Green 05	Green 05	Green 05	Green 05	Green 05	Green 21	Green 05	Green 05	Green 21
Illustration										
Description		Super Grip	Multi Grip	Wood Grip	High Grip	Foam**		Foam & High Grip Top	Foam & High Grip Strips	
Shore Hardness		65A	65A	65A	65A	65A		65A	65A	
Size (mm)	Width*	50	50	72	1524	140	150 160	60	60	
	Thickness	4	6	3.75	2,3	14	6-12 4	4	4	
CoF (Stainless Steel)		0.85	0.88	0.77	1.10	0.90		0.90	0.90/1.10	
Temp. Range		-40º C to 55º C / -40º F to 125º F								

Note: *Width - Maximum available width.
**Foam - Made from 65A shore material, actual hardness is lower.Check availability before placing an order.

Roller Coating Sleeves

The Roller Coating Sleeves have an abrasion resistant surface that is ideal for covering rollers where the product on the system may be damaged or marked by contact. Using VOLTA tools, the sleeves are easily mounted without lubricants or glues. Sleeves are available with a smooth surface and in dimensions from 27mm O.D. to 95 mm O.D.

Contact your local distributor for further details regarding the dimensions and availability of Ribbed Sleeves.

Volta Endless Making Tools

FBW - Flat Butt Welding

The FBW System performs a butt-weld merging belts edge to edge.

FT - Electrode Welding System

The FT Welding System provides electrode welding technology.

P- 100 & P-200 Narrow Butt Welding Tools

P-100 pliers for belts up to 100mm
P-200 pliers for belts up to 200mm

Hinge Lace System and Metal Lace

The Volta Lace system is supplied welded on and allows a belt to be assembled and subsequently opened and removed with ease. Volta lace is compatible with Volta G, GZ, PZ, Z, L, LG and M Family Flat Belts from 2.5mm to 5mm thickness. All Volta flat belt material is easy to clean without removing from conveyor and therefore we only recommend lace when absolutely necessary.

- Using Volta tools, belts can be made endless on-site, reducing downtime.
- Heat-welded fabrications. Fusing of the solid flat belt with matching material flights, sidewalls, guides, etc. result in a nearly unbreakable fabrication and superior performance.
- Volta material is ideal for forming slides or hammocks to gently support and break the fall of the product on the belt.

Industrial Applications

FRZ - 2
Screw conveying

FRPZ - 6
Hammocks in glass recycling

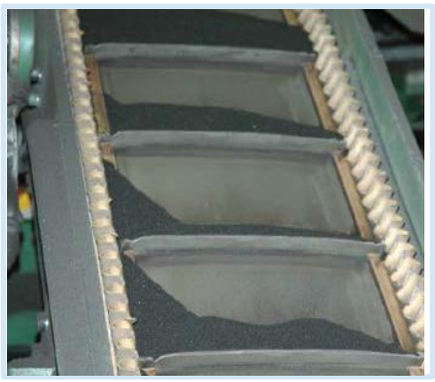
FRZ - 4
Metal recycling

FEZ - 3.2
Industrial chemical conveyor

FEZ - 3.2
Nails production

FRZ - 5
Glass conveying

FRPZ - 6
Glass recycling



FRG - 3
Chemical powder conveying

FK - 3
Brick pre - oven conveying

volta™
Belting Technology

Simply Safe & Hygienic

Conveying Solutions

Motech

Governments & Consumers Demand More Stringent Safety Procedures from Farm-to-Fork

The issue of food hygiene has become an issue of paramount importance in food processing. Pressure has come from a number of different directions; a change in eating habits in industrialized and developing nations away from fresh, market-sourced foodstuffs; the conglomeration of the food industry around the world; the tenuous supply chain that exists for many products and a general increase in awareness, health culture and the resulting proliferation of legislation and regulations.

Consumer awareness has resulted in governments being lobbied to introduce more stringent controls on food safety and incidents of recalls and even food poisoning due to contaminated product have risen.

Independent organizations are beginning to examine the concept of 'food grade' which does not in most cases cover the belt production technology but merely the plastic from which it is made. The most recent is the EHEDG organization which has, for the first time, brought some 'food grade' belt types into question.

Food manufacturers are keenly aware of the need to reduce their liability to product claims and food suppliers such as supermarkets go to great lengths to audit the products they stock their shelves with and will visit processors at all levels to ensure compliance with safety standards and good practice.

Of all the machinery parts and processing devices that come into direct contact with food at all stages of processing, from raw treatments, through washed and frozen to cooked, conveyors are routinely employed to enable factories to increase throughput. The surface of the conveyors is one of the only non-processing elements to touch food prior to packaging and, as such, is in need of extra care and attention when it comes to improving and maintaining hygiene levels and reducing the risk of contamination.

Using Conveyor Belts as part of a Food Safety Strategy

Conveyor belts should exhibit the following characteristics:

- **Strong and consistent (abrasion resistant):** to handle products of various sizes, weights, shapes and consistencies (including sharp elements) without displaying wear and tear that turns the belt into a hazard point.
- **Non-porous material:** imimpervious to fats, liquids, and chemicals and not prone to harbor bacteria or other micro organisms.
- **Non-Stick surface:** preventing product from sticking to the conveyor belt and thereby reducing the repeated contact of dirt with material subsequently conveyed.
- **Homogeneous:** made from dense (extruded) material with no fabrics to fray or soak up fluids and cleaning agents. No links, joints and pins which harbor bacteria and involve long and frequent chemical soaks to bring back to working condition.
- **Easy to operate and maintain:** a positive drive belt with an off-tracking system such as Volta's SuperDrive™ can reduce the amount of working parts in a conveyor and allow for an open and hygienic conveyor design. Upgrading conveyors will actually reduce the cost of ownership as well as provide a safer processing environment.
- **Easy to sanitize:** Homogeneous belts offer the fastest wash down regimes with no removal of belts from conveyors. Water consumption and labor is saved; the environmental cost is low and production time is freed up.

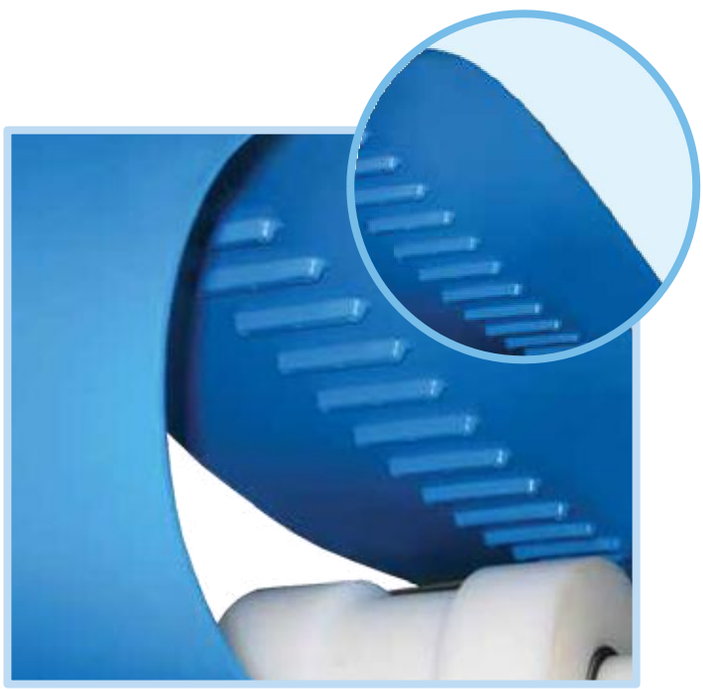
As a manufacturer of food grade conveyor belts with over 50 years of industry experience, Volta has designed belts that conform to all these considerations and do not just meet the expectations and demands of food processors, but exceed them. Volta offers tested and certified food grade belts for all food processing needs and allow for true compliance with HACCP principles.
For more information on HACCP visit the official site at www.haccpalliance.org
For download of EHEDG Guideline 43 visit www.ehedg.org

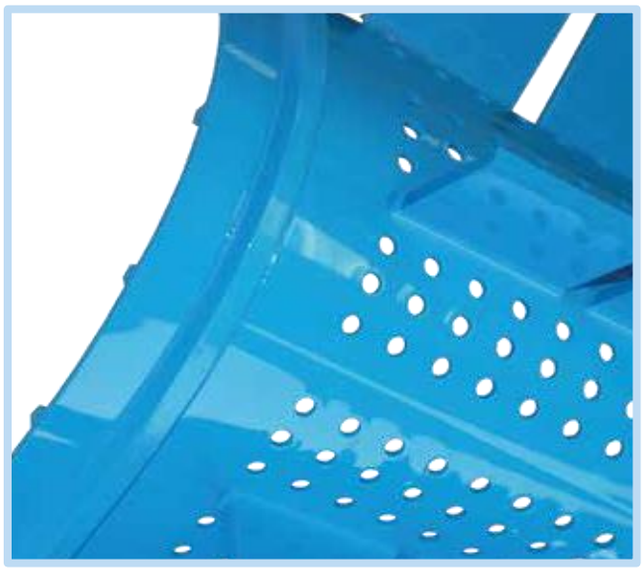
Simply Hygienic

Volta Belting has been developing and designing conveyor belting products since 1964. Volta's thermoplastic elastomeric (TPE) food grade belts fully comply with the strictest hygiene requirements of the food industry and are used in thousands of installations worldwide.

Volta's hygienic belting technology is known for its versatility, durability and, above all, its hygienic safety. It offers the largest range of materials and surface textures and supports state of the art fabrications which are designed with preventing product residue and bacteria traps.

The materials are all extruded and can be welded piece to piece by heat or HF welding, eliminating the use of adhesives and giving a solid unbreakable bond. The features which are welded on, such as flights, guides and side walling, will not detach or fragment which this renders the need for metal detectable material obsolete. The positive drive systems, especially the SuperDrive™, are designed to make permit the flushing out of the bottom side when cleaning and the teeth are formed as part of the extrusion and not welded-on or machined (inferior production techniques that can make the teeth a hygienic hazard point by trapping dirt and fluids).





Material Quality

Volta belts outperform conventional belt types for hygienic stability:

- Produced from dense TPE with resistant properties suited to difficult conditions: water, oils, fat, cold and freezing temperatures. The belts will not crack, delaminate or deteriorate over time.
- Smooth non-porous surfaces which repel bacteria.
- Especially strong and thick belts which can convey heavy loads, handle accumulation and take impact from problematic material and food waste.
- Suited to Volta's in-house hygienic fabrications.
- Easy to clean (wash down only; no soaking), keeping water consumption and handling time to a minimum.
- Complies with EU, FDA and USDA regulations. Consistent with EHEDG Guideline 43.

SuperDrive™ - the World's Best Hygienic Conveyor Belt

SuperDrive™ is the most hygienic positive drive belt on the market. It uses all of the advantages of the TPE materials and the fabrication system common to Volta's other belts and goes further.

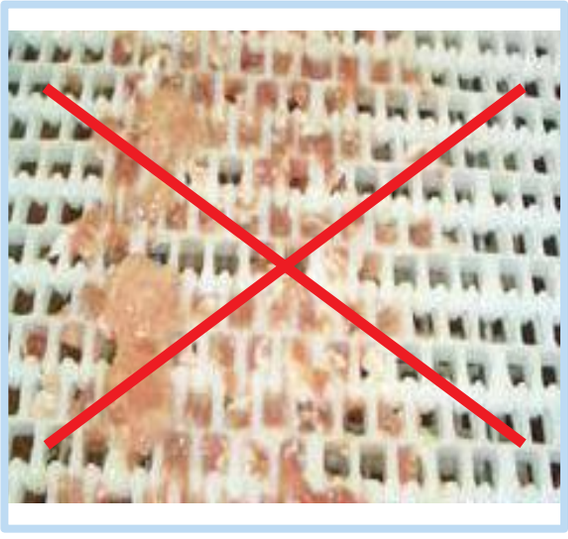
The belt is designed with integrally extruded teeth on the underside of the belt which have the safest and most reliable design for positive drive which can work in or under water and with humid and greasy foodstuffs. The teeth are sued to prevent off-tracking. Asides from the impressive mechanical capabilities, the SuperDrive™ teeth are the only positive drive teeth designed to facilitate washing and even allow trapped product to flush out during production to minimize the accumulation of fallout.

The belts are ultra-hygienic and also allows new standards of hygiene to be adopted in conveyor construction by allowing streamlined and minimalistic conveyor designs, that, when coupled with superior materials and finishing by a competent OEM, give the most advanced hygiene system available in the world.

Contrasting Volta's Hygienic System with Older Technologies

The belting industry still offers two main alternative systems: fabric coated belts ("ply" belts) and modular belts. The use of both these types has been called into question by EHEDG Guideline 43. Ply belts require sealing on the edges and underneath as well as frequent inspection; modular belts are not considered hygienic under any circumstances.

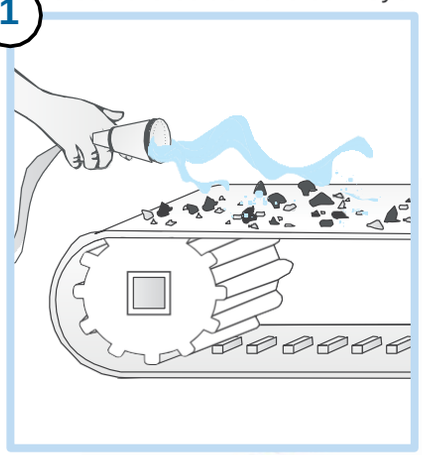
Fabric coated belts fray easily and are the fabric layers, overlaid with thin deposits of TPU, PVC or rubber coating crack on impact, from changes in humidity and temperature and from exposure to water, oils and fats. They are prone to delaminate at the joints from even moderate wear and in general across the surface from contact with abrasive materials such as salts, seasonings, frozen goods, bone fragments and the like. Not only exposed fabric layers but even light scratching can expose cavities inside the plastic which form breeding grounds for bacteria and micro-organisms and severely reduce belt cleanability.



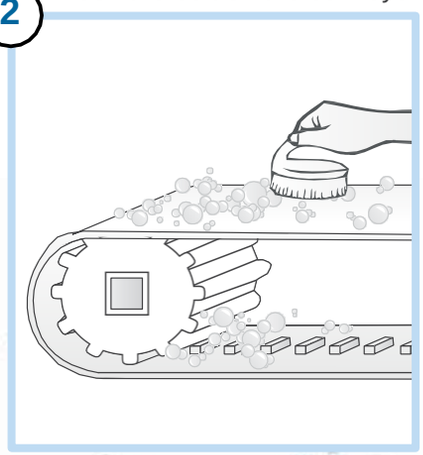
Modular Belts have been widely sold to the food industry for over a decade; their overall hygienic condition and cleanability is not suited to food processing. From day one, modular belts cannot be cleaned effectively. Modular belts are composed of moving parts which are brittle and easily damaged and can enter the product flow unnoticed and untraced. The joints and pins and shaped link plates offer over 30% extra surface area, much of which is inaccessible to normal sanitation practices. Cleaning regimes are understandably stricter with such belts and the hidden cost of maintaining them in good condition makes them expensive. Coupled with their propensity to break or wear, the frequent replacement of parts makes them the most expensive and least cost-effective alternative available as well as being hygienically questionable at best.

Three steps to clean your belt:

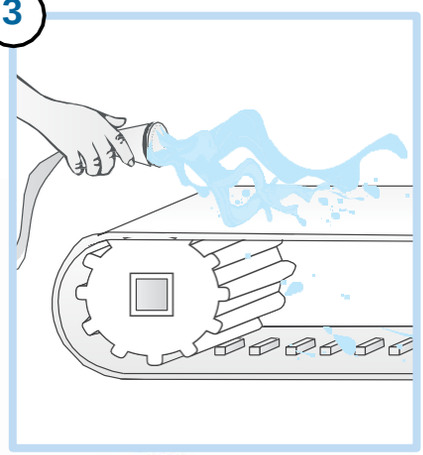
1 Clean the belt on the conveyor



2 Brush the belt on the conveyor



3 Wash the belt with water



This is what they are saying about us

End Users' Reports on Volta's Hygienic Advantages

"We changed over our last non-Volta modular belt in 2011 to SuperDrive™. That was the last weak point in the factory."

QA Manager, Australian Dry Fruit Company

"We managed to increase shelf life by 25% on a Volta Z conveyor. As we do the logistic shipping across Europe, this is a major saving in fuel, manpower and lost product."

Salad Processor Plant in the South of Italy

"In 2010 we installed Volta's three-feed conveyor. We couldn't believe the quick change over time from batch to batch –it came down to under 10 minutes!"

Multinational Food Processing Plant in France

"We installed SuperDrive™ belts in place of modular and this gave us a saving in electricity, lower decibel counts, and fewer maintenance issues with motors, less waste and a cleaner product. I can bring my customers into the factory now with a clear conscience."

Indian Seafood Processor, Mumbai

Quality & Food Safety

Standards

Volta Belting has implemented and maintains a Quality Management System (QMS) that is in compliance with ISO 9001:2008 requirements for the production of conveyor belts and conveyor belting products.

Volta Belting's positive drive and food-grade belting comply with the following international standards:

- **USDA** Dairy Equipment Review Guidelines
- **USDA - NSF/ANSI/3-A 14159-3-2014** Hygiene Requirements for the Design of Mechanical Belt Conveyors Used in Meat and Poultry Processing
- Requirements of Code of Federal Regulations **(CFR21) USDA FDA** article 21 CFR 177.2600
- **European Regulation (EU)** No.-10/2011 amended by 2017/752, 1935/2004 and 2023/2006
- German Regulation BfR XXI

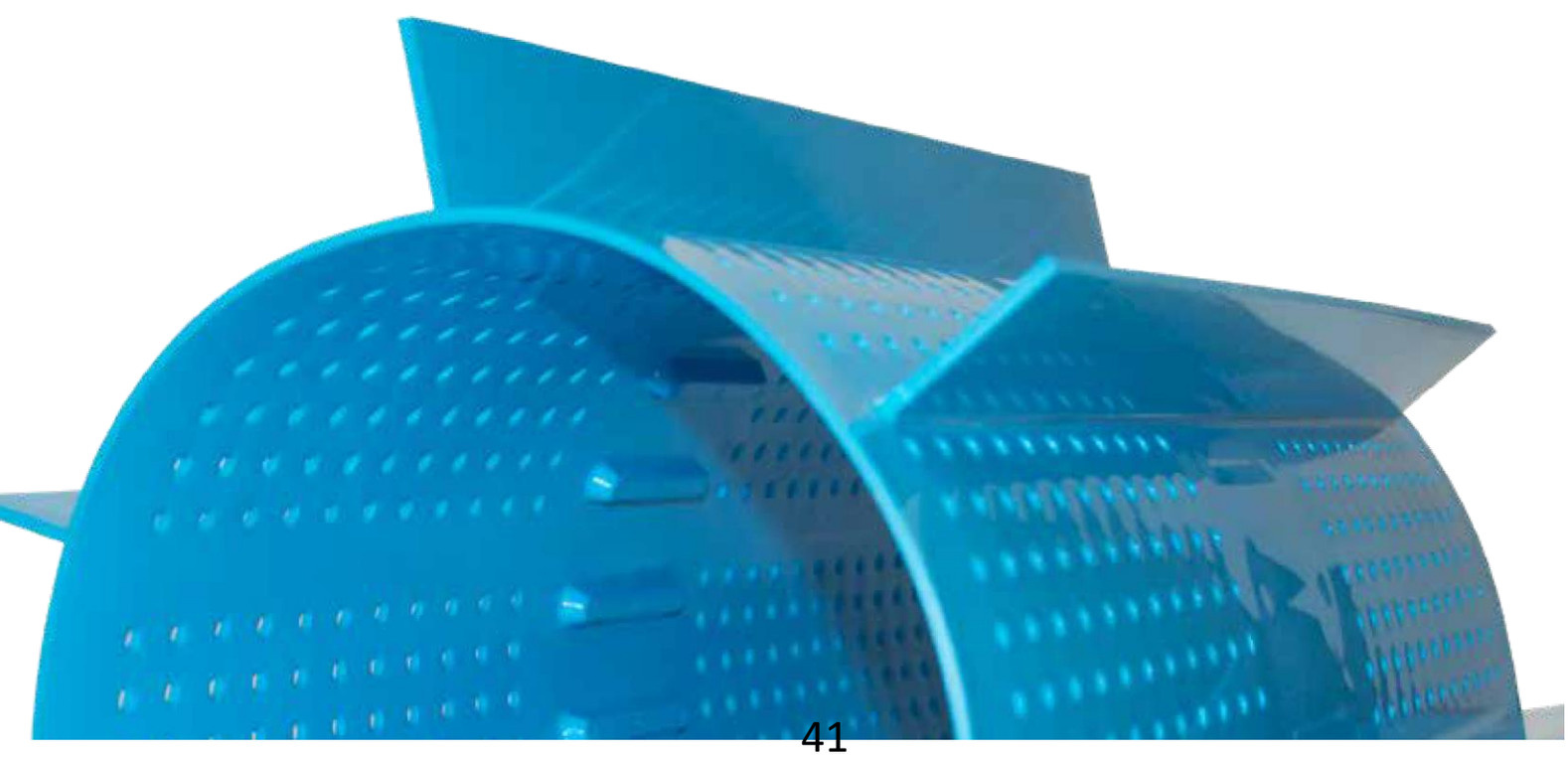
Associations

Volta Belting is a member of these prestigious professional industry organizations.

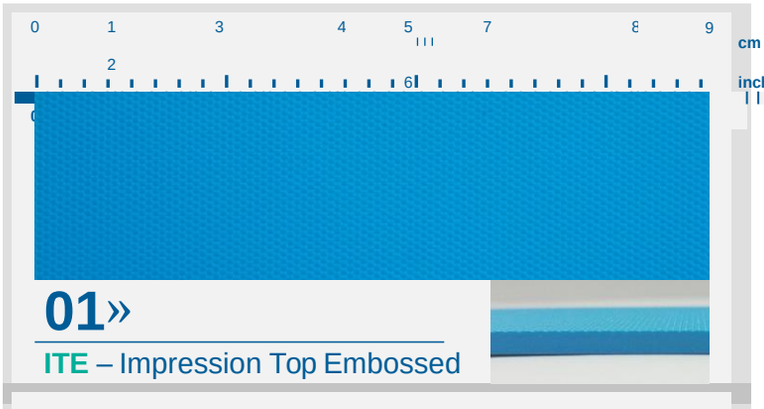
EHEDG (European Hygienic Engineering and Design Group)

NIBA (National Industrial Belting Association)

Volta manufactures its food grade conveyor belts at its production facility, which supports a sizeable R&D unit. The company has distribution centers in Europe, the USA, India and the Far East to serve its global markets, locally. Find out more about us or contact us for sales & service support center nearest you.



Volta **Impression Top** Collection



01»

ITE – Impression Top Embossed

02»

ITS70 - Impression Top Square

03»

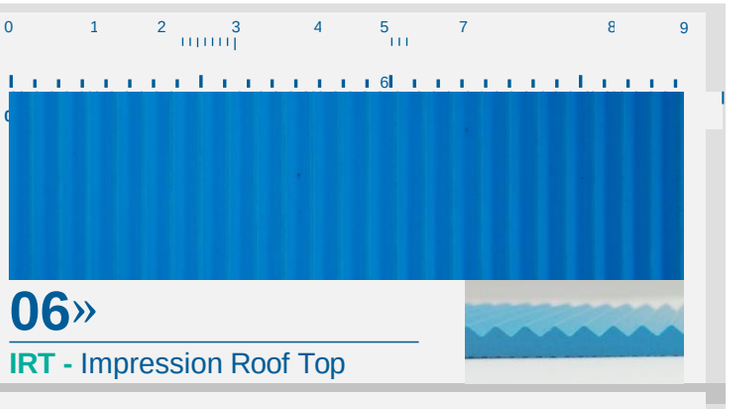
ITO50 - Impression Top Oval

04»

ITR10 - Impression Top Rough

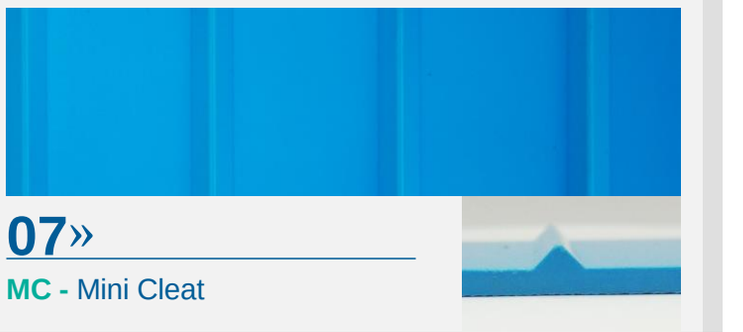
05»

CT - Crescent Top



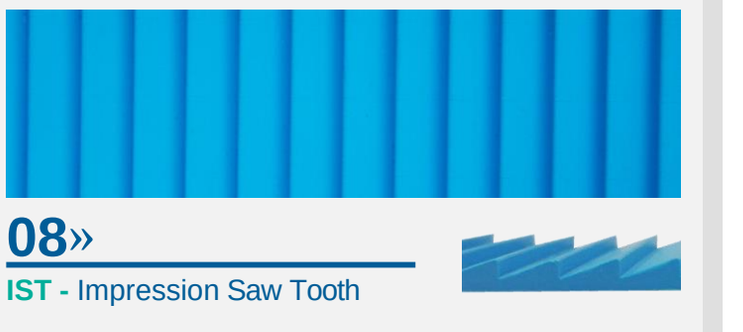
06»

IRT - Impression Roof Top



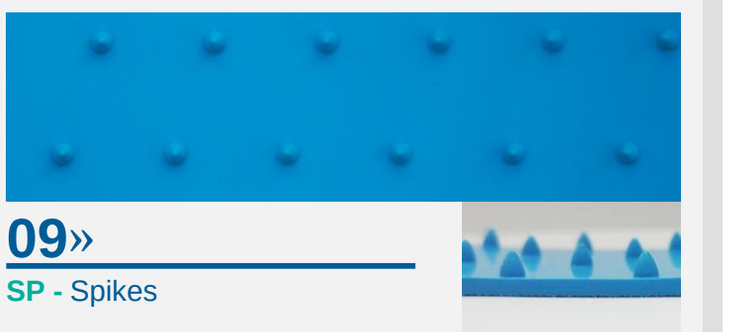
07»

MC - Mini Cleat



08»

IST - Impression Saw Tooth



09»

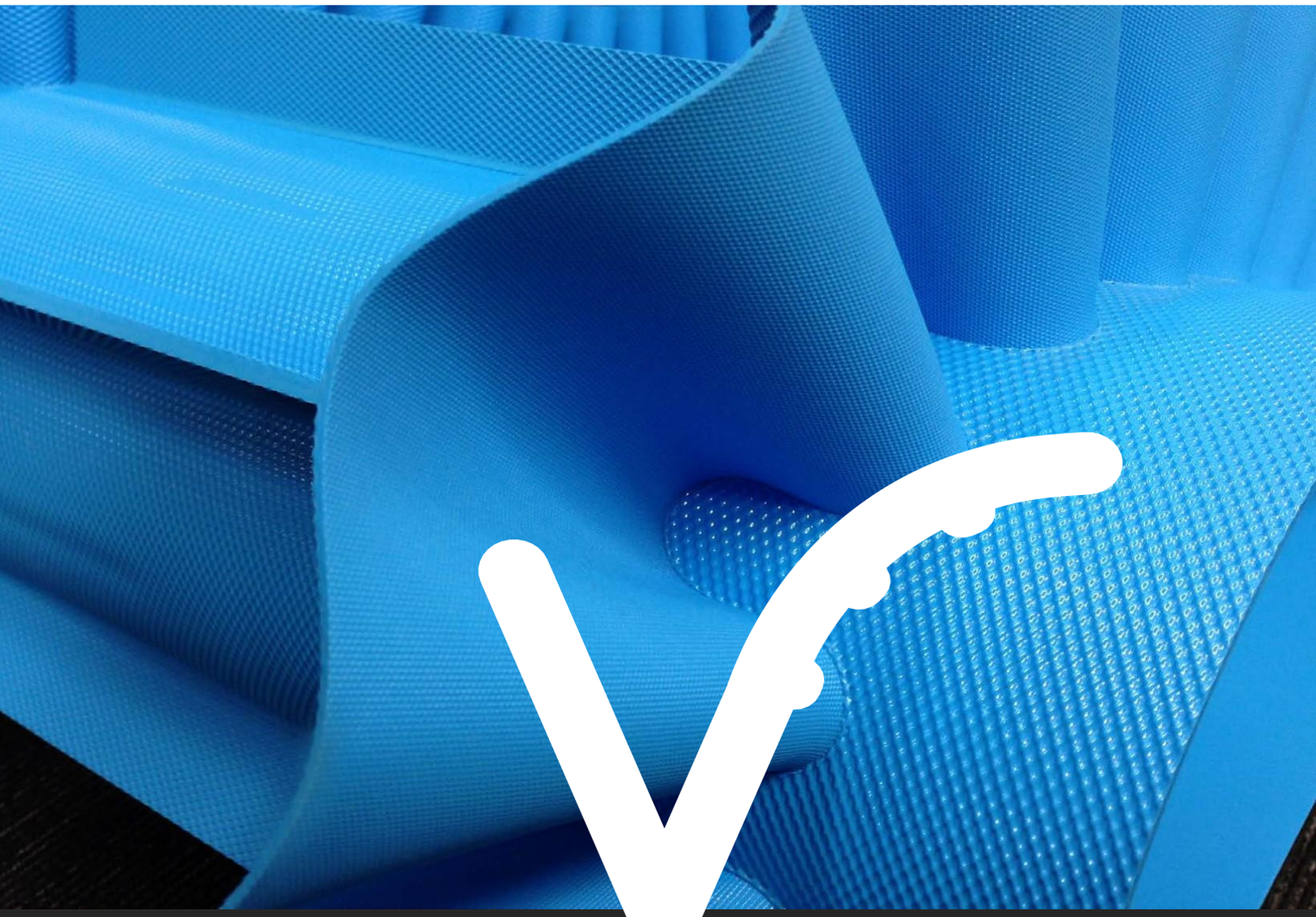
SP - Spikes

10»

INT - Impression Nub Top

volta™
Belting Technology

The Next Step in Belting



The Art of Fabrications

Conveying Solutions

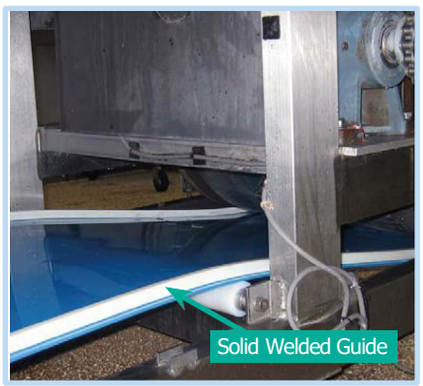
Motech

Volta Belting has created a unique system including tooling to manufacture heat-welded fabrications customized to individual needs.

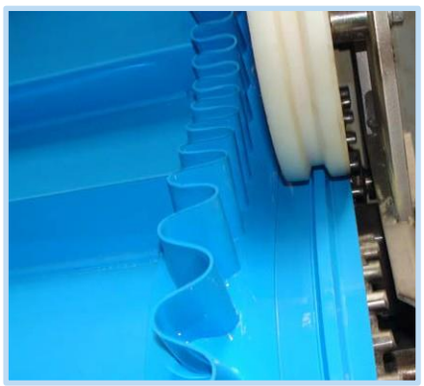
Guides

All Volta guides are heat-welded, eliminating the use of adhesives. This prevents the guide detaching from the base belt. All Volta guides are durable and withstand abrasion, oils and general wear and tear. Guides are generally seen in one of three configurations:

1. A single center guide on the underside of the belt used to prevent off-tracking.



2. Two parallel guides on, or close to the belt edges on the underside of the belt used on wider belts; common in vegetable processing.



3. Two parallel guides on the top side of the belt used in elevators to maintain belt rigidity.

Guides are made from L, M (LT,MD) and H material (for H belts only) as well as special soft guides from 65A Shore TPE which help reduce the MPD of the belt compared to a standard L or M guide. A further reduction of MPD can be obtained by using cogged guides which are coded C in place of the standard V coding (e.g. CLC in place of VLC).

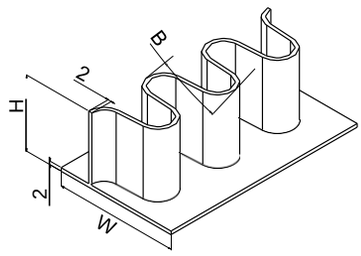
Products	CSB/CSC	VSB/VSC	CL/CLB/CLC	VL/VLB/VLC	CM	VM	CW	VW/VWB
Shore Hardness	65A	65A	80A	80A	90A	90A	40D	40D
Color	Blue / Clear	Blue / Clear	Brown / Blue / Clear	Brown / Blue / Clear	Red	Red	White	White / Blue
Cogged	Yes	No	Yes	No	Yes	No	No	No
Certifications	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Compatible with	M/L Family Type Belts	M/L Family Type Belts	M/L Family Type Belts	M/L Family Type Belts	M/L Family Type Belts		H Family Type Belts	H Family Type Belts

Size (mm)		Add To Base Belt Minimum Pulley Diameter (Normal Flex)							
Width	Height								
6	4	NA	15	NA	25	NA	NA	NA	NA
8	5.20	20	25	30	40	NA	60	NA	NA
10	6	22	30	35	45	50	65	55	70
13	8	28	35	40	50	60	85	60	80
17	11.50	40	50	60	75	85	115	85	110
20	12.50	NA	NA	NA	85	NA	125	NA	NA
22	14.50	NA	65	75	100	110	145	110	150

Notes: CLB-not available in 22mm | CLC-not available in 8&22mm. | VWB-not available in 10mm & 22 mm.
Special guides available for Low Temperature (LT) , for Metal Detectable (MD) and for Hydrolysis & Chemical resistant (DR) belts.

Sidewalls

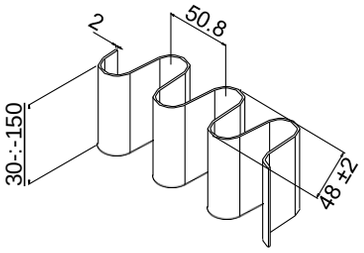
Volta offers a classic "wavy" style sidewall in two versions: Based sidewall wich can be delivered as a stand alone for fabrication by customer and Baseless sidewall which comes welded on the base belt from the factory. In addition, there is a Flat version welded by HF to the base belt.



Based Sidewalls - SW

Type	SW-20		SW-30		SW-40		SW-50		SW-60		SW-80		SW-100	
mm/inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Height	20	13/16	30	1 1/4	40	1 1/2	50	2	60	2 3/8	80	3 1/8	100	4
Base Width	40	1 1/2	40	1 1/2	40	1 1/2	70	2 3/4	70	2 3/4	70	2 3/4	70	2 3/4
Wave Width	18	5/7	18	5/7	18	5/7	34	1 5/16	34	1 5/16	34	1 5/16	34	1 5/16
Minimum Pulley Diameter (Normal Flex)														
Belt Thickness	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
2	95	3 3/4	95	3 3/4	100	4	NR		NR		NR		NR	
2.5	100	4	100	4	110	4 3/8	NR		NR		NR		NR	
3	105	4 1/8	105	4 1/8	115	4 1/2	125	5	130	5 1/8	150	6	200	8
3.2	105	4 1/8	105	4 1/8	115	4 1/2	125	5	130	5 1/8	150	6	200	8
4	110	4 3/8	110	4 3/8	130	5 1/8	130	5 1/8	135	5 3/8	150	6	200	8
5	120	4 3/4	120	4 3/4	135	5 3/8	135	5 3/8	140	5 1/2	150	6	200	8

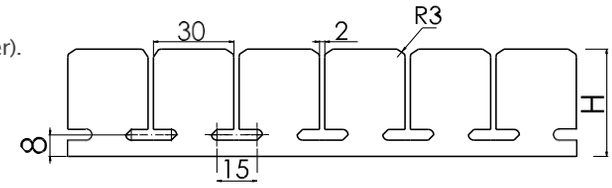
Note: NR - Not Recommended. All sidewalls can be ordered in rolls of 100 meter lengths for your in-house use.



Baseless Sidewalls - B-SW

Measurement		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Sidewall Height		30	1 1/4	40	1 1/2	50	2	60	2 3/8	80	3 1/8	100	4	130	5 1/8	150	6
Sidewall Thickness (mm)		2		2		2		2		2		2		2		2	
Wave Width		48mm+/-2mm															
Minimum Pulley Diameter (Normal Flex)																	
Belt Type	Belt Thickness	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Homogeneous 95A Shore or more & all Reinforced Belt Types	2	80	3 1/8	90	3 1/4	100	4	110	4 1/4	NR		NR		NR		NR	
	2.5	80	3 1/8	90	3 1/4	100	4	110	4 1/4	NR		NR		NR		NR	
All Belt Types	3	80	3 1/8	90	3 1/4	100	4	110	4 1/4	130	5 1/8	160	6 1/4	210	8 1/4	250	10
	4	80	3 1/8	90	3 1/4	100	4	110	4 1/4	130	5 1/8	160	6 1/4	210	8 1/4	250	10
	5	100	4	100	4	110	4 1/4	120	4 3/4	150	6	180	7	225	8 55/64	280	11

Note: Minimum distance between sidewalls: 300mm/11.9" (center to center)
Maximum distance between sidewalls: 2000mm/ 78.5" (center to center).
For Reinforced belts add 10% to the table values.
NR - Not Recommended



Flat Sidewalls - F-SW

Material	Volta MW, Beige or MB, Blue
Hardness	95A/46D
Sidewall Thickness	4mm
Sidewall Height	40 - 80mm /1 1/2" - 3 1/8"
Add to Base Belt MPD*	70mm / 2 3/4"
Temp Range	-5° C to 60° C / 23° F to 140° F
Certification	FDA/USDA/EU

Note: *MPD (minimum pulley diameter) relates to flat sidewall applied with the HF technique. No back flex is possible and therefore cannot be used on L or Z elevators. Flat Sidewall can be applied at a minimum distance of 5mm from the belt edges.

Flights (Cleats)

Volta offers great flexibility and allows you to create the ideal flights to hold your product in place while moving along the production line. Flights increase the MPD of the base belts. Consult before selection.

High Frequency (HF) Welded Flight:

Scoop

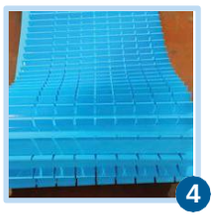
Acts as a pocket (also used when replacing bucket elevators) on incline conveyors with the scoop section angled at 90° or 65° to the upright section of the cleat. Produced from 3mm to 8mm thick and max.150mm high flat belt material. Scoops can be ordered individually for in-house use.

Gusset

Gussets are welded angles added to flights by HF or electrode welding to prevent flights from flexing under heavy loads. Gussets are made from thick material and their bases must be shaped to prevent pressure on the base belt in transition areas.

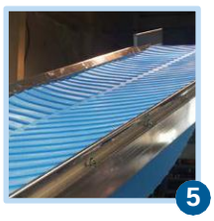
Angled

Welded at approx.70° angle that suits your incline application. Produced from 3mm to 8mm thick and max.150mm high flat belt material.



Spaced

Parallel rows of flights used to permit cutting of product and to allow for support on belt return.



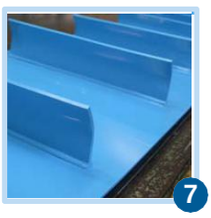
Chevron Flights

'V' or round soft profile used to create flights in different patterns. Chevrons will routinely be made from V- profiles up to size 17mm and 10mm diameter for round.

Straight

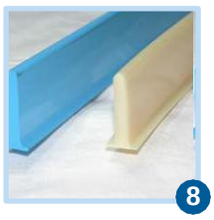
Flights are made with 3mm to 8mm thick material, and can be HF welded up to 150mm high.

Electrode Welded Flights

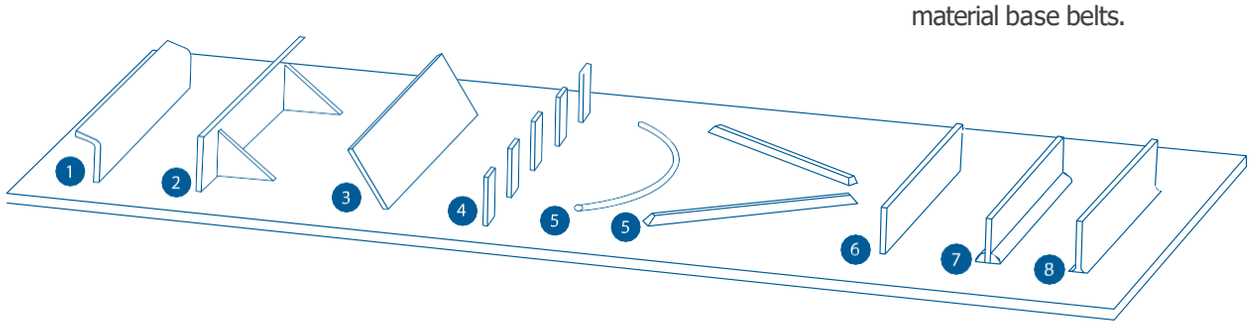


Electrode welding can be used to provide extra rigidity. Consult with Volta regarding the effect on Minimum Pulley Diameter.

T-Cleats

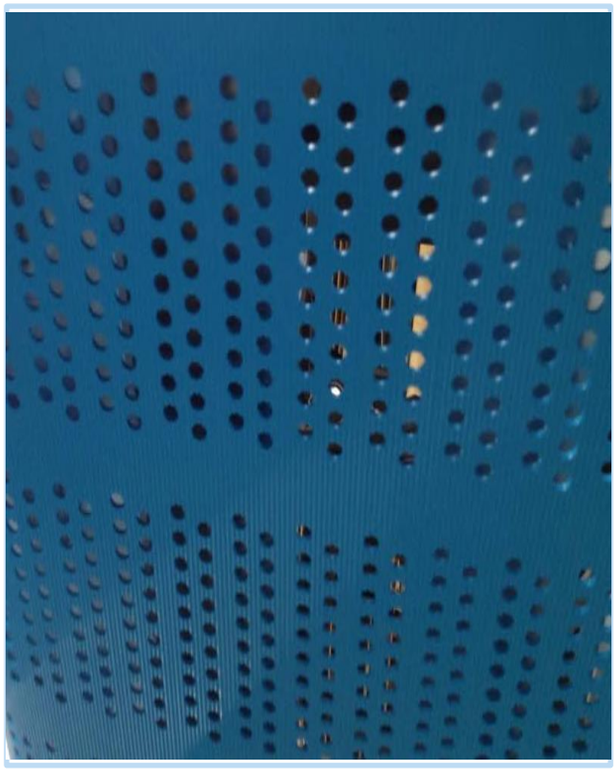


Available for your in-house use. The T-shape foot is suited to many HF cleat mold designs.
Available in beige and blue at heights 25,30,40 and 50mm. T-cleats are 4mm thick and available in standard strips of 2.15 meters.
Can be heat-welded to M and L material base belts.



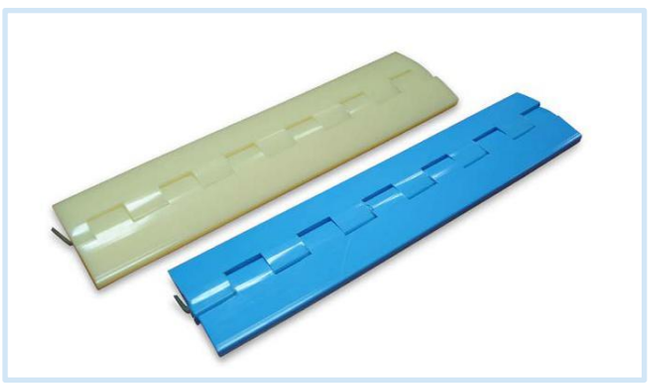
On request,all flights/cleats can be finished with rounded edges to avoid damaging delicate products.

Volta is able to offer perforations in almost any pattern and with almost any shape of hole. Most perforations are simple round holes and Volta recommends to stagger alternate rows to avoid weak lines on the base belt. For round holes, perforations must be Ø3.5mm or larger. Other shapes are subject to confirmation. Hole size should be taken into account the product being conveyed and should be small enough to avoid product being trapped in the perforations. Perforations should finish at a distance from the belt edges to maintain material strength and belt ends where the welding joint is located are also left free of perforations.

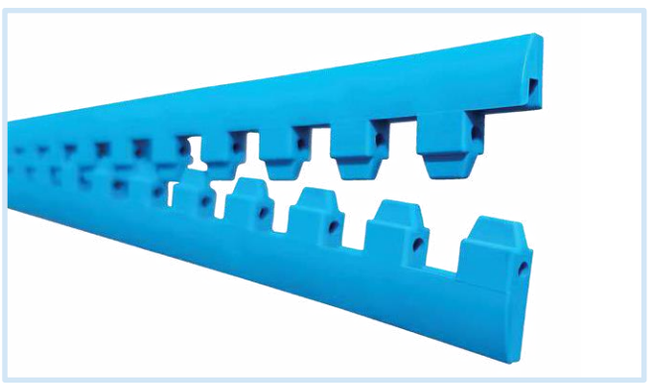


Volta Hinge Lace Systems

Both Volta Universal Lace and Volta Roundflex™ Lace allows you to easily open and close the belt for cleaning or servicing of the conveyor. Our lace can be used on metal detectors where we provide a polyester connecting pin on request. The Volta laces are compatible with M family belts of 2.5-5mm thickness including all Positive Drive types, SD, MSD, DD and MDD. All Volta belt materials are easy to clean without removing from the conveyor and lace is only to be used where essential.
N.B. In a few cases, a lace joint may be weaker than the belt being joined - consult the relevant literature to ensure the lace fabrication conforms to the required belt strength.



Universal Lace

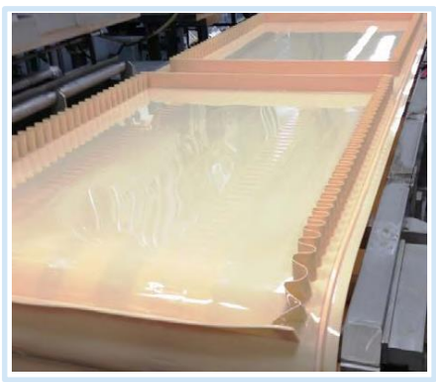


Roundflex™ Lace

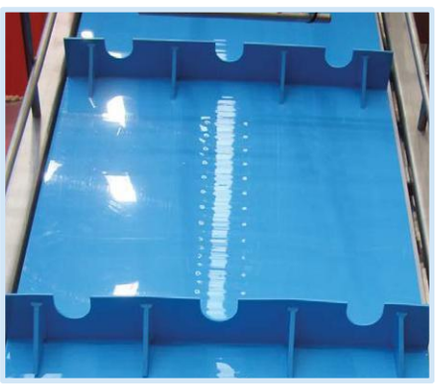
Volta Fabrications - A Professional Solution

Custom-made belt

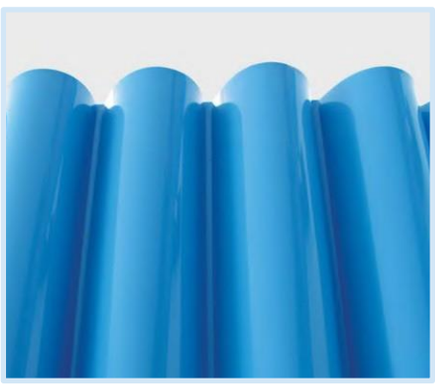
Special cleats on trough conveyor



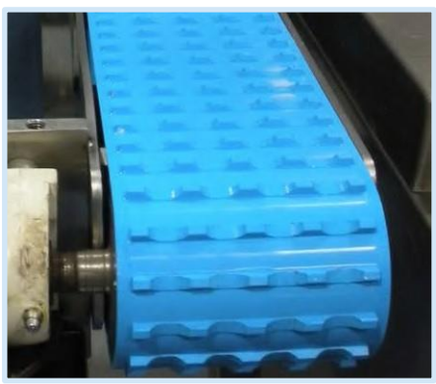
Offal/Organ containment belt



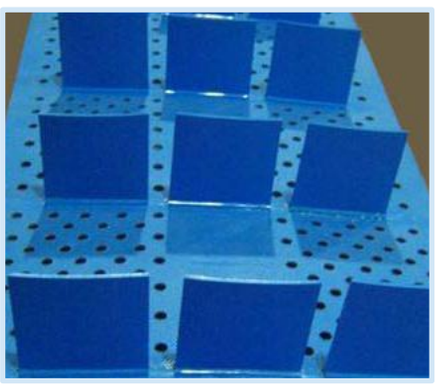
Gusset cleats



Cushion belt

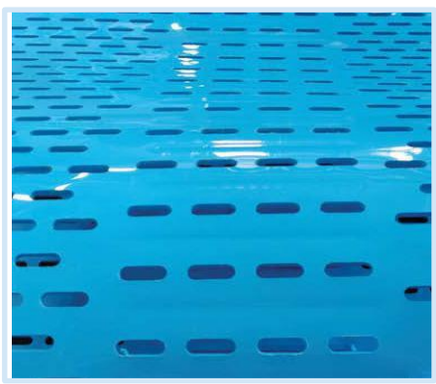


Surimi belt



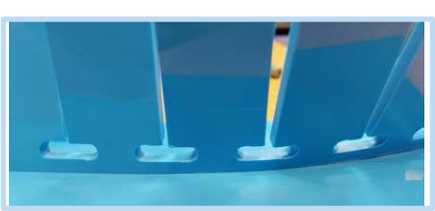
Perforated SuperDrive™

Flights/V-Guide ribbing



Elliptical perforations for preventing product loss

Based Sidewall



Flat Sidewall

Baseless Sidewall

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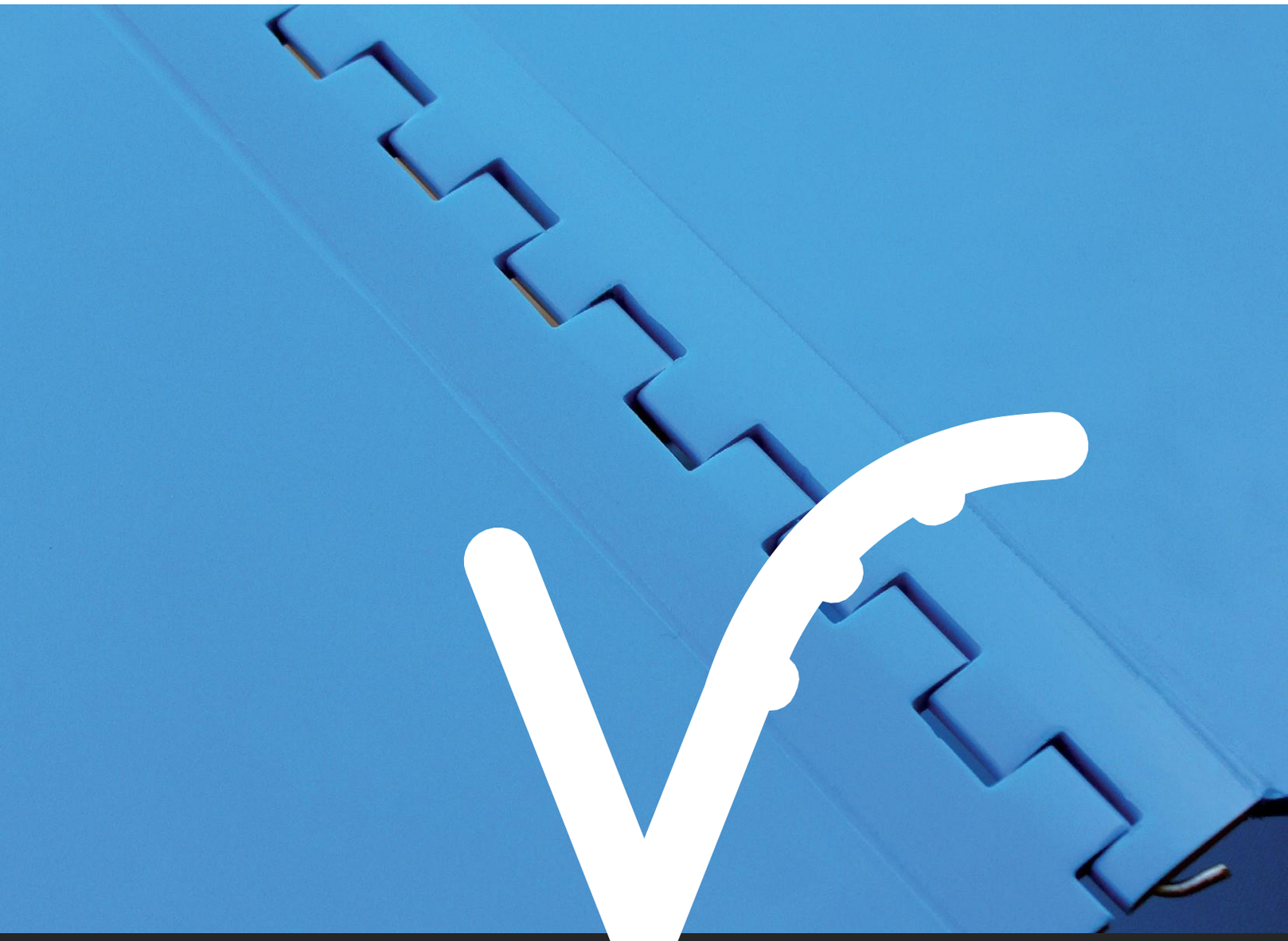

Special Hinge Lace

Conveying Solutions

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Hinge Lace

Volta Hinge Lace is a system allowing for easy fitting and removing of a Volta belt where circumstances are such as to make the use of a Volta welding tool impractical or irrelevant. The straight edges of two castellated lengths are welded to the belt ends and the lengths are engaged and joined by means of a nylon coated stainless steel pin. Frequent opening of the belt is not advised but if essential, pins should be replaced frequently. Volta Hinge Lace will not detach from the belt edge but the available pull force and thus the maximum weight that can be carried may be lower than with an endlessly welded belt.
Volta belts have superior hygienic qualities and can be cleaned on the conveyor - opening and closing on a regular basis is not advised.

Easy Open-Close Technique

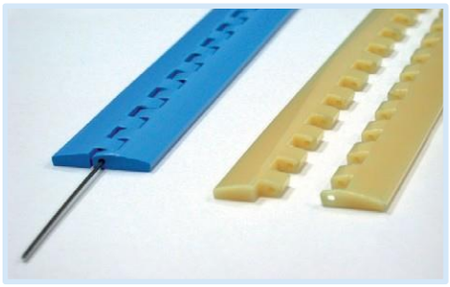
The hinge pin is bent at the ends and can be removed by straightening these crimps. A new pin should be inserted and crimped in the same fashion.

Easily Installed

Volta can ship belts equipped with Volta Hinge Lace and a Nylo-Steel hinge pin made to precise lengths. Care should be taken when stating the belt length as the welded hinge cannot be refitted with ease. Alternatively, lace lengths can be ordered as a separate product and welded to the Volta belt using the FBW Welding Tool. For welding/splicing instructions and further technical information, please contact your local Volta distributor.

Ensure that the conveyor pulleys fully support at least 80% of the surface when using lace. Hinge Lace is only compatible with Volta 'M' and 'L' Family Flat Belts and with belts of a thickness between 3mm and 5 mm inclusive.

Universal Lace Welded to Belt



Universal Lace Set: Lace and Pin

	Volta LMW-U	Volta LMB-U
Description	Flat toothed strip	Flat toothed strip
Material	Volta MW, Beige	Volta MB, Blue
Hardness	95A	95A
Working Temp Range	-20°C to 60°C/ -5°F to 140°F	-20°C to 60°C/ -5°F to 140°F
Dimensions	5 x 16 mm - 0.2 in x 0.63 in	5 x 16 mm - 0.2in x 0.63 in
Max Length	3.05 m - 10ft	3.05 m - 10ft
Max Pull Force	3 kg/cm - 16.8 lb/in	3 kg/cm - 16.8 lb/in
Minimum Pulley Normal Flex*	60 mm / 2.36"	60 mm / 2.36"
Minimum Pulley Back Flex*	80 mm / 3.15"	80 mm / 3.15"
Pin Options	Stainless Steel Pin coated with Nylon - 0.065"/1.65mm diameter	Cat.No.: 81651170
	* Nylon (Plastic) Pin - 0.065"/1.65mm diameter	Cat.No.: 81651130
Certifications	FDA / USDA / USDA Dairy / EU Approved	

Note: * Choose the highest MPD between the Belt and the Hinge Lace. Maximum Pull Force with the Nylon (plastic) Pin is 2 kg/cm (11.2 lb/in.).

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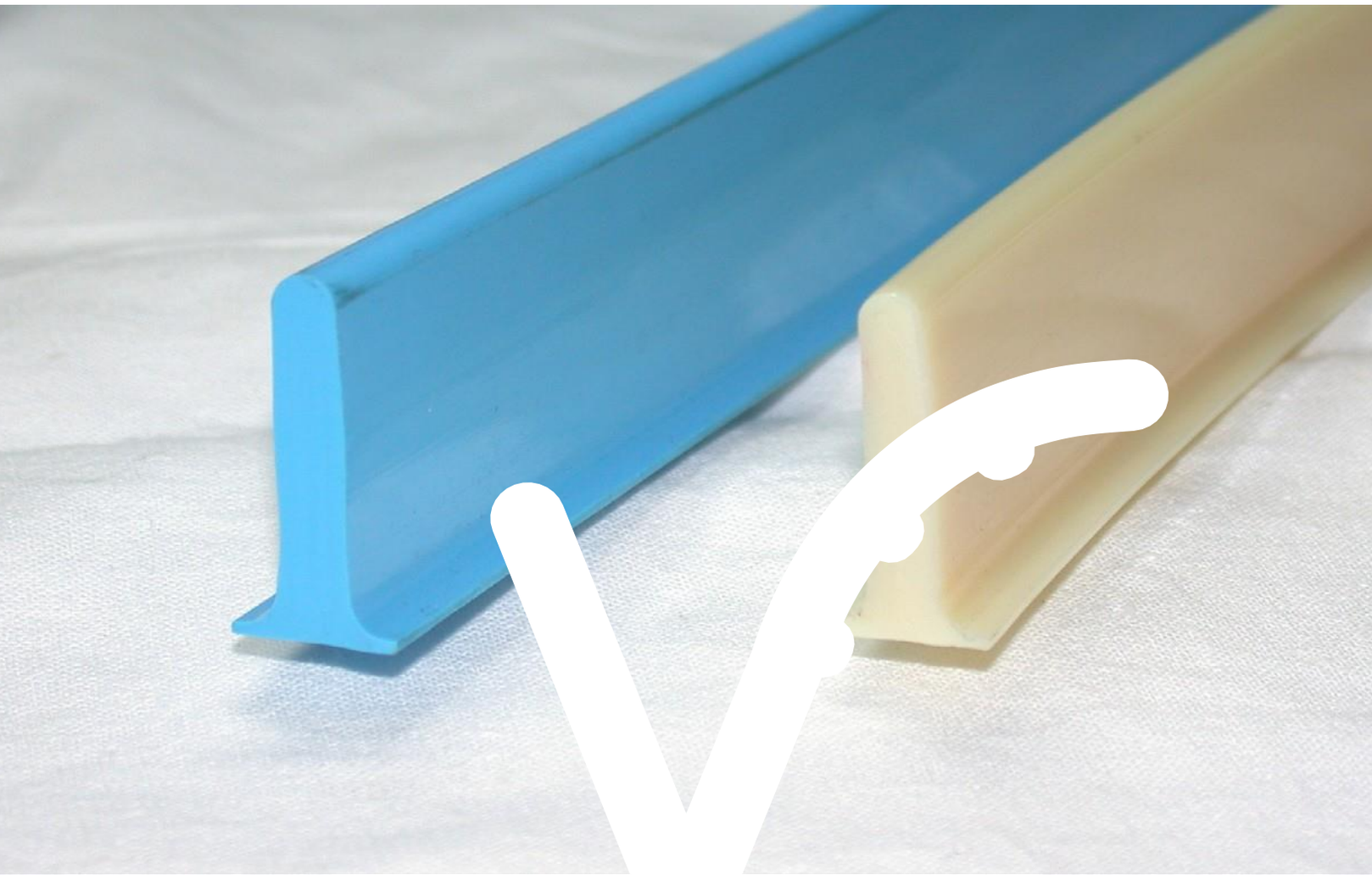

Special T-Cleats

Conveying Solutions

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T-Cleats

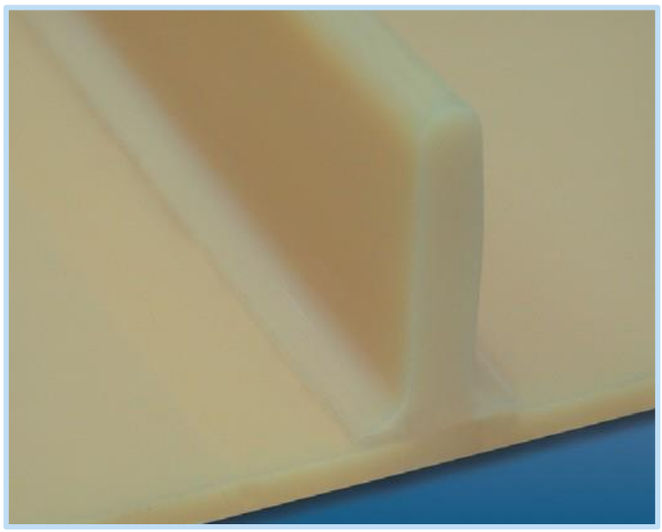
Volta Belting produces a line of cleats with a flanged bottom to provide a mechanically sturdy, hygienically clean cleat. The T-Cleat is manufactured using our homogenous materials and meets the highest quality standards. Volta T-Cleats are suitable for use on all our 'M' and 'L' material family belts and are FDA/EU certified for food contact applications.

T-Cleats can be welded with High-Frequency welders or with a Hot Air Gun. For additional information concerning welding of cleats, contact your local Volta distributor.

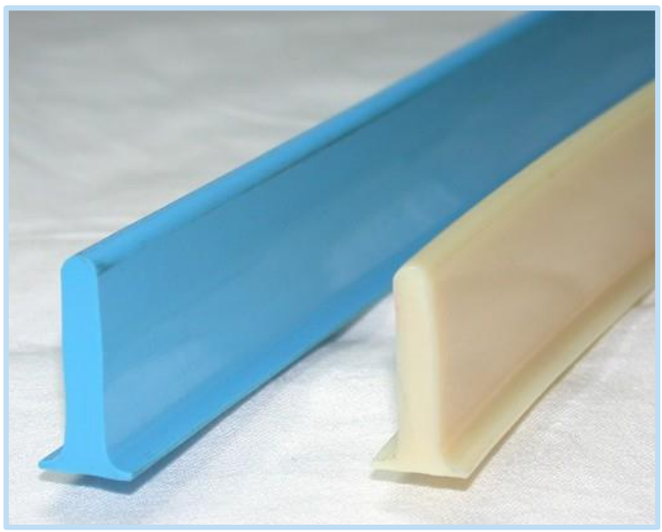
Reasons to Use Volta T-Cleats:

- The structure has a solid mechanical base which strengthens the cleat against longitudinal forces. In many applications the weight of the conveyed product will press against the cleat causing it to separate from the belt. Our T-Cleat, welded onto a homogeneous Volta conveyor belt provides an almost unbreakable fabrication.
- The T-Cleat provides a very smooth transition from the belt to the cleat. This eliminates sharp corners and crevices that provide nesting places for bacteria and microbes. This hygienic feature is especially important when transporting ground or grated products that tend to become wedged in sharp corners left by traditional cleats. Volta T-Cleats are supplied in standard cardboard cartons. Each carton contains 20 x 2.15m long rods.

For additional information about available cleat dimensions and colors other than those listed in the table, please contact your local Volta distributor.



Volta T-cleat welded on Flat belt



CTMB (left) and CTMW (right) T-cleats

Product	Color		Shore hardness	Cleat height (mm)	Standard packaging
CTMW	Beige		90A /40D	25, 30, 40, 50	20 rods per carton, 2.15 m (7') long
CTMB	Blue			25, 30, 40, 50	
CTW	White			25, 40, 50	
CTLB	Blue		80A	25, 50	

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Belting Technology

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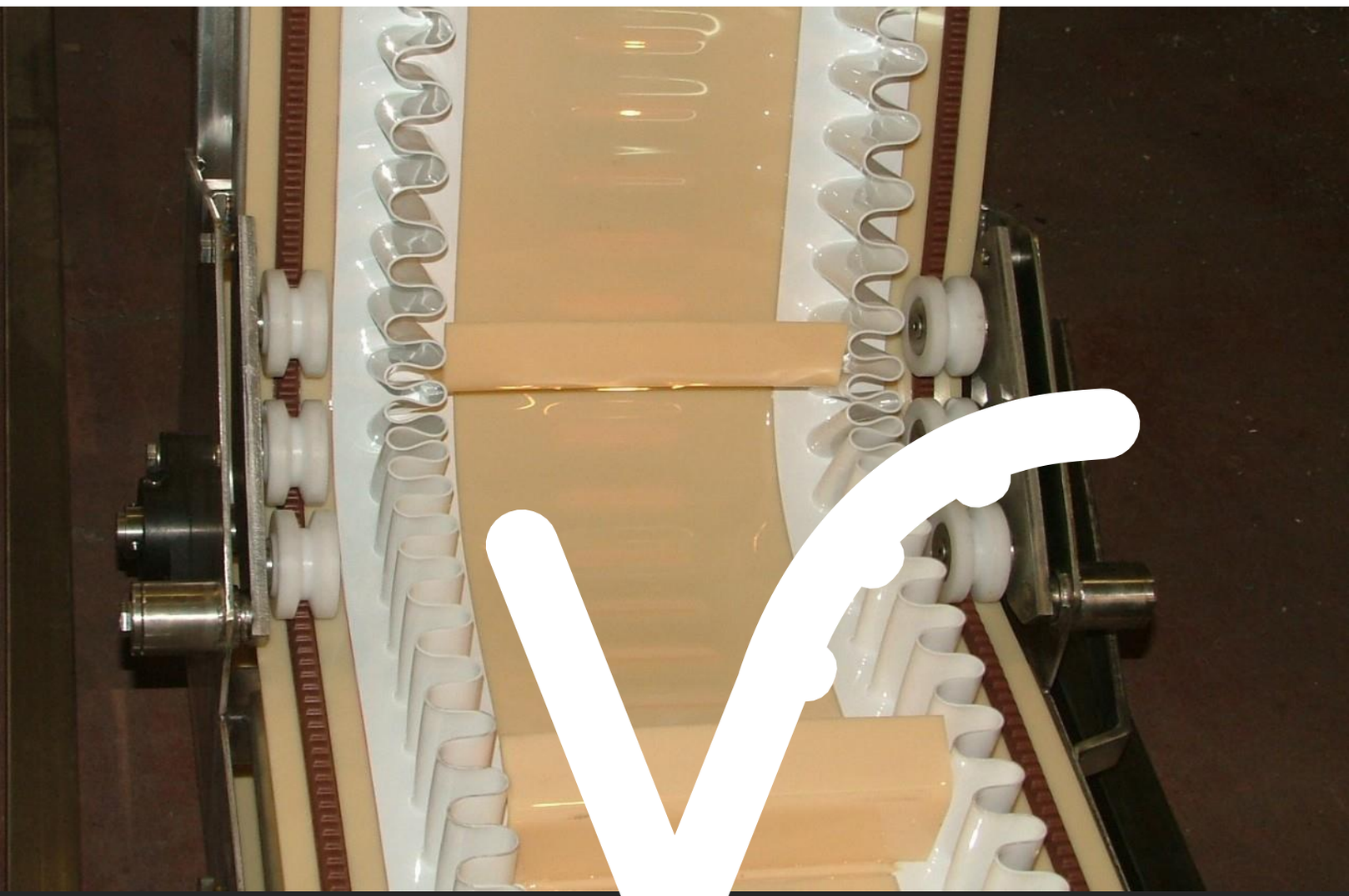

Special Sidewalls

Conveying Solutions

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Special Sidewalls

Volta Sidewalls are manufactured from our unique homogenous TPE materials and are especially designed to be fully compatible with all our flat belts. In addition, our sidewalls are compatible with most PU belts and some PVC belts. Welding our sidewalls is very easy and keeps the belt surface smooth, boosting the hygiene levels. This product line includes three color sidewalls for the different industries - white, green and blue.
Because of its homogenous characteristics, Volta sidewalls are highly resistant to cutting, tearing, oils and abrasion. Our white and blue sidewalls conform to the highest international standards for food contact.

Reasons to Use Volta Sidewalls:

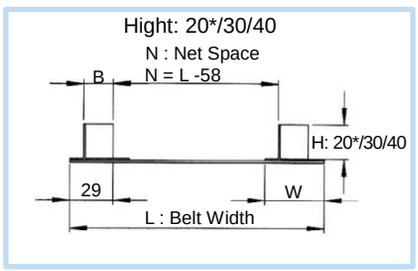
- Fully compatible with all Volta flat belts
- Compatible with most PU and some PVC belts
- High resistance to cutting, tearing, oils and abrasion
- Long and reliable service life
- White (W) and Blue (MB) Sidewalls are FDA, USDA, EU certified, Declaration of Conformity in compliance with Food Contact Regulations: EU No.-10/2011 amended by 2017/752, 1935/2004 and 2023/2006 and FDA Art. 21. CFR.177.2600.
- Suited to HACCP standards.

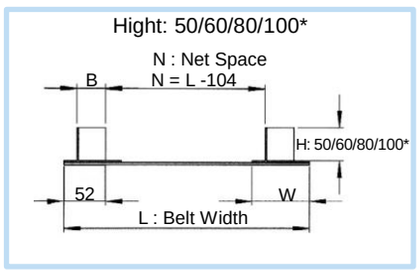
VOLTA Sidewall strips with base

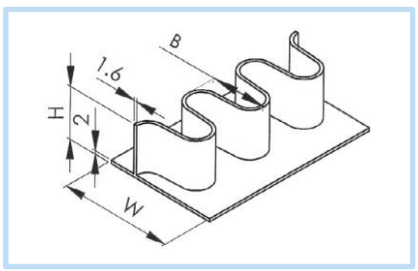
Product: Flexible Sidewalls - SW

Material: Volta W - White; MB - Blue - (FDA, USDA, EU)
Volta Z- Green 05 (GenCon)

Compatibility: Volta W - White; MB - Blue;
Z - Green 05; MW -Beige; G - Grey







*non standard

Type	SW-20		SW-30		SW-40		SW-50		SW-60		SW-80		SW-100	
mm/inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Height: H	20	25/32	30	1 1/4	40	1 1/2	50	2	60	2 3/8	80	3 1/8	100	4
Base Width: W	40	1 1/2	40	1 1/2	40	1 1/2	70	2 3/4	70	2 3/4	70	2 3/4	70	2 3/4
Wave Width: B	18	5/7	18	5/7	18	5/7	34	1 5/16	34	1 5/16	34	1 5/16	34	1 5/16
Weight (kg/meter)	0.17		0.21		0.24		0.39		0.42		0.52		0.62	
Minimum Pulley Diameter (Normal Flex)														
Belt Thickness	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
2	95	3 3/4	95	3 3/4	100	4	NR		NR		NR		NR	
2.5	100	4	100	4	110	4 3/8	NR		NR		NR		NR	
3	105	4 1/8	105	4 1/8	115	4 1/2	125	5	130	5 1/8	150	6	200	8
3.2	105	4 1/8	105	4 1/8	115	4 1/2	125	5	130	5 1/8	150	6	200	8
4	110	4 3/8	110	4 3/8	130	5 1/8	130	5 1/8	135	5 3/8	150	6	200	8
5	120	4 3/4	120	4 3/4	135	5 3/8	130	5 1/8	140	5 1/2	150	6	200	8

Note: Given MPD Dimentions Relate to Normal Flex. For Back Flex MPD Must Multipied By X 1.5.

The techniques for welding our Sidewalls on to the base belt remain basically unchanged. However, we recommend that you make several welding practice runs to acquaint yourself with the way the material responds. If you have any technical questions or would like to receive more information, please contact your local Volta distributor.

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Belting Technology

The Next Step in Belting

Flat Belts for Retrofits

Conveying Solutions

Motech

The Principle of Selection

Volta belts made from radically different materials than conventional plied belts. **Volta belts can replace plied belts without retrofitting the conveyor but there is no chart of equivalents where a given plied belt reference can automatically be replaced by a specific Volta type.** Instead, the user needs to consider three factors - product load, operating temperature and friction. These factors permit one to calculate the suitable Volta types which can work in these conditions. This calculation is expressed as the 'pull force'. This limits the selection of a Volta belt type that conforms to both the pull force and that works with the 'MPD' of the conveyor (see below for a definition of 'MPD').
Further factors can reduce the range of choice further; e.g. food grade, requirement for a texture and chemical action. These are all secondary factors in belt selection.

Let us look in detail at the required information needed to choose a belt.

A Volta flat belt can be selected in almost all situations and applications by taking the following 8 things into account:

1. **Maximum Load;** confirm the maximum load on the belt. This is the maximum weight that could be on the belt at any given moment. **If there is accumulation, this must also be noted.**

2. **Pull Force (PF);** This is the strength of the belt required or available, expressed in a unit of weight across the belt width. e.g. kg/cm for metric. Additional PF can be available in a given belt by increasing the pretension.

3.MPD; Confirm the pulley diameter – we only need to consider the smallest pulley diameter; this is called Minimum Pulley Diameter (MPD). N.B. Any fabrications welded onto the belt such as guides, cleats and side wall, will increase the required MPD of the base belt. **In most cases, Volta will copy all welded/fabricated elements (guides, cleats and side wall) from the original ply belt. Note that this does not mean that a Volta fabrication can work on the same MPD as the replaced ply belt.**

4.Working Temperature; as a rule of thumb, measure **belt** temperature immediately before and immediately after the intake and outfeed. Consult regarding use of belt in applications where belt temperature is over 40 degrees Celsius.

5.Back Flexing/Contra-Flexion; Where the belt bends around more than two pulleys, there may be extra pulleys where the belt flexes in the opposite direction from its normal working direction (see below in description of centre drive and Z conveyors). Note and report the MPD of the back- flexing (contra-flexion) pulleys around which the belt wraps backwards. They must be at least 50% larger than the recommended MPD.

6.Slide bed construction; the slide bed is the support surface/element that is under the belt.This can be; steel plate or profile, rollers, plastic plate or profile, UHMW that is located under the belt (ultra-low friction material such as PE1000) or, rarely, wood.

7.Angle of incline/decline; Where a section or even all of the belt is not working on a horizontal plane, note the conveyor angle.

8. Start/Stop; We recommend fitting a soft start to the conveyor. If not, this will reduce the available pull force. Consult on this.

Use the Volta Pull Force Calculator to confirm suitability of a given belt or ask for Volta to do so.

A short survey of some conveyor types and additional comments where relevant.

1. Simple 2 axle horizontal conveyor.



2. Incline 2 axle conveyor.

Note point C above concerning increased MPD.

3. Z or L conveyor

(Z has 2 transition zones and an L conveyor has one). Each zone consists of a forward flexing transition marked with a blue arrow and, opposite this, a back-flexing transition marked with a black arrow.



Rollers used on a back-flexing transition (the forward flexing transition underneath does not require rollers).

Note the comments above in point C concerning increased MPD. Also, note that there will be transition areas as noted above in point E – extra care is needed here in guiding the belt around the transitions by using rollers to form a radius. If the existing ply belt uses a fixed 'shoe' to guide the belt around the transitions, (as indicated above by black arrows) it should be replaced with rollers like in the photo below. If the transitions are not a true radius, this should be corrected (sometimes conveyors are built so that the belt bends in a series of arcs or straight lines and an arc – this is incorrect technique).

4. Centre drive/multiple pulleys

Make sure the MPD takes the back flexing into account - point E above.

Centre drive arrangement multiple pulleys

Multiple pulleys

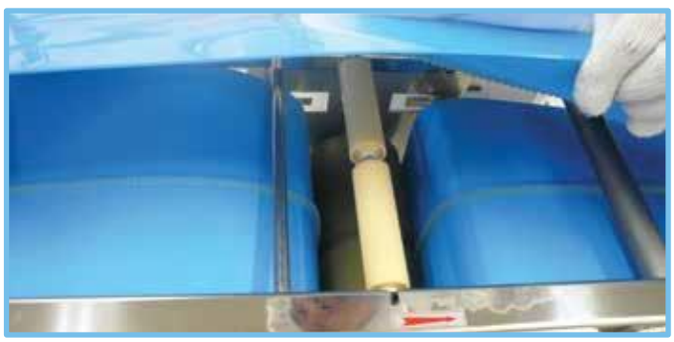
5. Small Pulley Transfer Conveyor

Three things are worthy of note in addition to the normal issues:

1. Continuous row of transfer conveyors will sometimes use small pulley diameters to allow the transfer of a product. Volta might have a belt option that works on the MPD of the conveyor but the conveyors may be so close together that the belt thickness is critical. Ply belts can be under 1mm thick and so where belts are positioned like this, check there is room for a thicker Volta belt. A special 1mm thick belt is available now for this situation.
2. In some cases, belts can have welded guides, meaning a larger MPD is required - take especial care where the conveyor is centre driven, as in the photo below left - see point E above.
3. Small diameters or even static nose bars with a small radius are common in biscuit and confectionary belts. In such situations, Volta may select a reinforced belt – this is only possible in a dry application (dry food and no wash-down). A fully homogeneous belt may note work due to a combination of very small MPD + (wide) high friction steel plate slide bed.

N.B. ACR belts can provide a more hygienic solution but require an MPD of 20mm.

Small diameter pulley



Centre drive narrow transfer with welded bottom guide

6. Trough Conveyor

No special requirement, but ensure there is a transition area at each end of the section under tension where the belt folds into the trough gradually at the intake and flattens out gradually at the discharge. The length of each transition area should be at least the same as the belt width for a 10° angle of trough.

7. Curved conveyors

Volta belts are suited to use for curves.

8. Bucket elevators

Bucket elevators are sometimes friction driven straps with riveted buckets. Volta can replace with scoop cleats but the throughput should be calculated to ensure the required volume of material can be conveyed. Consult Volta or use our throughput calculator.

Recommendations after belt selection:

A. Closing the belt; Belts are easily closed on site with a Volta butt-welding tool. Alternatives are to use the Volta lace for 3-5mm thick M material belts or mechanical fasteners. Care should be taken to conform to the relevant MPD required by the joint.

B. Tracking the belt; Volta belts are not self-tracking. Conventional means can be used including crowning pulleys, welded guides and automatic correcting systems. In addition, UHMW elements can be positioned at key points to help control belt movement. Some examples are shown here. This is a unique solution for Volta belt tracking.

UHMW roundel mounted on pulley

UHMW support on return

UHMW pieces holding 3mm Volta belt

C. Tensioning the belt;

The pull force calculation includes a pretensioning value for the belt. Measure this carefully. E.g. for 0.75% - mark 1000mm on the belt before assembly. Mount over pulleys and tension until the marks are 1007.5mm apart.

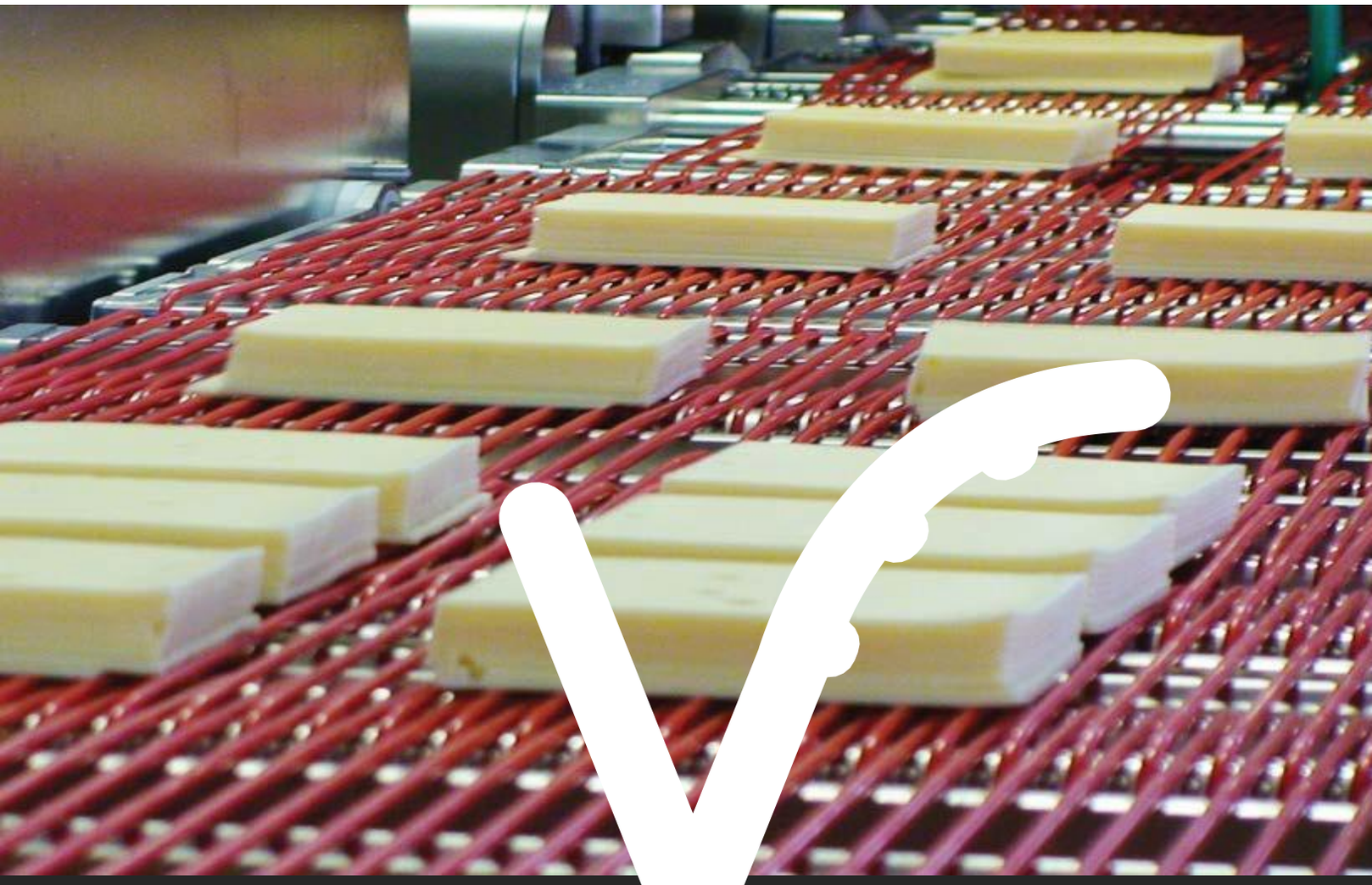
D. Controlling the product in process;

A major cause of belt failure is due to ingress of product under the belt. Study the flow of product in real time and use Volta material as skirting to prevent ingress. It can touch a Volta belt without grooving it.

E. Cleaning the belt; Where a belt needs to be cleaned, Volta will require a shorter and less aggressive disinfection than a ply belt. QA departments must re-assess all aspects of the current cleaning process including concentrations of chemicals used, exposure time, amount of water used and temperature of water used.

volta™
Belting Technology

The Next Step in Belting

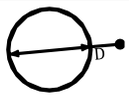


‘V’ & Round Profiles

Conveying Solutions

Motech

ROUND



Round	RTB		RFC		RL		RLC		RLB		RLW		RO		ROS	
Color	Blue 10		Clear		Brown		Clear		Blue		White 16		Orange		Orange	
Hardness	72A		76A		80A		80A		80A		80A		83A		83A	
Temp. Range	-40°C to 40°C		-40°C to 50°C		-40°C to 55°C		-40°C to 55°C		-40°C to 55°C		-40°C to 55°C		-40°C to 55°C		-40°C to 55°C	
CoF (Steel)	0.85		0.65		0.55		0.55		0.55		0.55		0.55		0.55	
Certifications	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Diameter																
Inch	mm	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (0.5 %)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (0.3 %)
5/64	2					15	0.06	15	0.06					15	0.06		
1/8	3	15	0.13			20	0.14	20	0.14	20	0.14			20	0.14		
5/32	4	20	0.23			30	0.25	30	0.25	30	0.25			30	0.25		
3/16	5	25	0.35	25	0.30	35	0.40	35	0.40	35	0.40			34	0.40		
15/64	6							38	0.55								
1/4	6.30	30	0.50			40	0.60	40	0.60	40	0.60			38	0.68	42	4.50
5/16	8	40	0.95	40	0.75	55	1	55	1	55	1			48	1.06	54	5
9/32	9																
3/8	9.50	45	1.13			65	1.40	65	1.40	65	1.40	64	16	57	1.54	64	9.50
25/64	10					70	1.55	70	1.55	70	1.55						
15/32	12																
1/2	12.50	65	2.1			85	2.50	85	2.50	85	2.50	90	18	75	2.72	86	11.40
9/16	14													84	3.43	95	12.30
19/32	15					100	3.50	100	3.50	100	3.50						
5/8	16													95	4.25	108	13.60
23/32	18					120	5.10	120	5.10			125	27				
3/4	19													115	6.11	127	15
25/32	20	110	5.5			140	6.25										
1	25													150	10.60		

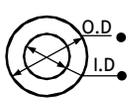
Round	RPZ		RPZS		RPD-AS**		RPN*		RPS*		RPB*		RPBS		RM	
Color	Green 05		Green 05		Black		Green 26		Green 26		Blue 17		Blue 17		Red	
Hardness	86A		86A		88A		88A		88A		88A		88A		90A	
Temp. Range	-20°C to 50°C		-20°C to 50°C		-30°C to 60°C		-30°C to 80°C		-30°C to 80°C		-30°C to 80°C		-30°C to 80°C		-30°C to 60°C	
CoF (Steel)	0.50		0.50		0.40		0.38		0.40		0.38		040		0.45	
Certifications	No		No		No		No		No		Yes		Yes		Yes	
Diameter																
Inch	mm	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)
5/64	2					20	0.13	19	0.13			19	0.13			20	0.26
1/8	3	26	0.26			30	0.31	29	0.31			29	0.31			30	0.60
5/32	4	35	0.51			40	0.54	38	0.54	40	8	38	0.54	40	8	40	1
3/16	5	45	0.80			50	0.85	48	0.85	50	11	48	0.85	50	10	50	1.60
15/64	6	54	1.16			60	1.22	57	1.22	60	16	57	1.22	60	16		
1/4	6.30															60	2.60
9/32	7	63	1.56					67	1.67	70	18						
5/16	8	72	2.05	75	16.8	80	2.18	76	2.18	80	19	76	2.18	80	19	80	4.20
9/32	9	80	2.64					86	2.75	90	21						
3/8	9.50															95	5.90
25/64	10	89	3.20	95	19.5			95	3.40	100	22	95	3.40	100	22		
15/32	12	108	4.65	112	23			114	4.90	120	26	114	4.90	120	26		
1/2	12.50											119	5.30			125	10.10
19/32	15	135	7.25	140	24			143	7.65	150	27	143	7.65	150	27	150	14.60
23/32	18	160	10.20					171	11	180	37	171	11			180	21
25/32	20	180	12.50					190	13.6							200	25.90
7/8	22															220	31.30

Notes: * RPB - RPN- RPS -check if the profile is available in Textured or Smooth version. For Rough version please contact Volta to check availability.
** RPD-AS: ESD - ratio 10^6-10^{10} OHMS per square.

Round	RMS		RMDS**		RMW		RMWN		RH		RHN		RCW*	
Color	Blue		Black		Beige		White		Yellow		White		White	
Hardness	90A		95A		95A		95A		100A		100A		63D	
Temp. Range	-30°C to 60°C		-30°C to 60°C		-30°C to 60°C		-30°C to 60°C		-20°C to 75°C		-20°C to 75°C		-20°C to 75°C	
CoF (Steel)	0.45		0.36		0.36		0.36		0.28		0.28		0.27	
Certifications	Yes		No		Yes		Yes		Yes		Yes		Yes	
Diameter														
Inch	mm	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (0.5 %)	MPD (mm)	PF kg (0.5 %)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (0.5 %)
5/64	2									40	0.60				
1/8	3									60	1.40				
5/32	4									80	2.50				
3/16	5									100	3.90				
15/64	6														
1/4	6.30					75	10	75	10	125	6.20			100	13
9/32	7														
5/16	8					95	17			160	10				
9/32	9														
3/8	9.50					110	18			190	14			150	20
25/64	10														
15/32	12														
1/2	12.50	125	10.30	150	60	150	28			250	16	250	16	200	21
9/16	14														
19/32	15	150	14.60			175	30			300	23				
5/8	16														
23/32	18					210	32					360	34		

Notes: *RCW - check if the profile is available with Steel, Stainless Steel or Kevlar (Aramid) reinforcement also.
** RMDS - High UV Resistance.

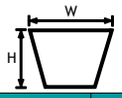
HOLLOW



Hollow	RFC – HL*		RO - HL		RPN - HL		Hollow Connector
Color	Clear		Orange		Green 26		
Hardness	76A		83A		88A/37D		
Temp. Range	-40º C to 50º C		-40º C to 55º C		-30º C to 80º C		
CoF (Steel)	0.65		0.55		0.50		
Certifications	Yes		Yes		No		
Size (mm)							
O.D	I.D	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	Availability
4.80	1.80	35	0.29	43	0.37			
6.30	2.40	45	0.49	55	0.63	60	1.15	✔
8	3.20	55	0.78			75	1.83	✔
9.50	4	65	1.10	75	1.41	85	2.52	✔
12.50	5.30	85	1.88	100	2.42	115	4.35	✔
15*	5.30	100	2.88	120	3.71	150	6.68	✔
20*	7.80					200	11.34	✔

Notes: *RFC-HL and RO-HL in 15 mm and 20mm diameter is not standard.
Index: MPD - Minimum Pulley Diameter - Measurements for butt welding. In case of overlap welding please check the MPD with your local distributor.
PF - Pull Force (Kg) at minimum pretention (%). | CoF - Coefficient of Friction for Smooth Surface.

V-Profiles



V-Profiles			VFC		VL		VLC		VLB		VLW*		VO		VO - GT**		VOS**	
Color			Clear		Brown		Clear		Blue		White 16		Orange		Orange		Orange	
Hardness			76A		80A		80A		80A		80A		83A		83A		83A	
Temp. Range			-40°C to 50°C		-40°C to 55°C		-40°C to 55°C		-40°C to 55°C		-40°C to 55°C		-40°C to 55°C		-40°C to 55°C		-40°C to 55°C	
CoF (Steel)			0.65		0.55		0.55		0.55		0.55		0.55		0.55		0.55	
Certifications			Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Inch size	Size (mm) Width	Height	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (0.5 %)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (0.5 %)
Y	6	4	20	0.28	25	0.30			25	0.30								
M	8	5.20	25	0.49	40	0.70			40	0.70								
3L	9.50	5.50	30	0.64									45	0.90			40	10
Z	10	6.50			45	1	45	1	45	1								
A	13	8	40	1.23	50	1.60	50	1.60	50	1.60	50	12	50	1.60			53	12
B	17	11.50			75	2.90	75	2.90	75	2.90	75	18	75	2.90	75	2.90	72	17
-	20	12.50			85	3.90												
C	22	14.50			100	4.80	100	4.80	100	4.80	100	22	100	4.60	100	4.60	100	22
-	25	16.50			110	6.30												
D	32	21.50			145	10.40					145	24	145	10.40				
E	40	27			180	16.30												

V-Profiles			VPZ		VPZS		VPY***		VPYS***		VPN		VPNS		VPF		VPFS	
Color			Green 05		Green 05		Yellow		Yellow		Green 26		Green 26		Beige		Beige	
Hardness			86A/35D		86A/35D		86A/35D		86A/35D		88A/37D		88A/37D		88A/37D		88A/37D	
Temp. Range			-20°C to 50°C		-20°C to 50°C		-20°C to 50°C		-20°C to 50°C		-30°C to 60°C		-30°C to 60°C		-30°C to 60°C		-30°C to 60°C	
CoF (Steel)			0.40		0.40		0.40		0.40		0.38		0.38		0.38		0.38	
Certifications			No		No		No		No		No		No		Yes		Yes	
Inch size	Size (mm) Width	Height	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)
A	13	8	72	3.30	88	26	72	3.30	88	26	76	3.50	92	28	76	3.50	92	28
B	17	11.50	103	6.10	112	39	103	6.10	112	39	110	6.40	118	43	110	6.40	118	43
-	20	12.50																
C	22	14.50	130	10	142	44	130	10	142	44	138	10.50	150	49	138	10.50	150	49
-	25	16.50													155	16.80		

V-Profiles			VMF		VM		VMS		VMW***		VMW-NK****		VH		VHB	
Color			Beige		Red		Blue		Beige		Beige		Yellow		Blue 16	
Hardness			90A/40D		90A/40D		90A/40D		95A/46D		95A/46D		100A/55D		100A/55D	
Temp. Range			-30°C to 60°C		-30°C to 60°C		-30°C to 60°C		-30°C to 60°C		-30°C to 60°C		-20°C to 75°C		-20°C to 75°C	
CoF (Steel)			0.45		0.45		0.45		0.36		0.36		0.28		0.28	
Certifications			Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Inch size	Size (mm) Width	Height	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)
M	8	5.20			60	3												
Z	10	6.50	65	4.10	65	4.10					75	25	130	6.60				
A	13	8	80	6.70	80	6.70			75	28	100	33	160	10.70				
B	17	11.50	115	12.10	115	12.10	115	12.10	110	58	140	60	230	19.50	230	19.50		
-	20	12.50			125	15.90												
C	22	14.50	145	20	145	20			130	72	200	80	290	32				
-	25	16.50			165	25.90					210	90	330	41.50				
D	32	21.50			215	43					270	110						
E	40	27			270	67.30												

Notes: * VLW-32 - Height 19mm. *** VPY & VPYS - Not standard.
** VO-GT, VOS - Inch sizes only. **** VMW - Cogged. | ****VMW - NK - Not Cogged.
VMW - NK - 32 Height - 20mm.

Ridge-Top

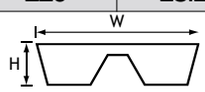
Ridge-Top			VL-RT		VLC-RT		VLW-RT		VMP-RT		VPZ-RT		VPZS-RT	
Color			Brown		Clear		White 16		Red		Green 05		Green 05	
Hardness			80A		80A		80A		86A/35D		86A/35D		86A/35D	
Temp. Range			-40°C to 55°C		-40°C to 55°C		-40°C to 55°C		-30°C to 60°C		-20°C to 50°C		-20°C to 50°C	
CoF (Steel)			0.55		0.55		0.55		0.38		0.40		0.40	
Certifications			Yes		Yes		Yes		Yes		No		No	
Inch size	Size (mm) Width	Size (mm) Height	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (0.5 %)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)
A	13	16	110	2.70			110	16	150	5.60				
B	17	19.50	130	4.30	130	4.30	130	19	185	9.30	175	8.80	195	41.40
C	22	24.50	190*	7.90			165	38	235	14.30	220	13.60	245	47

Ridge-Top			VPYS-RT		VPN-RT		VPNS-RT		VPF-RT		VPFS-RT		VM-RT	
Color			Yellow		Green 26		Green 26		Beige		Beige		Red	
Hardness			86A/35D		88A/37D		88A/37D		88A/37D		88A/37D		90A/40D	
Temp. Range			-20°C to 50°C		-30°C to 60°C		-30°C to 60°C		-30°C to 60°C		-30°C to 60°C		-30°C to 60°C	
CoF (Steel)			0.40		0.38		0.38		0.38		0.38		0.45	
Certifications			No		No		No		Yes		Yes		Yes	
Inch size	Size (mm) Width	Size (mm) Height	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)
A	13	16											160	11
B	17	19.50	195	41.40			205	46			205	46	195	17.80
C	22	24.50			235	14.30	258	52	235	14.30	250	52	285*	32.50

Y-Top

Y-Top			YPZ		YPN		YPF		YMF	
Color			Green 05		Green 26		Beige		Beige	
Hardness			86A/35D		88A/37D		88A/37D		90A/40D	
Temp. Range			-20º C to 50º C		-30º C to 60º C		-30º C to 60º C		-30º C to 60º C	
CoF (Steel)			0.40		0.38		0.38		0.45	
Certifications			No		No		Yes		Yes	
Inch size	Size (mm) Width	Size (mm) Height	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (1%)
A	13	15					143	5.30	150	10
B	17	18.50	165	7.90	175	8.30	175	8.30	185	14.10
C	22	24.50	220	13.20	235	13.90	235	13.90	250	28.90

Double-V

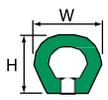
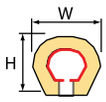
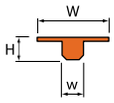
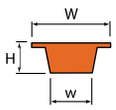
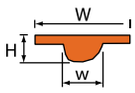
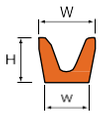


Double-V			DVL		DVLW		DVO		DVOS		DVM	
Color			Brown		White 16		Orange		Orange		Red	
Hardness			80A		80A		83A		83A		90A/40D	
Temp. Range			-40º C to 55º C		-40º C to 55º C		-40º C to 55º C		-40º C to 55º C		-30º C to 60º C	
CoF (Steel)			0.55		0.55		0.55		0.55		0.45	
Certifications			Yes		Yes		Yes		Yes		Yes	
Inch size	Size (mm) Width	Size (mm) Height	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (0.5 %)	MPD (mm)	PF kg (1%)	MPD (mm)	PF kg (0.5 %)	MPD (mm)	PF kg (1%)
Z	24	6.80	45	2			45	2				
A	30	8	50	3.20	50	22	50	3.20	53	22	80	13.40

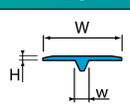
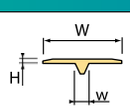
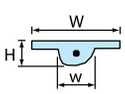
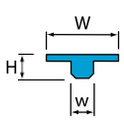
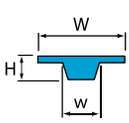
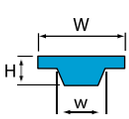
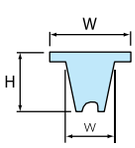
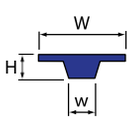
Index: MPD - Minimum Pulley Diameter - Measurements for butt welding. In case of overlap welding please check the MPD with your local distributor.
PF - Pull Force (Kg) at minimum pretention (%). | CoF - Coefficient of Friction for Smooth Surface.

Notes: *VL & VM - RT - Height 28.5mm.

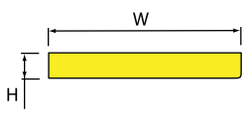
Special Profiles

Products		SPN - 1000	SPF-MPI -1002	TO - 9.5	TO 1/2	SO 3/4	UO - 9.5
Illustration							
Hardness		88A	88A	83A	83A	83A	83A
Color		Green 21	Beige/Red	Orange	Orange	Orange	Orange
Size (mm)	Top Width	15.70	15.70	9.50	12.70	19.20	9.50
	Height	13.60	13.60	3.80	5.50	5.50	8
	Bottom Width	NR	NR	3.10	8.35	8	7
MPD (mm)		NR	NR	30	38	35	50
Certifications		No	Yes	Yes	Yes	Yes	Yes

NR - Not Relevant

Products		TEMB - 25		SLW 3/4	TLB - 10	TLB - 15	TLB 1/2	TLW - 30*		TTB - 15
Illustration		 TEMW-25-IT 								
Hardness		95A		80A	80A	80A	80A	80A		72A
Color		Blue	Beige	White 16	Blue	Blue	Blue	White 16		Blue 10
Size (mm)	Top Width	25		19.30	10	15	12.7	30	30	15
	Height	2.2		5.50	3.80	5	5.5	17	17	5
	Bottom Width	4		8	3.10	6.50	8.35	22	22	6.50
MPD (mm)		60		40	25	30	35	125	100*	27
Certifications		Yes		Yes	Yes	Yes	Yes	Yes		Yes

Notes: *TLW/30 - Cogged.

Products	Illustration& Color	Shore	Size (W x H)		Minimum Pulley Diameter	Cert.
			Width	Height		
SH - 1302		100A/55D	20	1.70	50	Yes
SH - 1306			14	1.70	50	
SH - 1312			20	2	60	

Notes: *TLW/30 - Cogged.

Guides

V & Round Profiles

Products	CSB/CSC		VSB/VSC		CL/CLB/CLC			VL/VLB/VLC			CM	VM	CW	VW/VWB	
Shore Hardness	65A		65A		80A			80A			90A	90A	40D	40D	
Color	Blue	Clear	Blue	Clear	Brown	Blue	Clear	Brown	Blue	Clear	Red	Red	White	White	Blue
Cogged	Yes		No		Yes			No			Yes	No	Yes	No	
Certifications	Yes		Yes		Yes			Yes			Yes	Yes	Yes	Yes	
Compatible with	M/L Family Type Belts		M/L Family Type Belts		M/L Family Type Belts			M/L Family Type Belts			M/L Family Type Belts		H Family Type Belts	H Family Type Belts	

Size (mm)		Add To Base Belt Minimum Pulley Diameter (Normal Flex)							
Width	Height								
6	4	NA	15	NA	25	NA	NA	NA	NA
8	5.20	20	25	30	40	NA	60	NA	60
10	6	22	30	35	45		65		70
13	8	28	35	40	50	60	85		80
17	11.50	40	50	60	75	85	115	85	110
20	12.50	NA	NA	NA	85	NA	125	NA	NA
22	14.50	NA	65	75	100	110	145	110	150

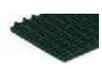
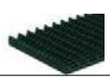
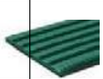
Notes: CLB-not available in 22mm |CLC & CL - not available in 8&22mm. |VWB - not available in 8mm,10mm,20mm & 22 mm.
Special guides available for Low Temperature (LT), for Metal Detectable (MD) and for Hydrolysis & Chemical resistant (DR) belts.

Belt Coating Materials for the Food Industry

Products		GIB*-Blue17	MIB*-Blue17	MIB*-Blue17	FEIB*-Blue-17	FEMB-SP-Blue FEMW-SP-Beige	FELB-SP-Blue	FELB-IST-Blue
Illustration								
Description		Super Grip	Multi Grip	Wood Grip	High Grip	Spikes	Spikes	Saw Tooth
Hardness		62A	62A	62A	62A	95A	80A	80A
Size (mm)	Width*	50	50	70	1524	1524	1524	1524
	Thickness	4	6	4	2, 2.5, 3	2, 2.5, 3 **	2, 2.5, 3 **	4 ***
CoF (Stainless Steel)		0.98	1.08	1.05	0.95	0.25	0.45	0.45
Temperature Range		-20º C to 40º C				-30° C to 70° C	-40º C to 50º C	
Certifications		FDA/EU				FDA/USDA/EU	FDA/ EU	

Note: *Width - Maximum available width. | *For dry use only. | **Height of Spikes above the base belt is 2.8mm. | ***FELB-IST - Total belt thickness.

Belt Coating Materials

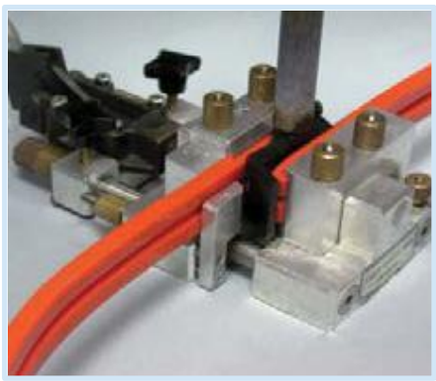
Products		GST - 4	MST - 6	GWG - 4	FEST	FSTF	FSTF - ST		FSTF - ST Strips	
Color		Green 05	Green 05	Green 05	Green 05	Green 21	Green 05	Green 21	Green 05	Green 21
Illustration										
Description		Super Grip	Multi Grip	Wood Grip	High Grip	Foam**	Foam&High Grip Top		Foam&High Grip Strips	
Shore Hardness		65A	65A	65A	65A	65A	65A		65A	
Size (mm)	Width*	50	50	72	1524	Contact Volta	60		60	
	Thickness	4	6	3.75	2, 3	4, 6, 8, 10, 12	4		4	
CoF (Stainless Steel)		0.85	0.88	0.77	1.10	0.90	0.90		0.90/1.10	
Temperature Range		-40º C to 55º C								

Note: *Width - Maximum available width.
**Foam - Made from 65A shore material, actual hardness is lower.Check availability before placing an order.

“V” and Round profiles

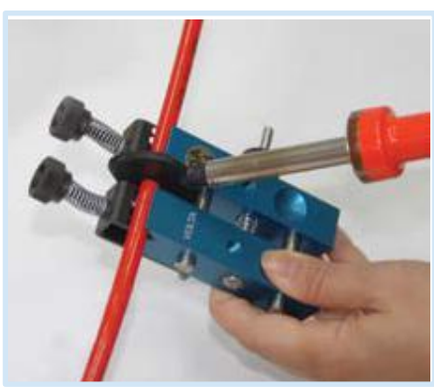
Mini Pliers R-8

F-51 Pliers



Easy Overlap Welding Tool

VLW-SG Profile



Welding with R-8 Mini Pliers

RO Profile

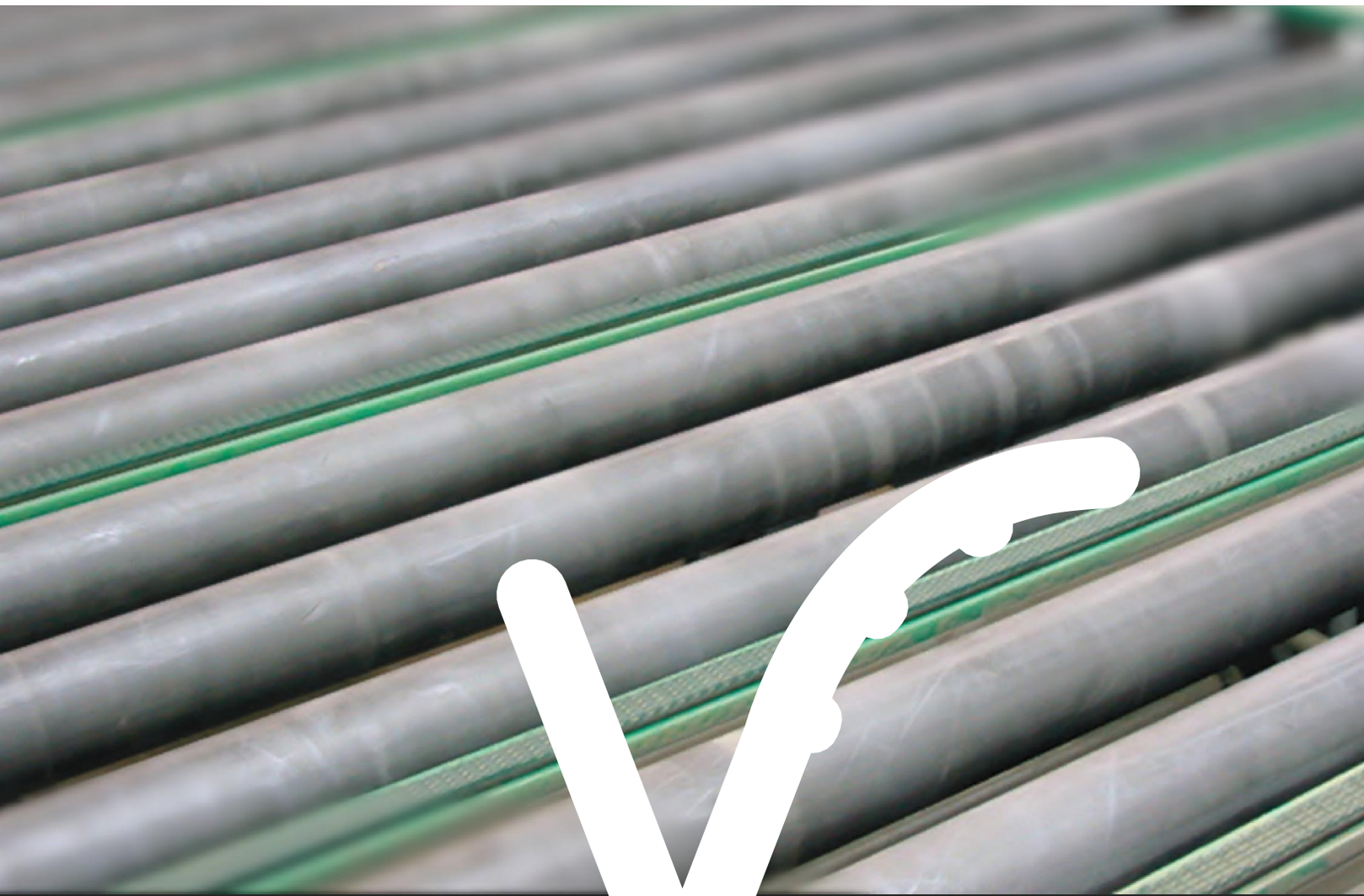
RW Profile

RL Profile

RMW Profile

volta™
Belting Technology

The Next Step in Belting



Roller Coating Sleeves

Conveying Solutions

Motech

Roller Coating Sleeves

Volta sleeves are made from tubular extrusions with standard thicknesses of 2-3mm (the table below shows the sizes which are defined by inner and outer diameters ID and OD) and are cut to length for coating rollers in situations where a product requires cushioning while moving across a roller bed or conveyor. Applications include potato intakes and ceramic tile lines. These sleeves have a nominal maximum temperature of 60° Celsius/140° Fahrenheit but are often used in warmer ambients as a better option to black rubber which is not food grade, leaves marks on product and is complicated to recondition.

The sleeves are extruded from a food approved (FDA/EU), smooth durable 85A Shore white TPU material. Some sizes are available with a ribbed outer surface. Once cut to length they can be mounted onto the roller by surface. They can be mounted onto the roller by means of the Volta Sleeve Mounting Tool which uses compressed air to inflate the tube dimension enough to permit the insertion of the roller. Once the air supply is cut off the tube assumes its original diameter and fits tightly over the roller - no adhesive is required.

Standard Smooth Surface Sleeves


Non-marking surface protects products

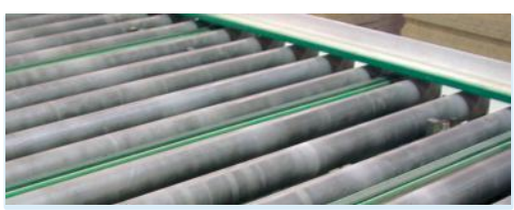
Nomenclature:

The sleeve designation contains two numbers. The first number is the diameter of the metal roller to be covered. The second number is the desired outside diameter (O.D.) after the sleeve is mounted on the roller. For example, a 50 x 55 sleeve is designed to cover a roller with an outside diameter of 50mm and the outside diameter of the covered roller will be 55mm. This identification system is used for both standard and ribbed sleeves.

Packaging:

Sleeves up to 50 x 55 mm are in 30m /100 inch rolls.
Sleeves from 60 x 65 mm are supplied as 3m /10 inch tubes.

Standard Smooth Surface Sleeve Dimensions (mm)						
22x27	30x35	40x45	50x55	60x65	80x85	90x95
25x30	32x37	40x50		63.5x68.5	85x90	
27x32	35x40	42x47		65x73	88.9x94	
	38x43	45x50		73x78		
		48x53		77x82		



Note: Contact your local distributor for further details regarding the dimensions and availability of Ribbed Sleeves.

volta™
Belting Technology

The Next Step in Belting

Power Transmission

Conveying Solutions

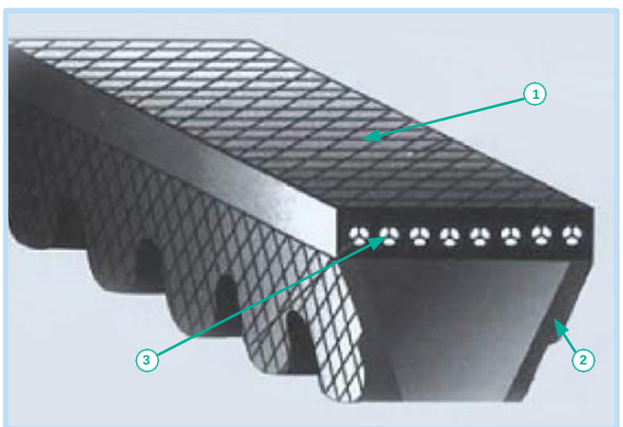
Motech

VOLTA's V-Power Innovation:

V-Belts, the most efficient and widely used means of power transmission advance with Volta's proprietary heat-welding system that joins Thermo Plastic Rubber (TPR) components and truly endless tensile reinforcement, to make precision belts within hours.

V-Power Belt Components

1. **Top Cover:**
   - Protects cords with Uniform thickness.
   - Firmly bonds components together.
2. **Tensile Cords:**
   - Unique balanced layout.
   - Heat-bonded to V-base and cover.
   - Truly endless.
   - KEVLAR available.
3. **Molded Cog Base:**
   - Increased energy efficiency.
   - Retains pulley groove angle.
   - Higher flexibility and heat dissipation.



Volta Power® Advantages over rubber belts:

- √ Any Length, Any Quantity, in No Time
- √ Custom products capability
- √ Recyclable
- √ Extended service against exposure to Cold, UV, Oil, Water and Chemicals
- √ Length accuracy up to 4 times tighter
- √ Heat-welded, compatible Coatings
- √ -40°C/-40°F cold service against -20°C/-4°F for rubber

Limitations:

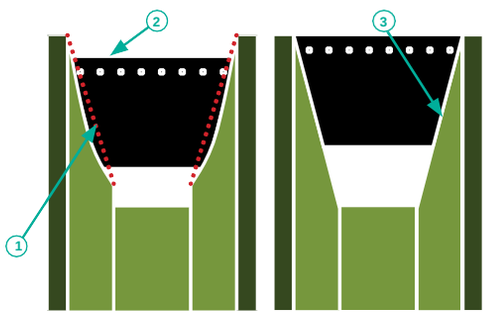
Not for Engines - TPR belts have limited durability when operating temperatures exceed 70°C/160°F.

Common small section belts can be pricy - High-volume production of rubber belts offer commodity sizes at low prices. Individually-made belts are better values in extra-long lengths or as banded belts.

Not for Clutching - Belts slip in the pulleys as clutched-drives engage. The resulting friction can cause hot-spots that exceed the operating temperature for TPR.

Installation Tips to increase belt life and drive efficiency:

- √ Aligning pulleys within one degree reduces "roll-over" and failures from stretching or overloading belts on one side.
- √ Belts can bottom-out in worn pulley grooves, overheating and burning. Dirt, and rust cause wear and slipping.
- √ Shorten pulley centers enough to fit new belts without damaging them with undue force.
- √ Readjust belt tension after a few hours of run-in and at regular service intervals.
- √ Replace belt sets completely, using new belts of one manufacturer.
- √ Replace guard covers to protect the surroundings and prevent debris from damaging the drive.



1. Groove sidewall "Dishing" shortens belt life.
2. Low riding belt indicates excess groove wear.
3. Correct belt position.

Volta Power® Transmission Products

Classical V-Belts

The most common v-belt design uses sections with 1.6 Width/Height ratio.

Sections	Z/ZX		A/AX		B/BX		C/CX		25	D/DX		E/EX	
Width mm (~)	10		13		17		22		25	32		40	
Height mm (~)	6		8		11		14		16	20		25	
Min. Pulley (mm)	50	40	71	63	112	90	180	140	180	355	250	500	450

Narrow V-Belts

Also called wedge, this is the most compact and efficient v-belt design, using a 1.2 Width/ Height ratio.

Sections	3V/3vx		XPZ/SPZ		SPA/XPA		SPB/5V		XPB/5VX		SPC/ XPC		8V/ 8VX
Width mm (~)	9		9.7		12.7		16.5	15	16.5	15	22		25
Height mm (~)	8		8		10		13		13		18		23
Min. Pulley (mm)	63	56	62	56	90	71	140		112		224	180	350

Banded V-Belts

Joined by a sturdy top, side-by-side belts improve the performance of drives with shock or pulsating loads, such as reciprocating compressors or pumps, stone crushers and press drives.

- Reduce free-span vibration.
- Stops "turn-over" in pulleys.
- Eliminates "prying-on" installation that damages singles, shortening belt life.

Sections	3V	3vx	XPZ	SPZ	SPA	XPA	5V	5VX	SPB	XPB	SPC/		8V/ 8VX	
Maximum Ribs	14				11		9				7		6	
Width mm (~)	9		9.7		12.7		15		16.5		22		25	
Height mm (~)	10		11		13		15		17		23		25	
Min. Pulley (mm)	75	67	75	67	100	90	180	150	180	150	250	224	375	335

Sections	Z/ZX		A/AX		B/BX		C/CX		D/DX	
Maximum Ribs	14		11		9		7		5	
Width mm (~)	10		13		17		22		32	
Height mm (~)	9		11		14		17		23	
Min. Pulley (mm)	60	50	80	71	130	125	210	200	370	355

Poly V-Belts

These space-saving Ribbed belts are preferred for back-bending when several pulleys are driven on both sides of the belt. Also called Serpentine, these run smoothly at high speeds, even on small pulleys, allowing compact, high-power drive design.

Sections	PJ	PL	PM
Ribs Width mm (~)	2.34	4.70	9.40
Height mm (~)	5	8	16
Min. Pulley (mm)	20	75	180

Ordering Instructions: Specify Section, Length and Length Location (Inside length -Li, Pitch length -Lp or Outside length -La) to order single belts.

For Poly-V or Banded also specify Number of Ribs.

Classical, Narrow, Banded and Conveyor belts are also available in white.

Volta Power® Transmission Special Products

Hexagonal or Double V-Belts

Two Classical sections back-to-back drive pulleys on both sides of the belt.
Found on harvesters and other field equipment, these add value from season to season with TPR's improved cold-cracking resistance.
Hexagonal belts of all sections are quickly available in unlimited lengths.

Sections	AA	BB	CC	25x22	DD
Width mm (~)	13	17	22	25	32
Height mm (~)	10	13	17	22	25
Min. Pulley (mm)	80	125	224	280	355

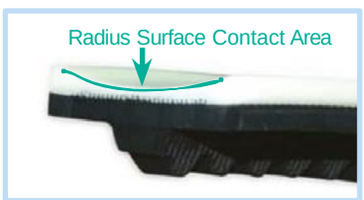
Wide Angle Banded Belts

A 60° pulley angle provides more tensile cord support from sidewalls than standard 40° v-belts. Made by VoltaPower® only as Banded, the improved load distribution in Wide Angle belts makes them a good choice for high-ratio drives, such as bread dough mixers or milling machines and grinders.

Sections	7M	11M
Width mm (~)	7	11
Height mm (~)	5	7
Rib pitch	8.5	13.2
Min. Pulley (mm)	32	40

Bowling

Besides standard v-belts, bowling equipment uses sections like our Pinsetter cross conveyor belt and Ball retainer T-belt which offer extended service and reduced lane downtime.



T-belt for ball retainer

Cross conveyor belt for pinsetter

Conveying V-Belts

Uncogged for increased load-carrying capacity, the truly endless conveying belts offer very high pull strengths. A wide selection of Non-marking heat-welded Cover Shapes and Grip Coating Textures are available. Challenge Volta to develop the custom coated belt that meets your needs.

Sections	A	B	19	20	C	25	D	E
Width mm (~)	§3	17	19	20	22	25	32	40
Height mm (~)	8	11	15	12.5	14	16	20	25
Min. Pulley (mm)	71	112	180	180	180	250	355	500

| Anti-Static (AS) belts reduce hazardous electrostatic discharges, improving fire-safety and component protection, where needed. This ISO1813 specification is an option available on Classical, Narrow and Hexagonal belts from VoltaPower®.

| Clean, Non-marking White V-belts are an available option in Classical, Narrow, Banded and Conveying types where black drive residues are not allowed.

Volta Power® in the Wood Industry

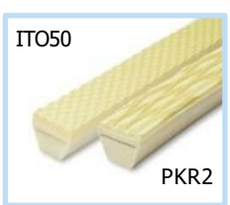
WOOD Belts - for woodworking machinery.

Coated White belts fromVolta Power® have proven themselves with woodworking machine OEMs in their Edgebanders, Tenoners and other equipment. Heat-welded construction does-away with contaminating glues and belt failures from material incompatibility.

- Special Coatings available for white WOOD belts include Smooth PKR0, Waffle-texture PKR2, Impression Top Oval ITO and serrated Roof Top. These covers increase grip and eliminate unwanted marking of in-process panel, cabinet and furniture components.
- Dimensional accuracy is built into our heat-welded belts with encoder-controlled lengths and precision-extrudedcomponents, providing the tightest dimensional control available.
- Wide Range of Sections: WOOD belts are available as Coated Classical A, B, C and D sections or as Custom Banded belts. Banded WOOD belt sections from Volta Power® include Special 2C, 50x20 and 70x17. New designs are no problem.
- Strength and Resistance: Very high pull strength and high load carrying capacity distinguish these belts that also offer resistance to wear and to the adherence of glues and paints, for long and reliable operation.
- Any Length, Any quantity, in No time: Length up to 70 meters, even in small quantities, shipping within days. Realize cost savings by reducing stocks.

Coated Single Wood Belts:

Smooth Top



Waffle Top

Roof Top

Sections	A	B	20	C	25	D
Coatings	Smooth ITO50 IRT	Smooth PKR2 IRT	Smooth PKR2 IRT	Smooth PKR2 IRT	Smooth PKR2 IRT	Smooth PKR2 IRT
Width (~)	13	17	20	22	25	32
Height (~)	11	14	15	17	19	23
Min. Pulley (mm)*	80	140	180	200	280	400

Banded Wood Belts with Smooth or Special coatings:

Dimensions	48x15	50x20	62x18	67x17*	70x17**	75x17
Min. Pulley (mm)*	140	200	200	200	200	200

Note: *67x17 (Special2-20)
**70x17 (Special 2C)

Haul-off / Puller / Caterpillar Belts

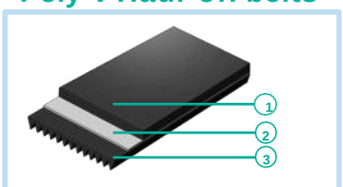
Made on flat or poly-V bases per customer requirements. Called Caterpillar belts when their covers are segmented, the low wear features of our ThermoPlastic Elastomers (TPE) offer extended operation world-wide, in tough cable-making and in precision extrusion equipment. Compatible TPE components are integrally heat-welded, eliminating down-time from contaminating glues and non-welded material failures. Our responsive thermoplastics technology provides quick completion of matched puller pairs with no minimum order quantities.

- Thickness ranges from 8mm to 30mm.
- Width varies from 30mm to 400mm.
- Lengths range from 1200mm to an unlimited maximum.

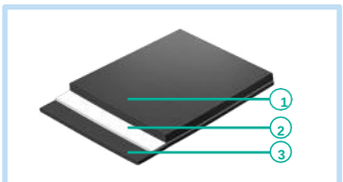
Pitch Width (mm)	
PJ	2.34
PL	4.70
PM	9.40

1. Cover Layer - Product-Hauling Side of Belt
2. Cord or Fabric Reinforcement Layer
3. Base Layer - Pulley-Side

Poly-V Haul-off belts



FLAT Haul-off belts



Volta Power® TPE Products:

Reliable thermo-welded construction coupled with TPE flexibility and endless cords or fabric reinforcement produces customer solutions as Poly-V, V or Flat belts. Custom made belts are available in widths to 400mm.

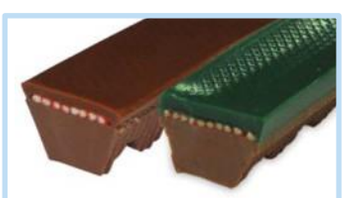
TPE Conveying V-belts:

- Truly endless belts offer high pull strengths and flexibility to fit small pulleys.
- Cogged or Uncogged V-belt sections are available in many top widths from

10mm to 40mm with a variety of 1.5mm to 5mm cover textures and hardnesses.

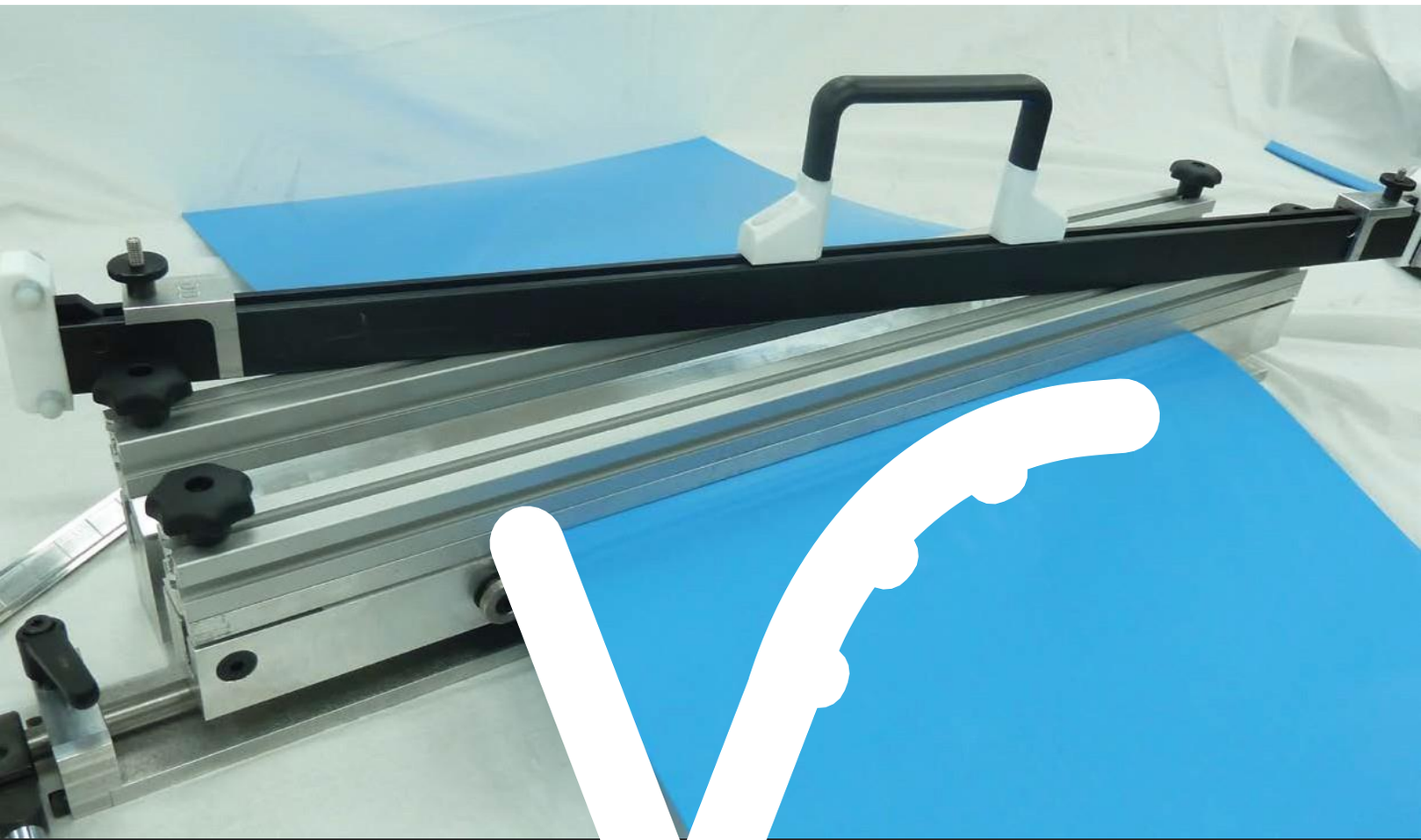
TPE Ribbed and Flat belts:

- PM, PL and PJ ribbed belts are made with a range of coatings.
- FDA food-approved materials are available.



volta™
Belting Technology

The Next Step in Belting



Welding & Fabrication Tools

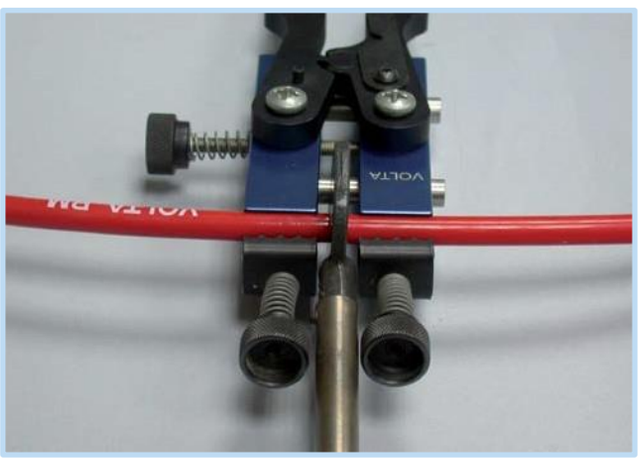
Conveying Solutions

Motech

Welding & Fabrication Tools

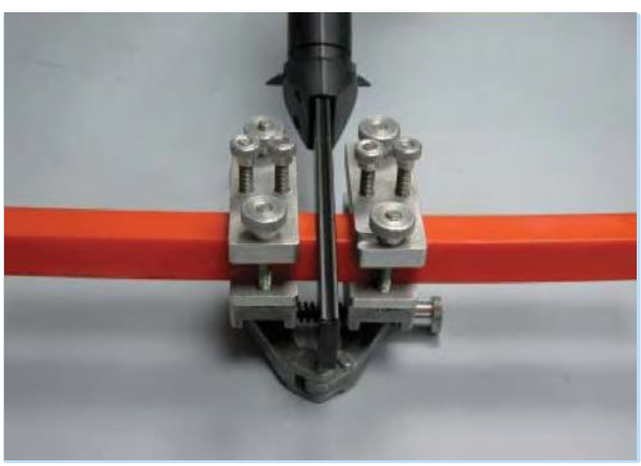
Volta Belting Technology has been manufacturing conveyor belting for over 60 years. The knowledge gained in those years of experience has gone into the design and assembly of every Volta belting tool. We have worked with belting houses in the shops and in the field to see how our tools would be used. We also checked the conditions experienced by conveyor belting technicians on-site.

What we learned in the field has gone into the design of a full and very versatile line of belting tools. Whether you buy our tools separately or in kits, the result is always the same. Volta tools have a light-weight design so that each tool is compact, rugged and easy to use. Our tools will always provide you with long and reliable service. We design and manufacture custom-made tools to specification for your special belting requirements.

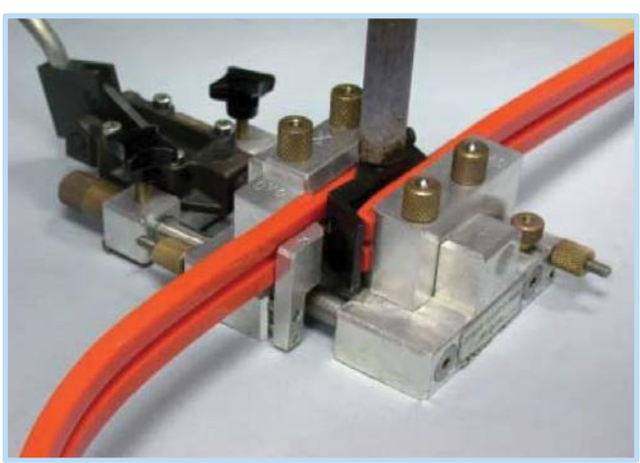


Mini Plier R-8

F-51 Pliers for standard 'V' and Round Profile



F-51 Pliers for special products



Easy Overlap Welding Tool

Welding Tools for V and Round Profiles

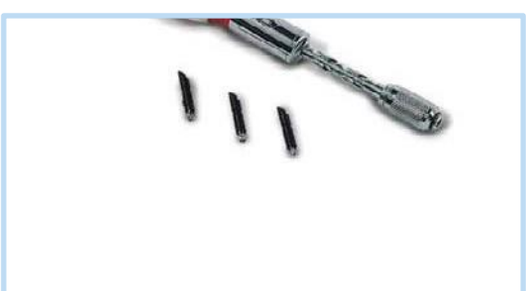
Pliers F-51	Cat. No. 8130201

- This versatile tool is ideal for welding a wide range of “V” and Round profiles: V-profiles from 8mm to 32mm.
  Round profiles with diameters from 2 mm ($^{5}/_{64}$”) to 20mm ($^{3}/_{4}$”).
  Flat belts with widths up to 50 mm (2”).
- The F-51 Pliers is used with our welders to produce clean and exceptionally strong welds.
- The F-51 Pliers are available as a separate unit and also as part of the VaR Tool Kit.

Mini Pliers R-8	Cat. No. 8130202
Handles for Mini Pliers R-8	Cat. No. 8130208

- For accurate welding of small profiles, use Volta Mini Pliers R-8.
- The Mini Pliers R-8 is a very versatile tool. You may weld round profiles with a maximum diameter of 10 mm (3/8") and " V" profiles up to section “A”.
- The Mini Pliers R-8 may be used with or without optional handles. The handles are easily mounted and are convenient and easy to use. The handles are not included in the Mini VaR Tool Kit.
- The Mini Pliers R-8 are available as a separate unit and also as part of the Mini VaR Tool Kit.
  The handles are not included in the Mini VaR Tool Kit.

Driller D-11 Set (Includes Driller and three bits: Ⅰ, Ⅱ, Ⅲ)	Cat. No. 8151600
Drill Bit I	Cat. No. 8151601
Drill Bit II	Cat. No. 8151602
Drill Bit III	Cat. No. 8151603



- The Driller is used for removing the reinforcing cord from the ends of reinforced VaR profiles before welding. The Driller is supplied with three standard bits.
- The technical data sheets for reinforced profiles include a column indicating which bit to use for each belt dimension.
- The Driller is available as a separate unit and also as part of the VaR Tool Kit and EZ Overlap Kit.

VaR Tools

Belt cutter with replaceable blade	Cat. No. 81533010
Stanley Blade 1992	Cat. No. 1160030

- The Cutter if designed to provide a clean and accurate cut on all VaR and narrow flat belts. It can cut all belts up to 32mm.

Mini-Welder (110 V/40 W)	Cat. No. 8111110
Mini-Welder (230 V/40 W)	Cat. No. 8111220

- The Mini-Welder is used for welding "V" and Round profiles. Round profiles of up to 8 mm diameter and trapezoid of up to 13mm.
- The Mini-Welder is available as a separate unit and also as part of the Mini VaR Tool Kit.

	Welding Width	
Welder, Universal WU-1*	50 mm (2")	Cat. No. 8111203
Welder, Universal WU-2**		Cat. No. 8111204
Welder, W-141N-110V	100 mm (4")	Cat. No. 81113044N
Welder, W-142N-230V		Cat. No. 81113045N
Welder, W-241N-110V	200 mm (8")	Cat. No. 81113046N
Welder, W-242N-230V		Cat. No. 81113047N

*supplied with 110 VAC plug ** supplied with German 230 VAC plug

- These welders are designed for both shop and field use. The blade length of each welder is designed for use with specific Volta pliers. Refer to the Pliers section of this catalog to determine the correct welder for use with your pliers.
- These welders are available as a separate unit. The WU Welder is available as a separate unit and also as part of the VaR Tool Kit.

VaR Tool Kits

VaR Tool Kit (110V)	Cat. No. 8160716
VaR Tool Kit (230V)	Cat. No. 8160715

The VaR Tool Kit is a plastic case with foam insert to hold a set of VaR welding tools. This provides a convenient method of storing and carrying your VaR Welding Tools.

The kit includes:

- F-51 Pliers
- WU Welder (110 or 230 V)
- D-11 Driller
- Belt Snippers

The F-51 Pliers make this kit the most versatile on the market with the capability of welding "V" and round profiles from 2 mm up to 32mm.

Mini VaR Tool Kit (110V)	Cat. No. 8160718
Mini VaR Tool Kit (230V)	Cat. No. 8160719

The Mini Var tool Kit combines all the tools necessary to weld small belts sections. Welds round profiles up to 10 mm (3/8") and "V" belts up to 13mm.

The kit includes:

- Tool case
- Mini pliers *(shown with handles - the handles are not included)
- Mini welder and stand
- Mini snippers and trimmer

* The handles are not included in the Mini VaR Tool Kit. Handles for the pliers can be purchased separately.

For availability, contact your local Volta Belting distributor.

VaR Easy Overlap Welding Kit (110V)	Cat. No. 8140016
VaR Easy Overlap Welding Kit (230V)	Cat. No. 8140019

The VaR Easy Overlap Welding Kit provides easy, accurate and strong connections for Volta reinforced profiles. Dies are available to adapt the Pliers to receive most "V" and Round sizes, Ridge-Top, Super-Grip, Multi-Grip and Double-V.

The kit includes:

- Easy Overlap Pliers (dies not shown*)
- Welder and Stand
- D-11 Driller
- Utility Knife
- Double-Sided Tape

*The kit does not include dies. Order specific dies based on the belts size you intend to weld.

Flat Belt Welding and Fabrication Tools

√ High quality, reliability, as well as maximum flexibility are only some of the benefits you will receive when using our Flat Belt Welding and Fabrication Tools. Flat and Positive Drive conveyor belts range in widths from less than 50 mm (2") up to 2 meters (80"). We manufacture a variety of tools capable of welding a broad range of belts, both in the shop and the field.

Flat Butt Welder

Welding narrow flat belts with Pliers P-200

√ The welding process is completely reliable when using Volta Tools because of its unique and versatile design. Our tools are durable and rugged, and do not require cooling water or air pressure. We designed our tools for ease of handling and use. Most units can be transported and operated by one technician and if the welding belts are over 1.5 m (60" in width), they require only two people for handling.

Electrode welding of cleats

FT Electrode welder

Volta fabrications are thermo welded to ensure a superior bond.

Flat Belt Fabrication Tools

Sidewall Trolley Set (SWT 100) (Including the following 5 items)	Cat. No. 814151800
1. Trolley Frame	Cat. No. 814151802
2. Nozzle 40 mm	Cat. No. 814151804
3. Nozzle 70 mm	Cat. No. 814151806
4. Sidewall Wheel Set 20-40 mm	Cat. No. 814151808
5. Sidewall Wheel Set 50-100 mm	Cat. No. 814151810

- The Sidewall Trolley is designed to facilitate welding of sidewalls on flat belts. A pair of wheels and an air nozzle are available for each group of sidewalls.

Guide Roller Frame For Triac S	Cat. No. 8141506

- The Guide Roller Frame mounts on the barrel of the Leister Triac S providing a frame for welding guides and V-profile fabrications on flat betls. The Roller Frame requires use of rollers (see Guide Roller Frame below) for correct operation. Roller selection is based on the dimensions of the V-profile or guide being used.
- The Roller is mounted in the frame and the hot air output of the Leister Gun is aimed at the point of contact between the guide (V-profile) and the flat belt.

Roller 6 mm for Guide Roller Frame	Cat. No. 8141507
Roller 8/M for Guide Roller Frame	Cat. No. 8141502
Roller 10/Z for Guide Roller Frame	Cat. No. 8141501
Roller 13/A for Guide Roller Frame	Cat. No. 8141503
Roller 17/B for Guide Roller Frame	Cat. No. 8141504
Roller 22/C for Guide Roller Frame	Cat. No. 8141505
Flat (Roller) Nozzle - 6, M/8, Z/10 mm	Cat. No. 8121420
Flat (Roller) Nozzle A/13 mm	Cat. No. 8121421
Flat (Roller) Nozzle B/17 mm	Cat. No. 8121422
Flat (Roller) Nozzle C/22 mm	Cat. No. 8121423

Hot Air Gun Handle for Triac S	Cat. No. 8141408

- The Hot Air Gun Handle provides additional grip and stability when using the Triac S. This allows the technician to apply additional pressure to the material in order to ensure maximum contact between the materials being welded.

Flat Belt Fabrication Tools

Leister Triac S 110V/1600W	Cat. No. 8111403
Leister Triac S 230V/1600W	Cat. No. 8111404
Nozzle, Pencil Tip 5 mm	Cat. No. 8120005

The Leister Triac S features an adjustable temperature control. This allows the Triac S to be used to weld different belt materials. The Triac S comes equipped with a pencil nozzle for focus work Nozzles can be used to adapt the Triac S to weld V guides and electrodes.

Nozzle, 5 mm Round*	Cat. No. 8121405

- For special fabrications.

Nozzle, 7/9 mm Inverted Electrode	Cat. No. 8121409

- For welding 7 or 9 mm electrodes upside down on flat belts as low profile cleats.

Nozzle, 7 mm Electrode	Cat. No. 8121406

- For electrode welding 1.5 to 2.5 mm thick flat belts

Nozzle, 9 mm Electrode	Cat. No. 8121408

- For electrode welding 3 to 5 mm thick flat belts.

*Non-standard item - Contact your Volta distributor for availability.

V-Guide Nozzle 6 mm	Cat. No. 8121410

- For V-guide 6mm/Y.

For all Nozzle types use Nozzle,Pencil Tip 5mm with the Leister Triac S.

Hot Air Gun Electron 110V/2700 W	Cat. No. 8111401
Hot Air Gun Electron 230V/3400 W	Cat. No. 8111402

The Leister Hot Air Gun Electron is used for welding sidewalls and other coating The Leister Hot Air Gun Electron is used for welding sidewalls and other coating Frame.

V-Guide Nozzle 6 mm	Cat. No. 8121410
V-Guide Nozzle Z/M - 10/8	Cat. No. 8121411
V-Guide Nozzle 13/A	Cat. No. 8121412
V-Guide Nozzle 17/B	Cat. No. 8121413
V-Guide Nozzle 22/C	Cat. No. 8121414

Attach the nozzles to the Leister Triac S for welding V-cleats or guides on flat belts. Nozzle selelction is based on the profile being welded.

* We recommend using the Hot Air Gun Handle for Triac S.

Flat Belt Welding Tools

The FBW System is a light-weight, easy-to-use tool for butt-welding flat belts in both the shop and field. The FBW requires only electrical power for correct and efficient operation.

FBW-Flat Butt Welding System for Flat and SuperDrive™ Belts

Model	Maximum Weld	
FBW 301(1) (110V)	300 mm (12")	Cat. No. 8160708
FBW 301(1) (230V)	300 mm (12")	Cat. No. 8160709
FBW 721 (110V)	720 mm (29")	Cat. No. 81607210
FBW 721 (230V)	720 mm (29")	Cat. No. 81607200
FBW 1061 (110V)	1060 mm (42")	Cat. No. 81610610
FBW 1061 (230V)	1060 mm (42")	Cat. No. 81610600
FBW 1301 (230V)	1300 mm (51")	Cat. No. 81613010
FBW 1701(1) (230V)	1700 mm (67")	Cat. No. 81617010
FBW 2101(1) (230V)	2100 mm (83")	Cat. No. 8162101
FBW 2301(1) (230V)	2300 mm (91")	Cat. No. 8162301

(1) Non-standard item - contact your local Volta Belting distributor for availability.

Note: Special adapters for 1" pitch Positive Drive belts (Mini SuperDrive™ and Mini DualDrive™), DualDrive™ and Crescent Top, Spikes and MiniCleat are also available.

FBW-PD&Mini-Flat Butt Welding System for Positive Drive & 1"pitch Positive Drive Belts

Model	Maximum Weld	
FBW 301(1) PD & Mini (110V)	300 mm (12")	Cat. No. 81613102
FBW 301(1) PD & Mini (230V)	300 mm (12")	Cat. No. 81613106
FBW 721 PD & Mini (110V)	720 mm (29")	Cat. No. 81613112
FBW 721 PD & Mini (230V)	720 mm (29")	Cat. No. 81613116
FBW 1061 PD & Mini (110V)	1060 mm (42")	Cat. No. 81613122
FBW 1061 PD & Mini (230V)	1060 mm (42")	Cat. No. 81613126
FBW 1301 PD & Mini (230V)	1300 mm (51")	Cat. No. 81613136

(1) Non-standard item - contact your local Volta Belting distributor for availability.
The FBW-PD&Mini welding system includes built-in adapter and stoppers for splicing the SuperDrive™, DualDrive™ and PositiveDrive 1" pitch belts.

Note: Special adapters for Crescent Top, Spikes and MiniCleat are also available.

Flat Belt Welding Tools

The FT Welding System includes a built-in adapter for splicing SuperDrive™. The FT Welding System is a light weight, easy-to-use tool for electrode welding flat belts, in both the shop and field. The FT Welding System uses a router to cut the bevel on the belt edges and to trim the weld after welding. The weld is carried out by using a Leister Hot Air Gun and Volta electrodes. Electrode sizes are selected based on the thickness of the belt being welded. Refer to the our Technical Data Catalog for details.

FT-Flat Electrode Welding System

Model	
FT 1000 Welding System (110V)	Cat. No. 8153415
FT 1000 Welding System (230V)	Cat. No. 8153416
FT 1500 Welding System (110V)	Cat. No. 8153420
FT 1500 Welding System (230V)	Cat. No. 8153421

| The FT Welding System includes a build-in adapter for splicing SuperDrive™ belt.

Model	
PD 1" pitch Adapter set for FT1000	Cat. No. 815331805
PD 1" pitch Adapter set for FT1500	Cat. No. 815331905

| The PD 1" pitch adapter is available as separate unit.

DD Adapter set for FT 1000	Cat. No. 8153318
DD Adapter set for FT 1500	Cat. No. 8153319

| The DualDrive™ adapter is available as separate unit.

Pliers for Narrow Flat Belt Welding

Model	
Pliers P-100	Cat. No. 8130300
Pliers P-200	Cat. No. 8130310
P-100 Adapter D/E	Cat. No. 8130302

| The P-100 and P-200 are the latest additions to the line of narrow flat belt welding tools. The P-100 is designed to butt weld belts of up to 100 mm in width. The P-200 is designed to butt weld belts of up to 200 mm in width.
When welding at an angle the maximum belt width is reduced.

Miscellaneous Tools

Leister Knife	Cat. No. 8153100

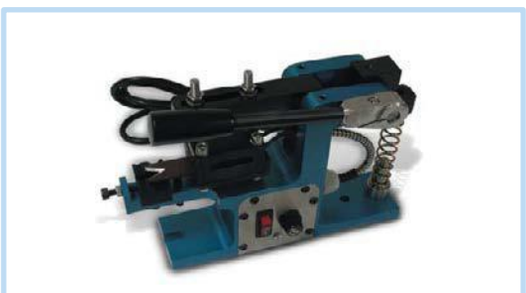
- The Leister knife is designed to provide clean and accurate trimming and also for cutting conveyor belt splices.

Sleeve Mounting Jig Base	Cat. No. 8151660
Sleeve Mounting Adapter Set*	

- The Sleeve Mounting Tool is designed to mount Volta Sleeves (SLV) on rollers. The tool uses air pressure to form a cushion between the roller and the sleeve during sleeve installation.
- The tool consists of a base, sleeve adapter and push rod. The base is standard and used with all adapter sizes. The adapter and push rod are suited to specific sleeve diameters and must be ordered based on the specific sleeve size being used.

  * For information on adapter and push rod catalog numbers, contact your local Volta Belting distributor.

VaR Flash Trimming Tool (110V)	Cat. No. 8140030
VaR Flash Trimming Tool (230V)	Cat. No. 8140031



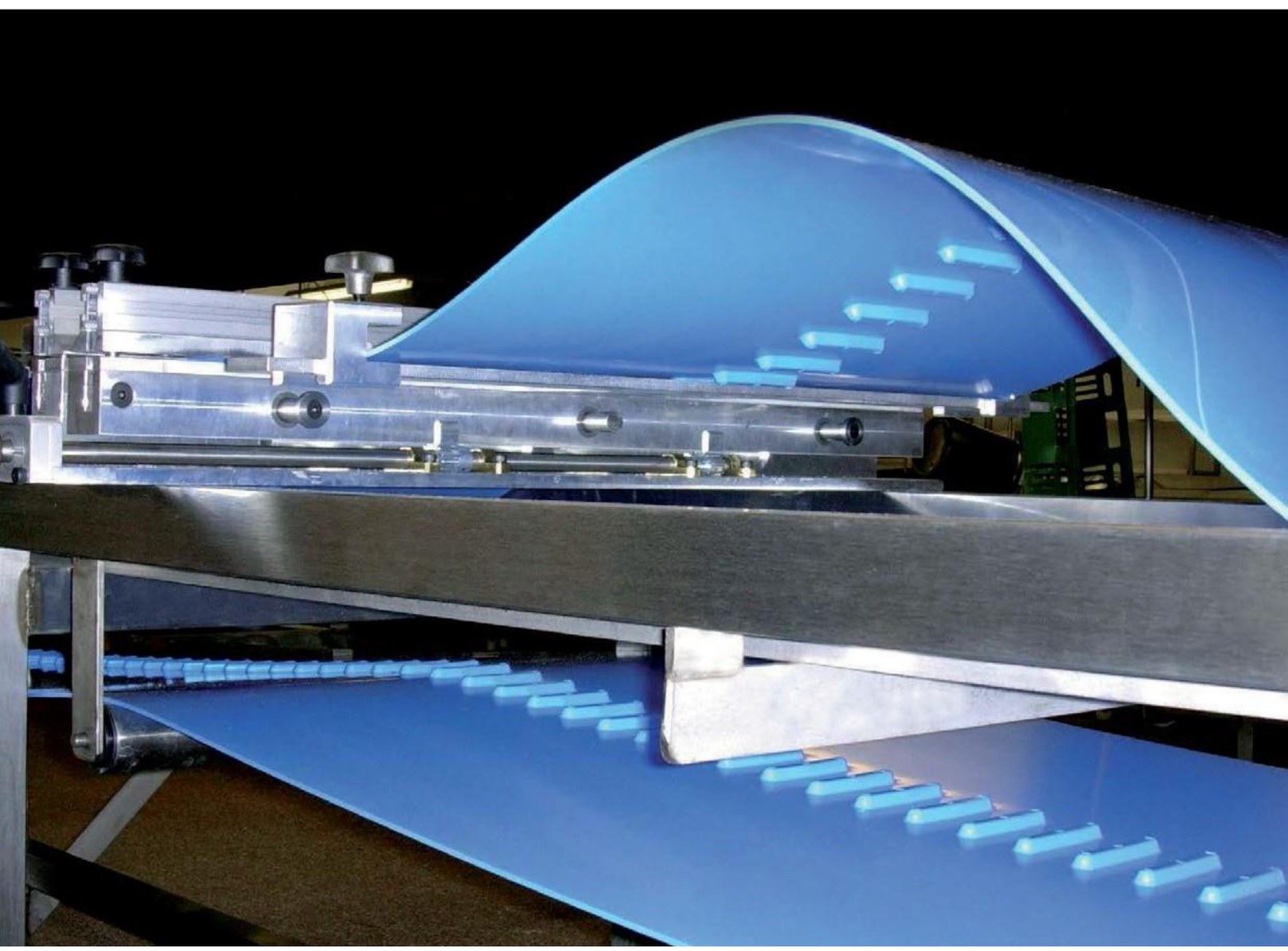
- When producing large quantities of round profile rings, use our Flash Trimming Tool to trim the flash after welding. This jig provides adjustments for different profile diameters and a heated blade for smoothly trimming the flash from the profile. The finished weld presents a physically smooth and visually clean joint.
- This tool is suitable to use with round profiles from 3mm to 12mm.
- Available only in selected markets.

Pitch Gauge Measuring Tool for Volta Positive Drive Belts	Cat. No. 81307570

- The "Pitch Gauge Measuring Tool" was developed for measuring the pitch between the teeth after welding, the Volta Positive Drive belts.

With Volta Tools You Can Never Go Wrong!

- Fast and simple belt installation.
- Unique and versatile design - compact, rugged and easy-to-use.
- Designed for both shop and field use.
- Light-weight construction.
- Usually does not require cooling water or air pressure.
- Convenient design and method of storing and carrying your tools.
- Welds and fabrications are strong, reliable and will last as long as your belt life.



volta™
Belting Technology

The Next Step in Belting

Meat Industry

Conveying Solutions

Motech

Simply Hygienic Belting for Safe Meat Processing & Packaging

Volta's thermoplastic, elastomeric (TPE) belts ensure safe and hygienic processing of meat and poultry. The durable, moisture-resistant belts comply with the strict requirements of food processing regulations; EU No.-10/2011 amended by 2017/752, 1935/2004 and 2023/2006
and FDA Art. 21. CFR.177.2600., USDA, NSF/ANSI/3-A 14159-3 - 2010 (Hygiene Requirements for the Design of Mechanical Belt Conveyors Used in Meat and Poultry Processing). FDA, USDA, NSF/ANSI/3-A 14159-3 - 2010 (Hygiene Requirements for the Design of Mechanical Belt Conveyors Used in Meat and Poultry Processing). They are certified as not containing Bisphenol A and are HACCP compatible.

Hygiene Inspired

Volta materials have an impervious, homogeneous surface that will inhibit product residue from building up and does not habor bacteria, thereby reducing the risk of recalls and giving longer product shelf life.

Food Safety Awareness

No cracks, links or hinge pins which turn into breeding grounds for micro-organisms.

Reduce Cost of Ownership

Volta`s belts can carry heavy (frozen) loads and are simple and quick to install. Their use provides significant savings with cleaning procedures being rationalized. Water and manpower are reduced and the downtime becomes available production time. Belts can be cleaned on the conveyors. Maintenance is minimal and the hidden costs of ordering and installing spare parts as found with modular belts, disappear.

Environmentally Responsible

Reduced water consumption and lower environment levies.

Work Safety Awareness

Compared to modular systems, the belts are quiet and reduce the risk of certain industrial illnesses to workers. Belt hygiene also contributes to a cleaner and safer working environment.

Homogeneous Safety & Quality

- Advanced Cleanliness - the belt surface minimizes downtime for sanitation and waste management while extending production time.
- Homogenous Structure - no moving parts and links and no fabric layers or exposed fabric edges. Welded features do not detach, fracture or abrade into the product flow.
- Improved Shelf Life - reduced bacteria counts increase product shelf life.
- Hydrolysis Resistance - impervious to fluids including blood, oils, salt and fats.
- Self-Tracking - the extruded teeth of the SuperDrive™ belts are used to track belts even under water.
- Low Noise - improved working conditions.
- Easy On-Site Repair - keeping downtime to a minimum for improved productivity

Slaughter House

SuperDrive™ & DualDrive Positive Drive Belting Systems

Volta's SuperDrive™ is suited to all heavy duty meat processing applications and a 6mm version can cope with high impact and heavy accumulation.

Slaughterhouse Lines/Boning and De-Boning Lines

The belts meet the most demanding challenges in the meat processing industry. They can be used on boning lines where high impact and heavy wear and tear are commonplace. They outperform modular belts where parts are replaced frequently and provide superior hygiene.

Primary Processing Lines

Volta's belts are highly resistant to cuts and abrasion. The belts will maintain low bacteria counts and require less maintenance and cleaning than any other belt on the market. Cleaning can be done on the conveyor and the belts are suited to CIP solutions.

Frozen Meat Blocks

The belts will not abrade even from constant contact with frozen products. Belt fragments will not enter the product flow. Resistance to wear and tear from frozen products is a critical failing of modular belts. While Volta materials are not prone to the problem of fragmentation and entry into the product flow, the issue is very much in vogue and Volta Metal Detectable (MD) belting can act as an 'insurance policy' for QA procedures and help allay any fears of this occurring.

Shock Freezing Sub Zero conveying

Volta materials can be used down to -20º Celsius. A special material, M LT (medium hard Low Temperature) enables the belt to work on minimum pulleys at sub-zero temperatures and is rated down to -35°C.

Further Processing

Slicing Lines

Volta produces a range of food grade profiles and flat strips for conveyors used for sliced products like salami. They are suited to direct contact and the transferring of semi-packed products into vacuum packing machines.

Minced Meat Lines

The dense and continuous surface of Volta material allows for moist product to be transported even where juices can ooze from product. Trough conveyors can provide a simple alternative to containment. Flat belts with non-stick IRT & ITO50 texture surface tops complete the range for minced products such as Hamburgers and flexible belts are available for hamburgers pressing machines.

Sausage Machine

A number of specialty machines are on the market and Volta belting material is well-suited to this application giving maximum hygienic protection to this easily contaminated product type. Special profiles have been developed for carrying in single file after alignment such as the 65/90 profile. Trough conveyors provide a convenient solution for mass conveying and permit quick and efficient product transfer.

Offal Lines

A special fabrication enables offal to be collected in separate compartments for each animal until the carcass has been cleared for consumption by veterinary services. The economic value of this is that where a carcass is rejected, the matching reject organs can be traced and removed without having been mixed with other offal parts.

Homogeneous Belting for Longer Belt Life & Better Hygiene

In comparison with Plied belts:

- Plied belts (plastic coated fabric belts) are finger-spliced; Volta belts are butt welded. The joint is longer-lasting - it will not open - and not prone to contamination.
- Flights fabricated on a plied belt detach with ease from product impact and render belts unusable after a fraction of their potential lifetime. Volta flights will not detach even under extreme loads. Gussets can be welded on to prevent flexing.
- Plied belts fray at the edges and delaminate particularly on the finger splice. This problem is accelerated when frozen or abrasive products are carried. The open fabric is a breeding ground for bacteria that cannot be sanitized. The fabric underside also harbors micro-organisms and is often overlooked as a serious source of contamination.
- Volta belting material does not suffer from any of these hygienic weaknesses.

In comparison with Modular belts:

- Modular belts cannot be cleaned effectively without hours of attention.
- To obtain the a desired bacteriological results they must be removed from the conveyor and soaked for hours (often this is a food industry requirement) The cost of this in terms of water, chemicals, manpower and production downtime is enormous.
- Modular belts abrade and even fragment when carrying frozen product or joints with bone. Plastic particles enter the product flow and reach the consumer. The common practice of replacing worn modules does not account for either the contamination caused by the worn parts nor the cost of the replacements (both the actual cost of parts and the maintenance staff who do the fitting).

In comparison with Stainless Steel belts:

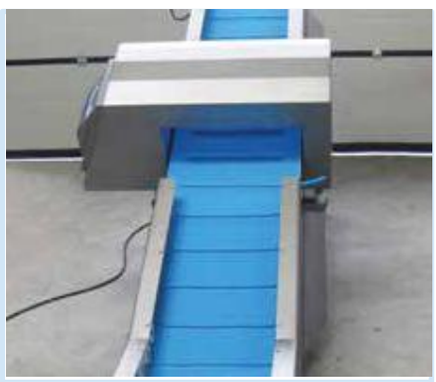
- Stainless steel belts are the most expensive belts available and maintenance is costly.
- Glued rubber guides are expensive to repair. The belts are dangerous to the working environment and apart from sharp edges, a sudden break can be disastrous.
- Volta's H material can be retro-fitted to steel belt conveyors.

Before

After

Meat Industry

Support Flights

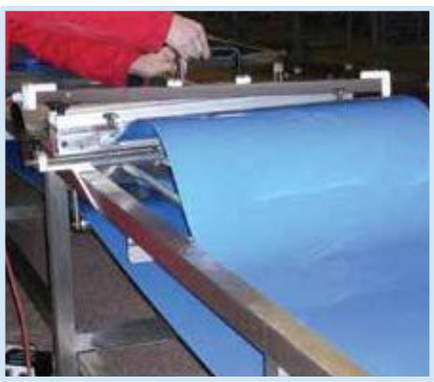


Metal Detector

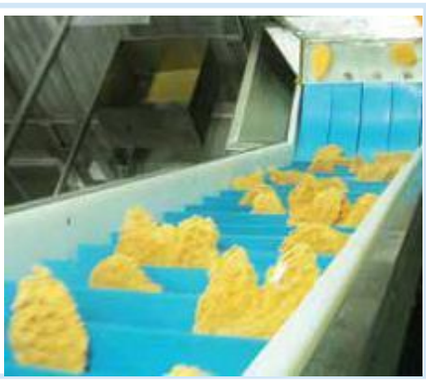
Heavy Weight Movement

Meat Elevator

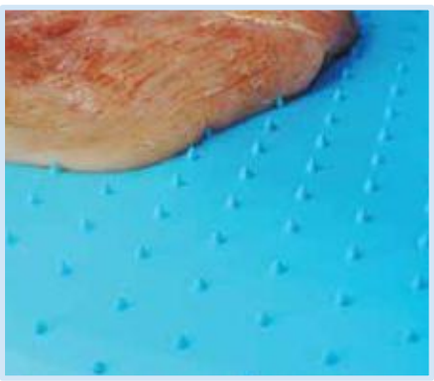
Cutting Line



On-site Welding



HF Welded Flights



Volta Spikes

Meat Conveyor

volta™
Belting Technology

The Next Step in Belting

Flat Belts- Poultry Industry

Conveying Solutions

Motech

Simply Hygienic Belting for Safe Poultry Processing & Packaging

Volta's homogeneous thermoplastic elastomers (TPE) food grade belts ensure the safe and hygienic processing of raw and cooked poultry. Our highly durable moisture-resistant belts comply with the strictest hygiene requirements for the food industry, EU No.-10/2011 amended by 2017/752, 1935/2004 and 2023/2006 and FDA Art. 21. CFR.177.2600.,USDA and are HACCP compatible.

Volta's Clean & Simple Hygienic Solution Hygiene Inspired

With a smooth non-porous homogeneous surface that does not absorb water or grease, preventing product residue and contamination from penetrating the belt to preserve and extend product shelf life.

Food Safety Awareness

Made from strong abrasion resistant material that is completely sealed with no cracks, crevices or hinges to support the harboring of micro-organisms, resulting in low bacteria counts and reduced risk of food spoilage and product recall.

Reduce Cost of Ownership

Volta`s high performing belts hold heavy loads and are safe and easy to install. They offers significant savings on processing lines, requiring reduced usage of water and chemicals and allow easier and faster sanitation procedures that do not involve the removal of belts from conveyors thereby saving labor costs and freeing up more production time. With less maintenance, easy on-site repair and reduced production downtime you can concentrate on maximizing your product output.

Environmentally Responsible

Our simple to clean belt design will significantly reduce your water consumption and sanitizing energy, enabling savings on harsh detergents, water treatments and sanitation labor.

Work Safety Awareness

Volta belts run at significantly lower noise levels making the working environment safer. Belt cleanliness and the reduction of dangerous bacterial elements contribute not only to food safety but also to worker safety.

Positive Drive Belting Systems in the Poultry Industry

Volta's SuperDrive™, DualDrive™, Mini SuperDrive™ and Mini DualDrive™ are positive drive belts that meet the strict hygiene standards directed by the food industry. In addition, Volta's range of belt material does not contain the chemical Bisphémol A.

These tough positive drive belts meet the most demanding challenges in the poultry processing industry: they are resistant to cuts caused by knives and bone fragments and can work in high impact applications, absorbing the shock that would fracture or rip other belts. The easy to clean surface keeps contamination risks in check and better preserves the quality of your meat product. With minimal tensioning required, the belts are easy to maintain with low belt wear and tear. Some modular belts with a 2" pitch can usually be changed to Volta's DualDrive™ and 1" pitch to Volta's Mini DualDrive™ positive drive conveyor belt with minimal or no retrofit. Volta positive drive belts clearly offer an improved performance over the modular belts, with their many advantages and conveniences.

"Because of the homogeneous Volta material we find out that these belts were lasting much longer compared to regular PVC multiply and modular belts. We have now in our plant 20 SuperDrive™ belts. Since the SuperDrive™ belts were installed on the new and existing conveyors the headache of bad surfaces, fraying of the sides, unwanted liquids in the belt and broken/missing belt parts stopped at once. We did not change the belts anymore after we bought SuperDrive™ belts. The Dutch VWA food authority and our own quality control measures the bacteria level on the Volta belts and still after 4 years these belts perform excellent. The belts are cost saving for example the aspect of cleaning, less consumption of cleaning water and chemicals we minimize our downtime. Also maintenance has been reduced tremendously. We don`t have to inspect the belt on and on because the SuperDrive™ belt has an integrated teeth row which tracks and guides the belt, no slippage and problems with guiding the belts at all. We saved a lot of money using the Volta SuperDrive™ in our plant."

says Mr.Wim Clazing the owner of Export slaughtery in Holland.

Slaughtering Lines

Volta belts are highly resistant to scratching and impact as well as impervious to water, body fluids and fats. The belts are suited to difficult work on slaughter lines and enable the most effective control of pathogens by means of CIP or cost effective disinfection. No other belt technology hinders the development of bacteria like thermoplastic belts.

Evisceration Lines

Volta belts can transfer blood and organs with a minimum of spillage, making the working environment cleaner and safer as well as permitting the hygienic collection of delicate material.

Chilling

Poultry coming out of chilling systems is volatile and sensitive material and handling on a flexible yet firm surface is essential. Thermoplastic belting provides the most hygienic conditions and Volta Positive Drive technology prevents slipping and off-tracking even under water.

Portioning

These lines are often characterized by hands-on work with the ensuing dangers of human intervention. Conveyor belting must be of both the highest hygienic standard and the most failsafe mechanical construction - only Volta belts fulfill these criteria.

Volta offers a wide range of textured top belts for the slicers, dicers and flatteners.

Pre-Cooked and Breaded portions

Volta material is ideally suited to handling the excess fats and particles that accumulate on lines where processed poultry is handled. Thermoplastic materials permit fast and cost -efficient wash downs combined with durable custom-made fabrications that permit elevation and automated handling of irregular portions and the accompanying residue.

Sausages , Nuggets, Ground meat

Many factories are involved in further processing and the more the product is handled, the greater the risks of contamination. The added investment in the foodstuff being processed makes any loss due to contamination more expensive than for raw foods. Volta belts are used extensively to handle sausages and minced poultry.

Volta fabricates a special right-angled profile (65/90) for use on sausage transfer machines. The non-stick IRT & ITO50 texture surface tops provide excellent product release as well as reduced waste in the Hamburgers processing lines. Special flexible belts are also available for Hamburger pressing machines. These can be supplied with a variety of easy to clean textures for efficient product release.

Packaging & Shock Freezing lines

Conveyors for handling packed materials can often be the source of mechanical failure and involve the waste of time for maintenance staff and expense. Volta fabricates long-lasting belts which also protect against cross-contamination. The Volta SuperDrive™ LT (Low Temperature) material can be used for conveying to and from IQF lines and withstands temperatures of down to -35° Celsius. The thick homogeneous material will not break (like modular belts can) or peel (like plied belts may). Belts can be perforated to allow air circulation.

Metal Detectors

Metal Detectors are an integral part of all food lines. Where open food is checked, Volta belts offer enhanced hygiene and even for packed food they will last longer and give more reliable service by reducing the incidences of calibrating the detection unit and other maintenance issues which go with belt changeovers.

Feather Collection

Waste product and bi-product is often a difficult issue in food factories and more so for feathers which are full of harmful organisms. Safe handling can only be done on a fully homogeneous belt which gives both hygienic and mechanical safety as well as ensuring good containment of the bi-product.

Homogeneous Belting for Longer Belt Life & Better Hygiene

In comparison with plied belts:

- Plied mono-filament style belts typically require finger splicing methods requiring more sophisticated belt welding equipment compared to the simple butt welding process offered by Volta style homogeneous materials.
- Flights on a plied belts are only adhered to the thin layer of material which cannot withstand flexing from product weights and in time tear away from the base belt. Volta offers solid welded flights that cannot detach from the base belt even when carrying heavy loads.
- Plied belts can be susceptible to fraying on the edges and can delaminate between the plies causing finger splice belts to fail prematurely. This problem is accelerated when frozen or abrasive products are carried. The damage on the belt becomes a breeding ground for bacteria, which in turn contaminates the product and releases very bad odors associated with decay.
- Volta's homogeneous material and the sealed and recessed edge belt technologies prevent bacteria from absorbing into the belt and contaminating products on the conveyor.

In comparison with modular belts:

- Modular belts with the brick layered design and use of hinges and pins prove to be very difficult to clean effectively.
- To obtain the required bacteriological results and a truly sanitized belt, plastic modular belts typically need to be removed from the conveyor and soaked for hours in high concentrations of chemicals or be subjected to high pressurized washing resulting in increased water and chemical usage, and manpower hours.
- When subjected to conveying heavy or frozen products, their brittle and fragile structure breaks and chips easily. This feeds undetectable hard plastic fragments into the food they are carrying. The common argument that modular belts are selfservicing due to their easily replaceable parts does not take into account the high risk of contamination to the processed food or the additional high costs of replacement parts.

EHEDG EUROPEAN HYGIENIC ENGINEERING & DESIGN GROUP COMPANY MEMBER

EHEDG members and co-authors of Guidelines 43

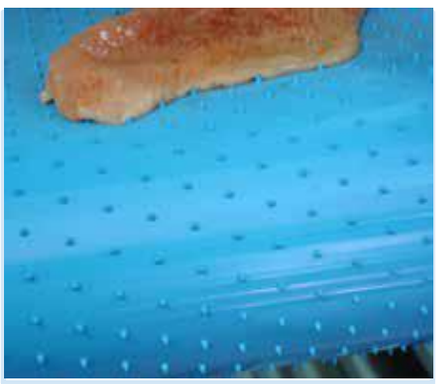
Poultry Industry

SuperDrive™ on portioning line

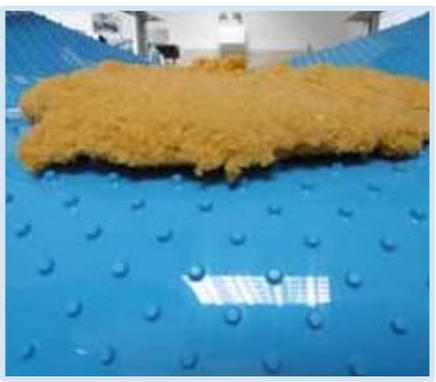
Portioning line

DualDrive™ on breaded chicken breast line

Crescent Top (CT) Texture



Spikes (SP) Texture



Impression Nub Top (INT) Texture

Meat Cleat (MC) Texture

Impression Roof Top (IRT) Texture

Frozen nuggets

volta™
Belting Technology

The Next Step in Belting

Fruit & Vegetables Industry

Conveying Solutions

Motech

101

Clean, Process & Package with confidence on Volta conveyor belts for enhanced quality

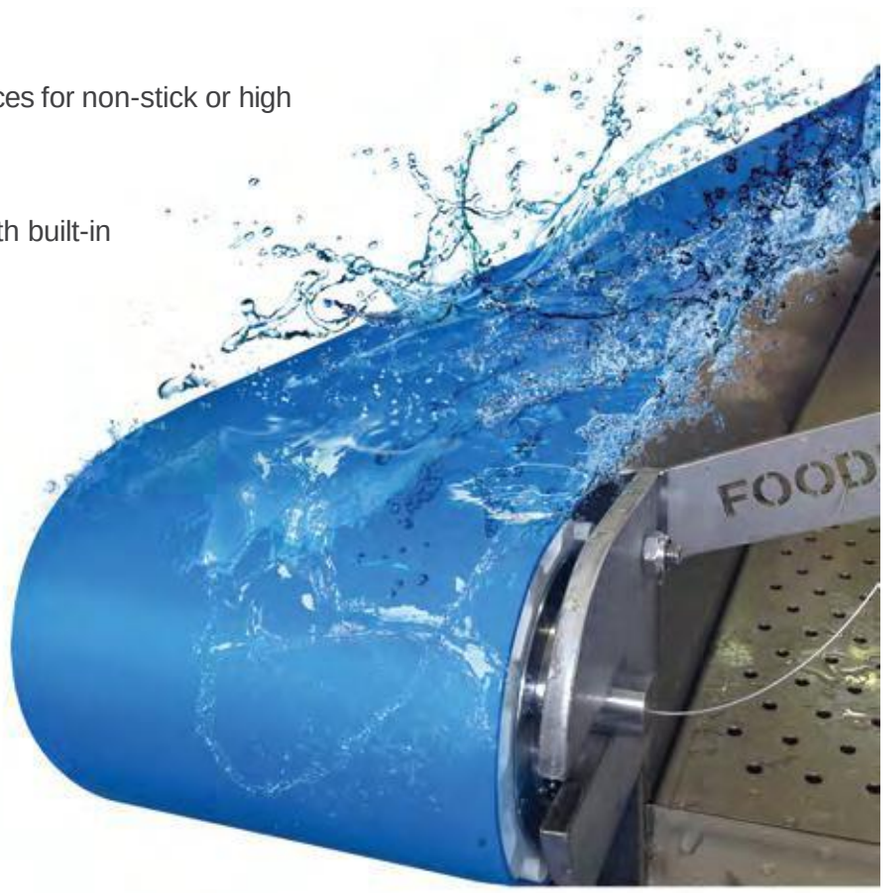
Hygiene Inspired

Fresh produce gets added value from increased hygiene level.

Food Safety Focus

Avoid contamination and extend shelf life for healthy profits.

- Advanced cleanliness - belts have easy to clean surface that simplifies the sanitation process.
- Smooth homogeneous belts with no moving parts restrict the formation of pathogenic contamination in niches that harbor harmful organisms.
- Solid belt without fabric layers which soak up water, delaminate and form breeding grounds for impurities.
- Solid flexible material gently absorbs the impact of delicate falling produce.
- Volta`s H material withstands the harsh effects of natural acidity released from raw produce. No cracking or deformation of top surface.
- Wide range of special impression top surfaces for non-stick or high grip applications.
- The SuperDrive™ positive drive concept with built-in guide mechanism prevents off-tracking and preserves the belt quality for long term use.
- Custom-made thermo-welded fabrications and easy onsite installation and repair.
- Greatly reduced noise levels.
- Reduce Cost of Ownership by at least 50% - superior lifetime, great water savings, less maintenance and downtime on critical workstations.



Fresh Ready-to-Eat Salads and Leaves

Smooth belt surfaces prevent germs from lodging in gaps during processing. The structure is simple to clean, maintaining hygiene. In the processing of freshly-picked products, direct contact with Volta belts from washing until packing helps prevent raw produce from retaining impurities.

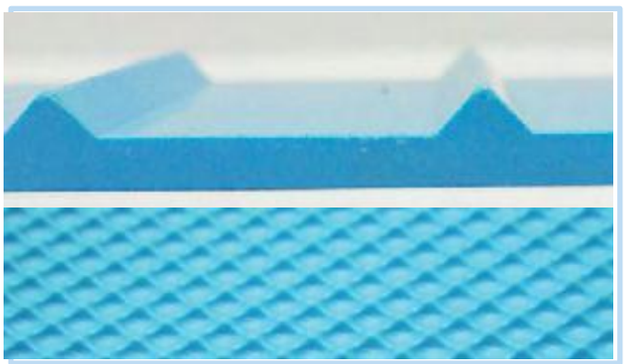
Washing Leafy Greens

VOLTA perforated belts ensure a smooth through-flow while keeping bacteria levels down. It provides an ideal solution for drainage of water-runoff in the food cleaning process. No layers of fabric to obstruct the hole formation and no fiber ends left to contaminate your product.

Non-stick

The various textured easy release surfaces facilitate product discharge thereby contributing to keeping the belt cleaner for longer.

The fully extruded Mini Cleat (MC) top on our SuperDrive™ belt is an excellent choice for sliced peaches and pears.



SuperDrive™

The positive drive concept and built-in guide mechanism prevents off tracking and eliminates product wastage due to spillage. Performs well on elevators and Z conveyors.

Frozen Fruit & Vegetable Processing

The Volta Low Temperature (LT) flat belts are most suitable for working in environments with minus temperatures down to -35°C / -41°F and give optimal results in minus temperature applications. Perforations are also an excellent concept to consider for the circulation of air to flow in Individually Quick Frozen (IQF) applications.

Bead Elevators

Welding solid Volta homogeneous flat material with high square flights, result in a tough fabrication and high performance belt for these machines. The Low coefficient of friction of Volta 'H' material suffers less from abrasion resulting from the belt continuously coming into contact with the conveyor casing thus increasing the belt life considerably.

Hammocks & Slides

The flexible 'M' material is ideal for forming, and is used on potato intake chutes and other areas where a gentle transfer can prevent bruising. The belt material absorbs the impact of falling products, saving the majority of waste and rejects due to this condition.

Canning

The extremely strong thermoplastic RCW reinforced profile displays outstanding wear resistance and is most suitable for conveying full and empty can applications. The low friction properties of this profile allows for smooth, constant conveying even where accumulation on the line may occur. Volta homogenous flat belts are used in conjunction with metal detectors and magnetic systems.

Sorting Sleeves

VOLTA Sorting Sleeves used to cover rollers on fruit sorting machines are a great success. The belt material used is highly resistant to acids, cuts and abrasion and will not absorb any odors or liquids which make it particularly suitable for this application. The Volta belt will enhance the running of the rollers and ensure that the produce (oranges, apples, eggplants etc.) is moved along the sizing and sorting process line smoothly.

Material Quality Advantages

The harsh acidic nature of fruit and vegetables tend to wear away at the top surface of PVC and standard PU belts. The thick solid Volta 'H' material withstands the effects of these acids far better. Juices that are released during processing will not penetrate the homogeneous non-absorbent belt. No cracking, pitting or crumbling of the belt takes place.

Modular belts require strong water pressure and soaking to release clogging of products from gaps. Volta's smooth surface is quick and simple to clean.

Garlic, Onion:

Volta is highly non-absorbent to strong odors or acids released from these fresh products.

Grains, Rice, Beans:

Eliminate clogging and product wastage that lodge in the modular belt surface holes and hinges.

Potato:

Volta belts are highly resistant to the aggressive nature of starch which tends to corrode the belt surface.

Grapes, Pineapple:

High level of acidity. Volta belts withstand this threat.

Carrots:

The acidity of these products will not damage the belts.

Tomatoes:

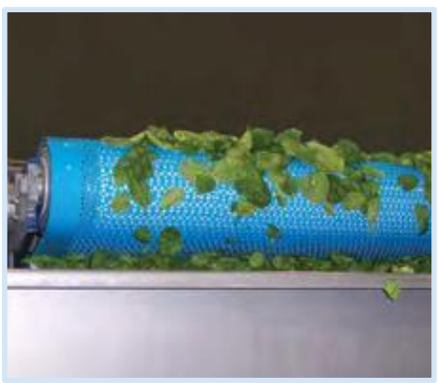
Volta homogeneous belts prevent juice leaking into conveyor. Resistant to acidity.

Meets international hygiene standards for quality, reliability and food contact. FDA/USDA Approved. Declaration of Conformity verifying compliance with general requirements (article 3) in EU Regulations No.10/2011/EC, amended with Regulation (EU) 2017/752 and with Regulation (EU) 2020/1245 on plastic materials and articles of FCM, 1935/2004, 2023/2006, German Regulation BfR XXI and U.S. Food and Drug Administration 21 CFR 177.2600 (Rubber Articles). Supports HACCP Food Safety Management Principles.

Fruit & Vegetable Applications

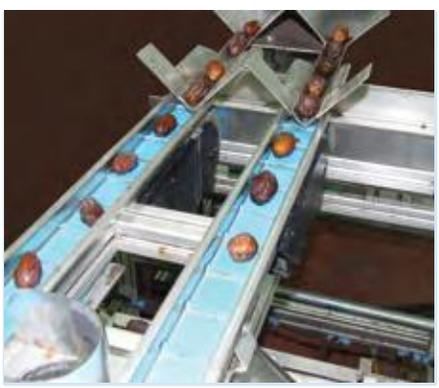
Grapes Processing

Cabbage Elevator



Spinach Washing

Rice Processing



Dates Sorting

Corn Cutting

Pineapple Canning

Mushroom Sorting

Corn Elevator

volta™
Belting Technology

The Next Step in Belting

Fresh Cut Potato Industry

Conveying Solutions

Motech

French Fry Processing Successes Using Volta Belts

The world consumes a lot of potatoes and potato processing lines are some of the largest and most sophisticated in the food industry, especially in terms of throughput volume and capacity.

The most critical aspect for conveying systems in potato processing plants is hygiene (sanitation). In answer to this challenge, Volta homogenous belts are highly resistant to the aggressive nature of starch which tends to corrode the belt surface.

Before food reaches the consumer's table, it has already come into contact with harvesting equipment, freezers, cold storage units, a wide array of transportation vehicles in various containers, and has passed through processing machinery.

Worker safety, product quality, equipment reliability, sanitation, and ease of maintenance are all top concerns for conveyors in the potato processing industry. Hygiene is important to potato processors and continues to rise in importance given the increased focus on food safety in addition to more demanding production schedules.

Hygiene standards in the food industry are extremely high, especially when it comes to conveyor belts as these are in direct contact with food.

Food products routinely make contact with conveyor belting, and public awareness of the industry's reliance on easily-broken modular belting has risen. The presence of plastic fragments from this source, either as foreign bodies or contamination in the food, is now common knowledge.

As a manufacturer of food-grade conveyor belts with over 50 years of industry experience, Volta Belting Technology firmly stands behind the safety and stability of all Volta food-grade belts to prevent the problems found with inferior belt types.

Raw Intake / Receiving

Raw Intake or Receiving is the location and process where the raw potatoes are off-loaded into the processing plant. During the process, significant amounts of dirt, sand, mud, vines, and rocks are mixed in loosely or are already adhered to the potatoes. These materials, including the potatoes, can be referred to as 'products'. The products create a very harsh working atmosphere for a conveyor, causing severe abrasion and impact. In some plants, the potatoes and 'products' are dumped from trucks onto a steel pan or hopper and simply gravitate onto the belt surface.
Volta food-grade materials possess mechanical features which make them ideally suited to static elements such as funnels or chutes.

When modular belts are used, the free fall of the potato during intake and washing can break belt materials. Plastic parts can then go into the potato, creating hazard points.

Volta uses homogeneous food-grade materials, including transparent and translucent conform designs for funnels, chutes, pipes, and similar elements.

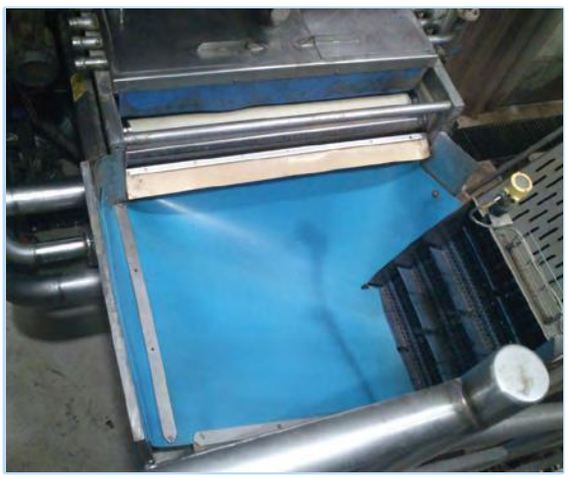
The flexible material is ideal for forming and is used on potato intake chutes and other areas where a gentle transfer can prevent bruising.

The belt material absorbs the impact of falling products, preventing waste and rejects.

Measurements, like those for hopper linings, are often difficult or inaccurate, therefore all elements are custom-made and can even be fitted and welded on site.

Hammocks are used to reduce noise and damage to sensitive products in freefall.

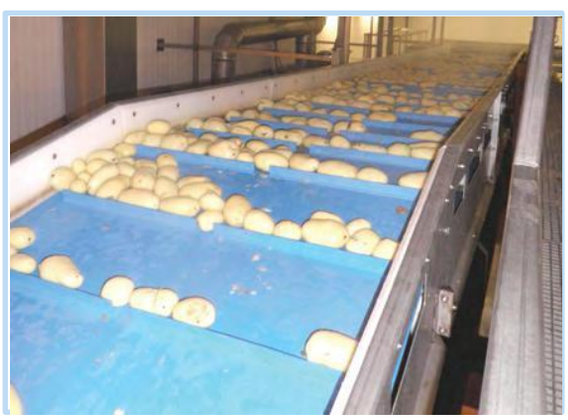
The very first location where Volta solved problems was the steel pan or hopper.



The Problem: The constant impact of the 'products' on the pan repeatedly broke the welds between the pan and the conveyor frame.

The Solution: We replaced the entire steel pan with a thick, dense, homogenous Volta material and bolted it to a steel framework that was created by the plant. These hygienic TPE pans were much less expensive than the steel version and the end users could employ them for at least 2 seasons without needing repair.

From here, the 'product' cascades down the pan onto the first conveyor belt which is typically at an incline, moving the 'product' into the plant and onto the next place where Volta SuperDrive™ solved another problem.



The Problem: The constant impact of the 'product' landing on the conveyor would, in the past, cause the cleats to detach as well as heavy wear and tear. The belt would need to be replaced on a monthly basis.

The Solution: These conveyors were changed to suit a SuperDrive™ with short (1 to 1.5" high), double electrode welded cleats. These belts proved incredibly successful, with some plants reporting multiple seasons of work free of trouble and maintenance.

The mixed-in vines, rocks, and other debris are then removed from the 'product' and the potatoes are transferred into the 'wet end'.

Wet End / Washing and De-stoning

After this process, the potatoes are washed clean and are on their way to the peeler. (N.B. some restaurants prefer their fries to still have peel on them and some lines will send the potatoes on, bypassing the peeler).

After the peeler, most of the conveyors are troughed and commonly use PVC 120 white or 3-ply white Nitrile belts.

The Problem: These old-tech belts were unhygienic and wore out very quickly. Some had mechanical issues with 'stringing', fibers loosening from the reinforcement fabric in the belting and wrapping around bearings. This caused breakdowns and the entry of foreign bodies into the product flow. The fast wearing was largely due to residual liquids and the presence of starch seeping out of peeled potatoes and cracking the surface of both PVC and white Nitrile rubber.

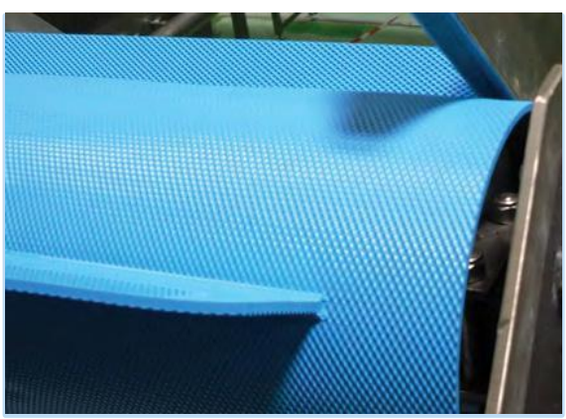
The Solution: These conveyors were retrofitted to accept Volta SuperDrive™ which has proven to solve all the problems noted above. Volta belts are highly resistant to the aggressive nature of starch, don't contain fibers, and do not deposit fragments and belt parts into the product flow. A thick SuperDrive™ is preferred for conveying whole potatoes to absorb impact and prevent bruising should the potatoes be dropped onto these conveyors. The ease with which a Volta belt can be welded on-site has eliminated the use of lacing – another benefit from the changeover and another bonus for the processor.

Inspection & Sorting

In some plants, the potatoes are then inspected using visual inspection machines which detect brown spots, blemishes, and other imperfections. They also attend to any last residue of 'product' that may be on or in the potatoes. In some cases, inspection takes place after the potatoes have been cut into strips. Volta SuperDrive™ belts have been used on the conveyors that feed the inspection machinery and the takeaway conveyors handling output from the inspection machines. SuperDrive™ belts are also highly successful on takeaway conveyors removing the rejected material which, if safe, is further processed for animal feed.

The Problem: When a French fry is still raw and wet, it tends to stick to the surface of the belting due to surface tension, thus products can travel around the head pulley and then drop - often onto the floor. This was previously corrected by spraying water on the head pulley or attempting to blow the fries off the belt with an air jet. Water is ever more expensive and now considered a finite resource, so avoiding this is necessary.

The Solution: Volta SuperDrive™ with the ITO-50 texture allowed the plants to put an end to the water spraying of the head pulleys as it allows the fries to easily drop off of the belting. The texture is easy to clean and features the benefits of all Volta food-grade materials.



Further (manual) Inspection

However, isolated pieces of 'product' can still make it through the visual inspection machines without being removed. Therefore a person is often stationed next to a troughed conveyor prior to the packaging and ensuing freezing process.

The Problem: The previously mentioned issues of 'stringing' and wear continue to be a problem when using white PVC or Nitrile rubber belts. Additionally, detached cleats add to the foreign bodies that can ride along with the good fries. Furthermore, white belts have been demonstrated as a direct cause of headaches and nausea in inspection personnel.

The Solution: SuperDrive™ belts with small ridge cleats welded using Volta 'electrode' profile have replaced the traditional belts and solved these issues. The small ridges help carry wet French fries up any slight incline commonly used in this process. The blue color is preferred and greatly reduces requests for breaks or headache medications from the inspectors. These belts have been seen to last for many years in some plants.

Our new SuperDrive™ belt with Mini Cleat (MC) top will replace this belts. The fully extruded cleats and the benefits of the positive drive conveying enhances the incline conveyance capability of carrying bulk product on large width belts, usually 36 inches (92mm) wide that run with a trough and usually up an incline by up to 25 degrees. The MC top prevents product rollback on the incline without requiring flights.

Packaging

There is a wide array of applications in packaging. In most cases, Volta has retrofitted conveyors that were using modular belting, but some older plants were still using Nitrile and PVC belts. One of the most successful applications is conveyors that carry bagged fries through the metal detector. This is another area where a slight incline is common.

The Problem: Bagged product moving on an incline through a metal detector on modular belting with rubber inserts to keep the bags from sliding back. These inserts soon wear out and then the bags begin sliding back toward the tail of the conveyor. This causes pileup and necessitates the stopping of the line and for bags to be pushed manually up the incline.

The Solution: The conveyors were retrofitted with DualDrive™ used upside down with the drive lugs facing up as small cleats carry the bags up the incline. This doesn't give them the tracking that SuperDrive™ does.

A new FMB-SD-MC-ITM2 will be used here. The fully extruded Mini Cleat (MC) top on our SuperDrive™ homogeneous material enhances the incline conveyance capability of carrying bulk product by up to 25 degrees. These belts afford the end users excellent durability.

Conclusion:

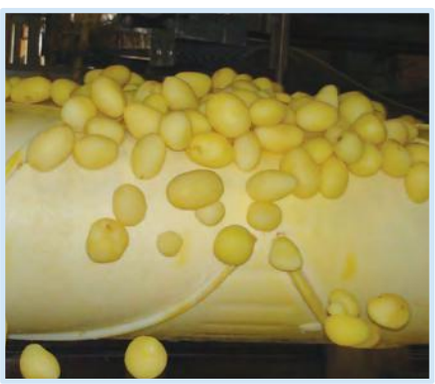
In conclusion, within a potato/French-fry plant, Volta offers many varied uses and benefits for end users. Contact Volta to reduce maintenance, and improve cost-efficiency, hygiene, and auditor compliance.

French Fry Processing Successes Using Volta Belts

SD™ in Potato Intake

SD™ at Wet End

SD™ at Wet End



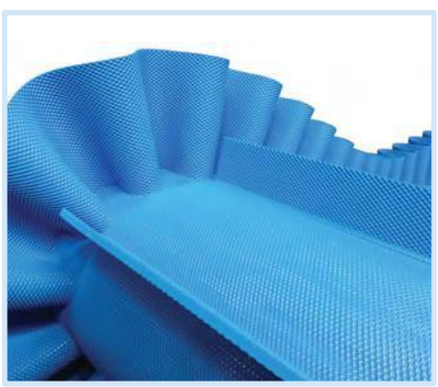
SD™ at Wet End

SD™ French fries elevator

SD™ in French fries conveying

SuperDrive™ lines

Clear material used for Funnels



SuperDrive™ with ITO50 texture

volta™
Belting Technology

The Next Step in Belting

Fish & Seafood Industry

Conveying Solutions

Motech

Volta: The Right Choice for the Fish & Seafood Industry

Volta's innovative hygienic belting concept supplies the fish and seafood industry with the highest quality and efficiency, providing a cost effective solution which reduces bacteria counts and maintenance costs.

Hygiene, Clean & Simple

Hygiene Inspired

Volta's solid thermo plastic (TPE) materials offer a continuous conveying surface that is non-absorbent to water and resistant to oils or chemicals, thus preventing product residue from penetrating the belt as a contaminant.

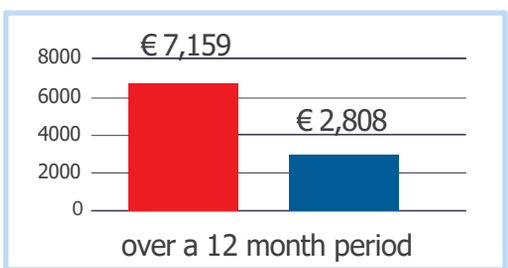
Food Safety Awareness

The smooth surface considerably reduces bacteria levels. Critical Control Points (CCP) are eliminated as the belts do not have cracks, crevices or hinged elements which harbor microbes.

Reduce Cost of Ownership

While improving product quality and shelf-life the surface also facilitates the cleaning of the belt thereby reducing labor and water costs. Belt life is also increased.

The following case study conducted by Volta shows the costs incurred for cleaning in a food processing plant before and after the replacement of a modular belt by a Volta SuperDrive™ belt. Significant savings in cleaning costs (water, water disposal, detergents, and labor) were recorded and direct reports from end users in the fish industry confirm savings in the cost of ownership of between 50% and 70% over a 12 month period, as depicted in the graph below.



One of the simplest ways to improve an entire processing line is by selecting the correct belt. The impact is often unexpected and typically originates from a mix of the above-mentioned benefits.

"I think Volta belts are the best because they are easily installed and cleaned. There are no spaces in the belt for bacteria to harbor, leaving no bad odor caused by bacteria."

Mt. Hung, Director of Hinh Puh, Fish Processing Plant, Vietnam.

Meets international hygiene standards for quality, reliability and food contact.
FDA/USDA Approved. Declaration of Conformity verifying compliance with general requirements (article 3) in EU Regulations No.10/2011/EC, amended with Regulation (EU) 2017/752 and with Regulation (EU) 2020/1245 on plastic materials and articles of FCM, 1935/2004, 2023/2006, German Regulation BfR XXI and U.S. Food and Drug Administration 21 CFR 177.2600 (Rubber Articles). Supports HACCP Food Safety Management Principles.

Trimming and Filleting Fish

Volta belts' strong surface resist cuts, abrasion and bacterial build up and decay. Fish and trimmed waste are conveyed on ultra-hygienic surfaces which retain a minimum of processed material on the return, thereby avoiding cross contamination. Savings accrue by the belts being quick to clean without being removed from the conveyor.

Under Water Conveying

Volta's homogeneous belt material will not absorb water and oils and has no ply. Ply in belts will soak up liquids which develop high concentrations of bacteria and cause cracks to form in the laminated surface. Perforations for drainage are made according to requirement by a smooth punching tool which does not compromise the hygiene of the belt. Further fabrications such as flights and side (containment) walls make this system adaptable to any conveyor and suited to processing in water and on inclined conveyors.

Deep Freeze Applications

The Volta Low Temperature (LT) belt material is unique in its ability to work well in temperatures well below zero either for transporting frozen products or in freezing tunnels. The material does not become rigid and its pliable structure makes it ideal for glazing lines where more brittle belts (modular for example) are worn away by attrition or even broken by the impact of the frozen products.

Weight Checking and Sorting Lines

Volta's homogenneous material does not absorb odors and will reduce contamination in general in the processing room. The solid but flexible construction means that no fibers (typical of frayed plastic-coated ply belts) or broken plastic fragments (typical of modular belts) will be sent down line to weighing and packing.

Canning Industry

A number of products can assist in the canning area from steel- or Kevlar reinforced round profiles to flat belts for magnetic elevators. Special low friction material enables smooth constant conveying even where there is product accumulation on the line.

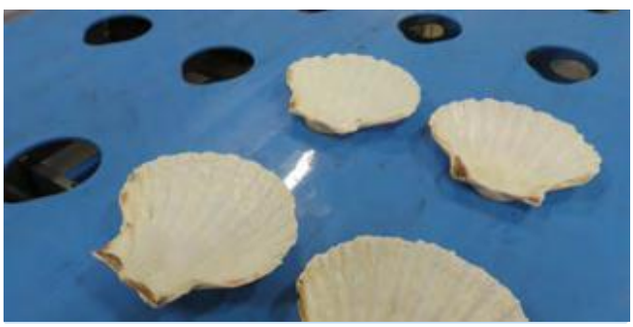
Tuna Processing

Tuna Squeezing and Can Filling.

- Smooth surfaces are extremely hygienic and easy to clean.
- Belts do not absorb liquids, oils or chemicals - no bad odors.
- Material resists abrasion, decay and rotting which arises from a combination of water and bacterial action.
- Can be designed to suit the different tuna processing lines.

Shellfish Processing

The elastic properties of the material resist the harsh impact of sharp shellfish. The belt will not crack or fracture. Clever thermo-welded features can assist in transporting slippery products along horizontal lines and prevent damage caused by avoiding the piling up of delicate high-value product.

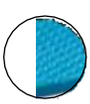


Salmon Processing

The dorsal fins and snouts of some fish (salmon for example) are sharp and stiff and are known to delaminate or even puncture traditional plastic-coated ply belting. Aside from drastically reducing belt life, this type of damage quickly provides a breeding ground for bacteria. Volta belting material has no ply and is highly cut-resistant. It is even repairable in the event of an accident such as a knife piercing the surface.

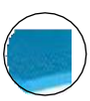
All the other advantages associated with Volta belts will be apparent in these processes; reduced bacteria growth; increased belt life; less downtime for cleaning; savings in maintenance (which includes the advantages of Volta's quick on-site installation tools).

Volta Special Surfaces for particular processing requirements



ITO 50 - Impression Top Oval
Quick release, non-stick surface.

IRT - Quick release, non-stick surface
Gives high grip of oily or wet food products.



ITE Embossed texture
Non - stick top surface.

SP - Spikes are designed for applications requiring grip of amorphous materials such as fresh fish. The spikes are extruded as one with the belt.

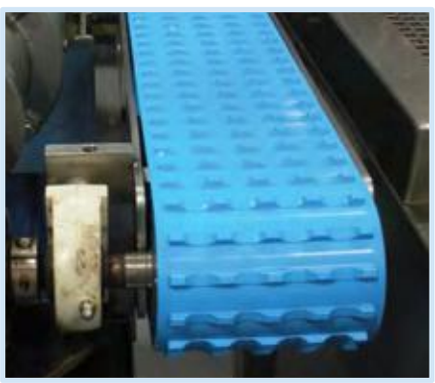
CT - Crescent Top belt for the high grip of bulky soft products such as fish and seafood. Crescent top is ideal on slicers and inclined conveyors.

Process Stage	POSITIVE DRIVE																								
	FHW/FH	B-SD FMW/FM	B-SD FMB-SD	LT FMB-DD	LT FMW/FM	B-DD FHW/FHB	FMW/FMB	FMB-LT	FMW/FMB	FEMW/FEMB	FRMW-CEBB/C	FEMB-ITO50	FRLW-ITO50	FEMB/FELB	Spikes FRG	FZ	FEZ	FK	FELB	FETB	RCW PROFILE				
Fish Intake	●	●			●	●	●		●		●														
Wash Down - perforated belt	●	●			●	●	●		●																
Cleated incline-light to medium load	●	●	●		●	●	●		●	●	●														
Cleated incline-extra heavy load	●	●			●	●	●		●	●	●														
Gutting Lines		●			●		●																		
Skinner Lines							●																		
Filleting Lines	●	●			●	●	●		●	●	●	●	●	●											
Filleting Deboning/ Trimming/ Portion Cutting	●	●			●	●	●		●	●	●	●	●												
Pin Boner Lines														●											
Tuna Squeezing							●			●	●														
Checkweighing							●												●	●					
Grading & Batching	●	●	●		●	●	●		●	●	●	●	●												
Freezing : IQF			●	●				●																	
Sorting & cleaning after cooking	●	●			●	●	●		●	●	●														
Fried Fish conveyor							●						●												
Can Cleaning						●																			
Metal Detector	●	●	●		●	●	●		●	●	●	●	●	●											
Magneti Elevator						●									●	●	●	●			●				

This information is based on our experience in the field over time and should be considered as a general recommendation only.

Hygiene & Product Quality is first priority for leading food producers using Volta.

Fish & Seafood Applications



Special Belt for Surimi

Surimi Conveying

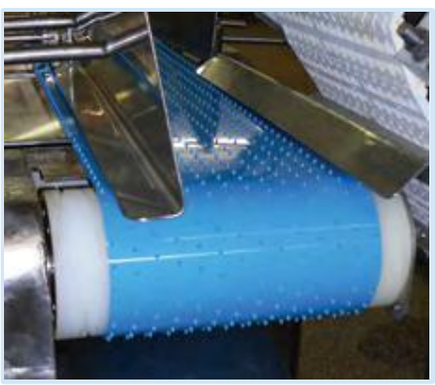
Fish Intake

Fried Fish Sorting

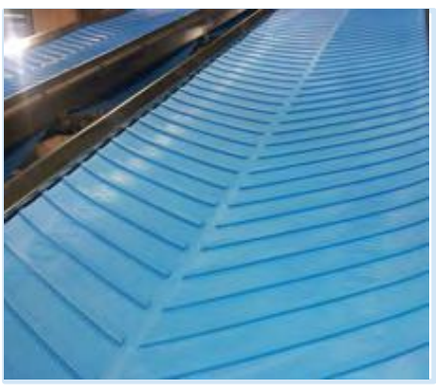
Tuna Squeezing

Portioning Line

On-site Washing



Belt with Spikes

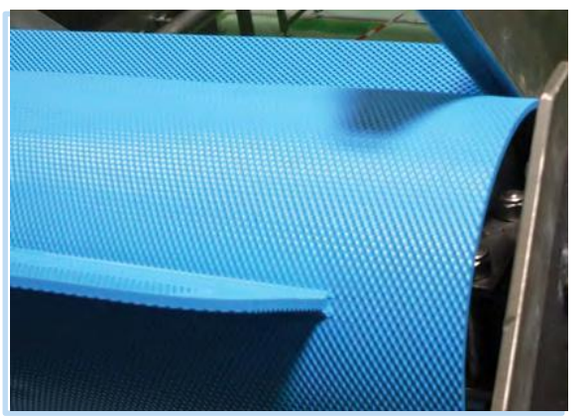


Belt with Special Cleats

Inspection & Sorting

In some plants, the potatoes are then inspected using visual inspection machines which detect brown spots, blemishes, and other imperfections. They also attend to any last residue of 'product' that may be on or in the potatoes. In some cases, inspection takes place after the potatoes have been cut into strips. Volta SuperDrive™ belts have been used on the conveyors that feed the inspection machinery and the takeaway conveyors handling output from the inspection machines. SuperDrive™ belts are also highly successful on takeaway conveyors removing the rejected material which, if safe, is further processed for animal feed.

The Problem: When a French fry is still raw and wet, it tends to stick to the surface of the belting due to surface tension, thus products can travel around the head pulley and then drop - often onto the floor. This was previously corrected by spraying water on the head pulley or attempting to blow the fries off the belt with an air jet. Water is ever more expensive and now considered a finite resource, so avoiding this is necessary.



The Solution: Volta SuperDrive™ with the ITO-50 texture allowed the plants to put an end to the water spraying of the head pulleys as it allows the fries to easily drop off of the belting. The texture is easy to clean and features the benefits of all Volta food-grade materials.

Further (manual) Inspection

However, isolated pieces of 'product' can still make it through the visual inspection machines without being removed. Therefore a person is often stationed next to a troughed conveyor prior to the packaging and ensuing freezing process.

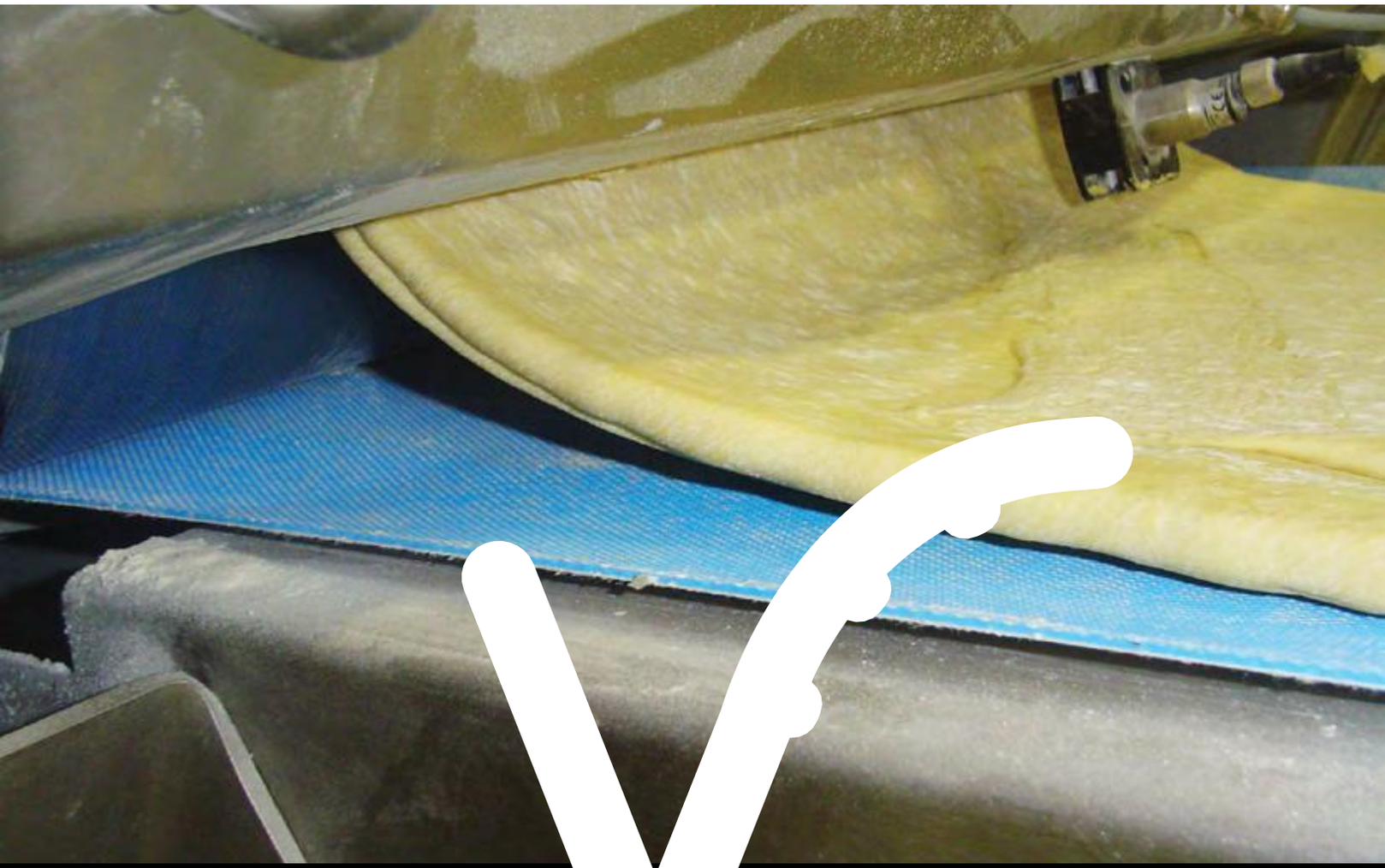
The Problem: The previously mentioned issues of 'stringing' and wear continue to be a problem when using white PVC or Nitrile rubber belts. Additionally, detached cleats add to the foreign bodies that can ride along with the good fries. Furthermore, white belts have been demonstrated as a direct cause of headaches and nausea in inspection personnel.

The Solution: SuperDrive™ belts with small ridge cleats welded using Volta 'electrode' profile have replaced the traditional belts and solved these issues. The small ridges help carry wet French fries up any slight incline commonly used in this process. The blue color is preferred and greatly reduces requests for breaks or headache medications from the inspectors. These belts have been seen to last for many years in some plants.

Our new SuperDrive™ belt with Mini Cleat (MC) top will replace this belts. The fully extruded cleats and the benefits of the positive drive conveying enhances the incline conveyance capability of carrying bulk product on large width belts, usually 36 inches (92mm) wide that run with a trough and usually up an incline by up to 25 degrees. The MC top prevents product rollback on the incline without requiring flights.

volta™
Belting Technology

The Next Step in Belting



Bakery Industry

Conveying Solutions

Motech

Baked Products/Baking Lines

The category of baked goods ranges from bread and bun lines to biscuit and cracker lines. It also includes special products like pastry and pizza bases. Volta has expanded its unique range of hygienic conveyor belts to address many of the problematic applications in bakery production. Volta's standard belt width is: 1524mm /60" with some belts available in 2032mm/80".

Using Volta belts provides many advantages, including saved running costs and also alignment with increasingly strict legislation. Volta materials comply with European Regulation (EU) No.10/2011 amended by 2017/752 and with Regulation (EU) 2020/1245 on plastic materials and articles of FCM, German Regulation BfR XXI, 1935/2004 and 2023/2006 and U.S. Food and Drug Administration 21 CFR 177.2600 (Rubber Articles).They are also HACCP compatible.

A Higher Level of Hygiene

Unlike modular and ply belts, Volta belting materials do not contain links, pins or multiple layers of fabric. The solid elastomeric material is not prone to contamination and does not harbor microorganisms.
For mechanical considerations, in certain bakery applications, (e.g. knife edge transfers) Volta utilizes webbed reinforcement or sealed tensioning members (ACR) without compromising the hygienic advantages of the belting.

Belt Strength and Lifetime

Volta belts are made from strong, abrasion resistant homogeneous material that don't contain the links and hinges found in modular belting. Containing up to 8 times the amount of elastomer content in one dense layer for protection against oils, sticky materials and mechanical abrasion, Volta belts are superior to ply belts in quality and hygiene.
Volta's hygienic belts generally outlive plied belts by at least 5 times. Conveyors where a dough cutter is used, is a strong example of this extended belt-life.

Reduced Cost of Ownership

Volta's belting materials provide significant savings by keeping cleaning and sanitation procedures to a minimum. Volta's belts resist the build-up of difficult product residue such as dried dough. With Volta's superior belting materials, a baking line can expect to reduce running costs, free-up production time, and minimize belt changeovers.

Safety First

Modular belts are very loud and tend to lose products through their modular links. Volta homogeneous belts significantly reduce noise. This makes the work environment safer, prevents loss of product, and keeps floors and machinery cleaner and safer. When conveying frozen products, Volta belts will not abrade or deposit belt fragments into the product flow. This significantly improves hygiene and extends belt lifetime.

SuperDrive™

Volta's SuperDrive™ is the world's leading hygienic Positive Drive conveyor belt. It outperforms and outlasts all conventional belts.

SuperDrive™ prevents off-tracking and can be employed in pre-baking applications for processing large batches of dough.

The Low Temperature line (LT) can handle sub-zero applications down to -35°C/-31°F.

After Mixer Conveyors

After Mixer Conveyors, (Chunkers) carry heavy and unevenly distributed loads.

This is an ideal application for Super Drive™.

Dough Pump Conveyors

Dough pump conveyors process raw dough in large-scale production bakeries. These conveyors elevate dough at a sharp incline and commonly use plied belts with bottom guides. As the loads on the belts are not even, they suffer from off-tracking which results in fraying and tearing. They also require heavy pre-tensioning, and as dough accumulates on the underside, slippage ensues. Operators then must increase belt tension, which in time, causes the belt to fail.

A retrofit to SuperDrive™ will resolve the problem of off-tracking and prevent fraying.

The ITE surface texture can be used for product release.

Cutting Lines

Volta's tough TPE belts are highly resistant to cuts and abrasion. They can also be repaired successfully in many cases where accidental mechanical damage occurs.

Non-Stick Surface

Top surface textures developed especially for the bakery industry reduce the overall contact area between the dough and the belt, providing improved product release and keeping the belt cleaner for longer.

ITD 60 - Impression Top Diamond
ITO 50 - Impression Top Oval
Quick release, diamond impression non-stick surface.
ITS70 - Impression Top Square
Quick release, fine non-stick surface.
ITE - Embossed texture
Very fine non - stick surface available on Volta SuperDrive™ belt only
ITM and ITM2 - Matt Top

Narrow Transfers

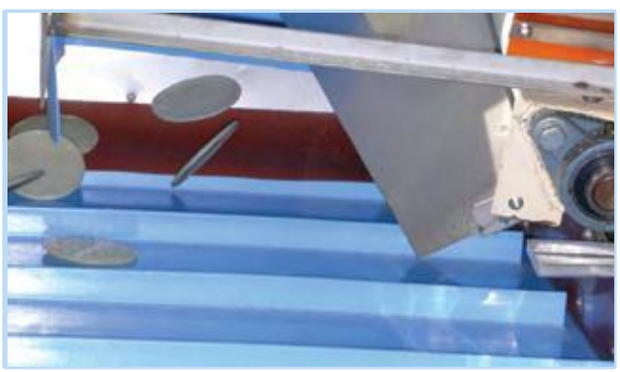
Bakery lines often incorporate small pulley diameters and static 'knife edge' nose bars. In order to select a belt, the diameter/radius must be measured and the angle of wrapping noted. Wide belts are available for biscuit and pizza base cutting lines.

Quick Product Changeover

During the same shift, producers on a bakery line may change from one product to another. Volta belting material is highly compatible for these kind of changes as it permits a quick and thorough cleansing of the belt from allergens like nuts, peanut butter and gluten from wheat.

Fabricated Elements on Belts

On conventional plied belting, flights (cleats) are a liability that cause frequent belt failure and contamination. Volta welds all such parts with heat, integrating them into the belt and rendering them unbreakable.



Metal Detectors

The food industry increasingly utilizes metal detectors. Volta belts are easy to install on metal detectors and are the belt of choice for leading MD manufacturers. Volta's superior belt longevity means fewer refits over time and less re-calibration of the instrumentation. MD detectable versions of some belt types are available.

Visual Contrast

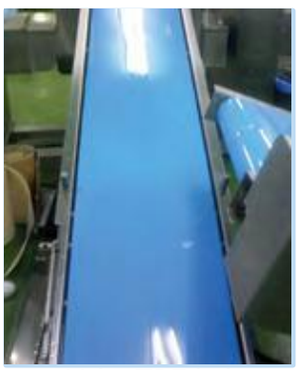
Volta offers food grade flat belts and positive drive belts in blue as well as beige/off-white.

Before & After

The benefits of changing to Volta are more far-reaching than cost savings and superior hygiene. Processors who are scrutinized by outside auditors will see a marked difference in attitude when Volta belting is installed.

Before & After

PU Plied belt

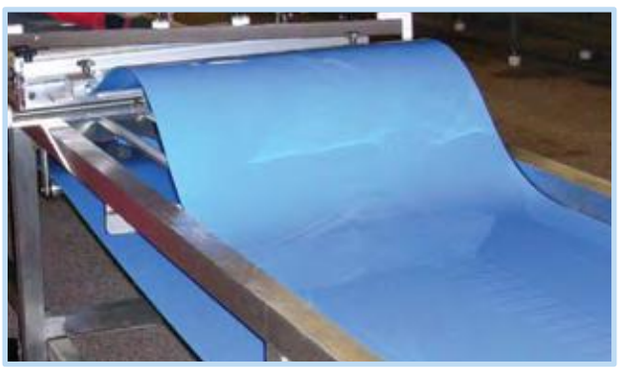


Volta TPE belt

Onsite Installation and Repair

Volta's solid extruded belts can be welded and repaired easily and efficiently onsite with Volta's thermo-welding tools.

The FBW (Flat Butt Welding) welding system do not utilize compressed air or water and are powered from a single phase electrical source. It can be operated by one person.



FBW welding system

The P-200 plier is used for splicing narrow belts in tight spaces.

Welding narrow flat belts with Pliers P-200

Homogeneous Belting versus Conventional Belting - a summary of Volta's advantages

Problems with Plied Belts:

Plied belts are prone to fray at the edges and delaminate especially on the finger splice where the plastic coating is thinnest .This is due to the use of oils and fats during processing. Elevators with flights are prone to contamination through the exposed fibres that are embedded within. They also become easily detached, rendering belts unusable.

Volta material eliminates all of the above problems by providing long-lasting mechanical support together with superior hygienic properties.

Typical Baking Line Applications

Bread/Bun Lines

Dough handling

In-feed / Forming

Narrow lines conveying

Biscuits/Crackers

Web take-away

Punching (docking) lines

Telescopic scrap conveyor

Pastry Lines

Pizza topping

Dividing line

Roll molder

volta™
Belting Technology

The Next Step in Belting

Dairy Industry

Conveying Solutions

Motech

Volta is the Right Choice for the Dairy Industry

Volta's innovative hygienic belting serves the dairy industry with the highest quality and efficiency, providing a cost-effective solution which reduces bacteria counts and maintenance costs.

Simply Cleaner

Dairy products are known as high-risk in terms of bacterial development and Volta's homogeneous flat and positive drive belts stay cleaner for longer and streamline the entire cleaning process. At every stage of the production process through packaging, the buildup of product residue is minimized and food safety is enhanced.

The saving in time and water used for cleaning reduces the cost of ownership and frees more time for production. Volta belts support the HACCP Quality and Food Safety Program and the finished product can have enhanced shelf-life resulting from the typically lower bacteria counts.

Meets international hygiene standards for quality, reliability and food contact.

- In compliance with USDA Guidelines of the Sanitary Design and Fabrication of Dairy Processing Equipment review.
- Declaration of Conformity verifying compliance with Food Contact Regulations: EU No.-10/2011 amended by 2017/752, 1935/2004 and 2023/2006 and FDA Art. 21. CFR.177.2600.

Soft Cheese: Volta belts are in wide use for soft cheese production where molds are transported on trays and profile belts provide food grade protection as well as dimensional reliability and strength. The belts can be exposed to the various liquids such as whey and offer long belt life.

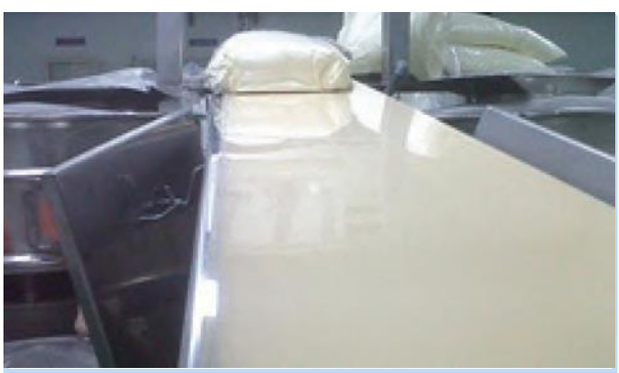
Hard Cheese: Volta's homogeneous flat belt material will not absorb water and oils and has no ply. Ply is prone to soak up liquids thereby developing high concentrations of bacteria and causing cracks to form in the laminated surface. Volta smooth surface belts can be scraped with no resulting damage to welded joints and no danger of grooving. Further fabrications such as flights and side walls for containment make this system adaptable to elevators and even swan-neck conveyors.

Secondary Processing - a significant percentage of cheese production goes through secondary processing, whether as reworked cheese mass, sliced for packs or grated for further use in products such as pizzas. This necessitates transporting on additional conveying systems where hygiene becomes critical as the product is exposed yet again to belting surfaces.

Deep Freeze Applications: The Volta Low Temperature (LT) belt material is unique in its ability to work well in temperatures well below zero for transporting frozen cheese in grated or block form. The LT material does not stiffen and can be used on relatively small pulley diameter. It will not be damaged by the abrasion of the frozen product.

Packaging Lines: Volta's homogeneous material does not absorb odors and will reduce contamination in general in the processing room. Many packaging lines incorporated inside the production hall need food grade belts to prevent cross-contamination. Moving large cheeses may pose a problem in terms of handling while sliced or grated cheese has more exposed surface area and greater care is needed in hygienic belt selection.

Other Dairy Products: Products like powdered milk are often repacked into consumer packaging and the prevention of loose fibres from ply belts entering the food flow is a major concern. Volta Metal Detectable (MD) belting can give additional security in some cases.



Volta Textures and Fabrications:

- Mini Cleat (MC) belts are used to assist in small inclines where the product would otherwise slip.
- HF welded cleats have a hygienic joint to the base belt ensuring quicker and more cost effective cleaning.

Positive Drive

The Positive Drive range combines all the classic advantages of the Volta material with extruded drive teeth suited to almost any conveyor pulley diameter from 48mm and upwards.

- The SuperDrive™ and Mini SuperDrive™ belts have a central tooth configuration that serve as a built-in guide mechanism for the conveyor, eliminating belt slippage and preventing off-tracking. This minimizes maintenance and allows for hygienic conveyor designs with reduced electric consumption.
- The Positive Drive belts are available in several food grade colors as well as in a Low Temperature (LT) version and a Metal Detectable (MD) version each of which suits the requirements of the given industry and its demands from external auditors and QA.
- The bottom surface of the belt is a smooth extrusion which prevents the growth of bacteria in the areas which are more prone to harbor food residue. The Volta material has a surface quality not found in other plastic belts and can help reduce the use of caustic chemicals used in the dairy industry to remove 'soil'.

volta™
Belting Technology

The Next Step in Belting

Tuna Industry

Conveying Solutions

Motech

130

Conveying Solutions - Tuna

Volta's innovative belting concept accomodates the Tuna Industry to the dot. All our belts and belting products are tailored to your demands.

"I think Volta belts are the best because they are easily installed and cleaned. There are no spaces in the belt for bacteria to harbor, leaving no bad odor caused by bacteria."

Mr. Hung, Director of Minh Puh, a fish processing plant in Vietnam.

Tuna Cleaning Table Conveyors?

Volta Positive Drive Line offers you the most clever concept in the Tuna Industry. Easily replaces modular systems, traditional ply belts and supports your HACCP concept.
These belts will solve your conveying problems while keeping your downtime and overall costs low.

- No slippage and off-tracking of the belt
- Smooth homogenous surfaces
- Resistant to water, oil and chemicals
- No bad odor
- Available in Blue, Beige and Off-White
- Long lasting
- FDA/USDA/EU certified

Tuna Squeezing and Can Filling

We offer you a wide range of food conveyor belts that are especially designed for the different tuna processing lines.

- Extremely Hygienic
- No bad odor
- Resistant to decay, rot and abrasion
- Available in Blue, Beige and Off-White
- Available in all popular sizes
- FDA/USDA/EU certified

RCW/ RMW Can Cable

Can Cable belts offer a strong and long lasting solution.
Available in various hardnesses for different applications.

- No bad odor
- Resistant to decay, rot and abrasion
- Strong and hard surface
- Easily spliced
- FDA/USDA/EU certified

Magnetic Elevator

Welding is an easy and reliable task when using Volta welding tools: P-200, W-141 and W-142.

- Easily Spliced
- Long Lasting
- Smooth or embossed surface
- Resistant to cuts

Tuna Squeezing Belts

Volta offers ultra-hygienic Squeezing Belts suited to all varieties of fish and compatible with all existing models of compressing/ squeezing machine.

Belts are made from thick food grade certified monolithic TPE with embedded cording to cope with the forces that are exerted in even high-speed operations.

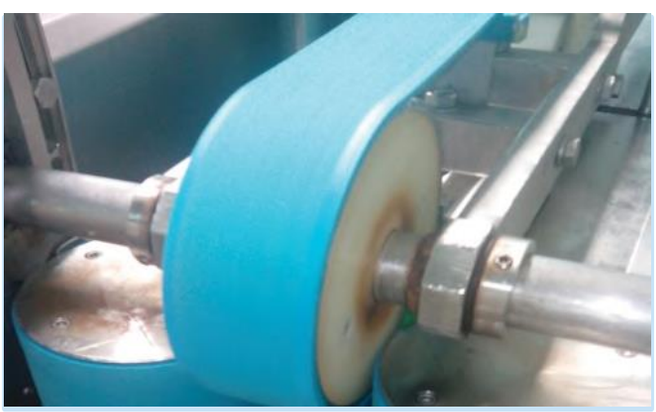
A variety of textures are available on the working surface: Smooth, Diamond pattern (coded IT050) and a Saw Tooth pattern (coded IST). The standard finish is in food grade blue with some models being available in beige.

Standard belt thickness is 5mm for flat versions, 6mm for Smooth top and 6.5mm for Diamond ITO50 and Saw Tooth.

Smooth Belts in Action

Availability:

Blue Belts	Beige Belts
Flat	Flat
Smooth Top	Smooth Top
ITO50 (Diamond)	ITO50 (Diamond)
IST (Saw Tooth)	



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Belting Technology

The Next Step in Belting

Hygienic Belting for Tomato Processing

Conveying Solutions

Motech

The demand for hygienic belts has come from concerns about public safety and also from the increasing liability of companies who do not conform to legislation (such as FDA or EU) or to guidelines.

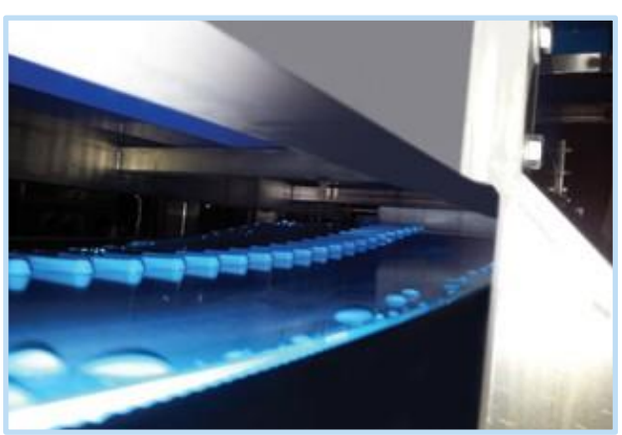
Guidelines are drafted by a variety of organizations and the most recent one on conveyors and belt comes from EHEDG (www.ehedg.org). This is the most progressive document of its kind and the first to consider whether all "food grade" belts are actually "food grade" for use in humid applications or if only the raw materials they are made from are truly "food grade".

This document (EHEDG Guideline 43), together with the Handbook of Hygienic Design constitutes the most advanced statement on belts.

For the first time modular belts are not considered hygienic and ply/fabric belts are required to be protected by a coating of sealed plastic on the edges and underneath. This new approach leaves solid thermoplastic belting as the only plastic material that should be allowed to come into contact with food. The Guideline does not have the force of law and so there is no demand for such belts to be removed but certainly for replacement belts and new conveyors these belt types should be phased out.

End Users, particularly corporations, are conscious of their public image and of their duty to the public. Supermarket chain auditors and others involved in sourcing processed food are beginning to ask processors to conform to hygienic design rules and so OEMs and conveyor builders are also asked to fall into line. Projects will be decided on the ability of an OEM to integrate such belting material into the production lines. Homogeneous thermoplastic belts have come of age and are now central to the food processing industry and to best practice in food production.

Volta has been a pioneer in this field for many years. No other belting company has such a deep involvement in and commitment to food hygiene or has produced such a comprehensive range of belting products, positive drive systems and fabrications solely for this purpose, equipping tens of thousands of conveyors worldwide.



Volta SuperDrive™ Belt

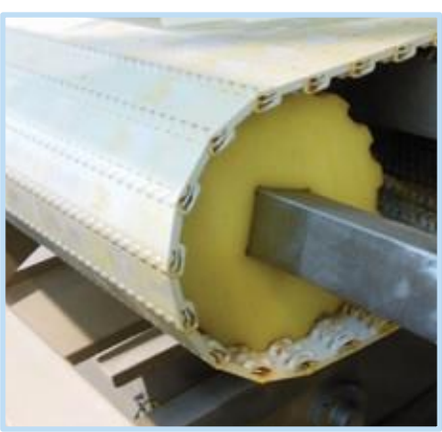
Volta SuperDrive™ Belt

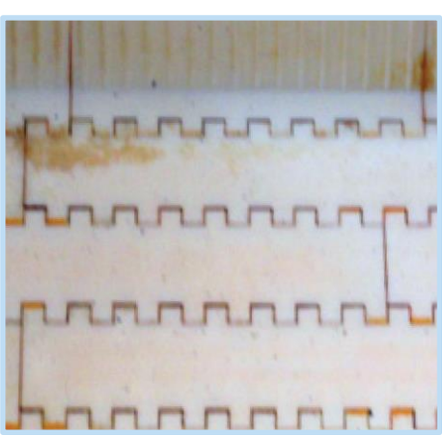
In the tomato processing industry, Volta is able to offer a revolutionary technology that complies with the highest hygienic standards used in modern food processing as described above and also provides the factory with cost benefits;

1. Less breakdowns on intake/washing belts (no stoppages)
2. Positive drive belts on roundabout/merry-go-round systems that prevent juice leaking into conveyor; belts work with no breakdowns and last for three or more seasons
3. Cheaper alternative to steel belts on sorting lines after cooking/blanching and removal of non-food grade black rubber guides
4. Breakage-free belts for elevators – no risk of plastic fragments; no leakage of juice; easy to clean (on line)
5. All belts are made from food grade materials and fabricated with food grade technology
6. On-site 24/7 service given
7. Unique production methods and technology which saves a factory thousands of cubic metres of water in a season, saves down time and maintenance, wastes less product and gives an improved working environment

Volta has wide experience in the tomato industry and has proven time and again that homogeneous thermoplastic belts are the future.

Old Tomato Processing Systems





Installing Volta Belts

Volta Belts in Action

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Deep Freeze Applications

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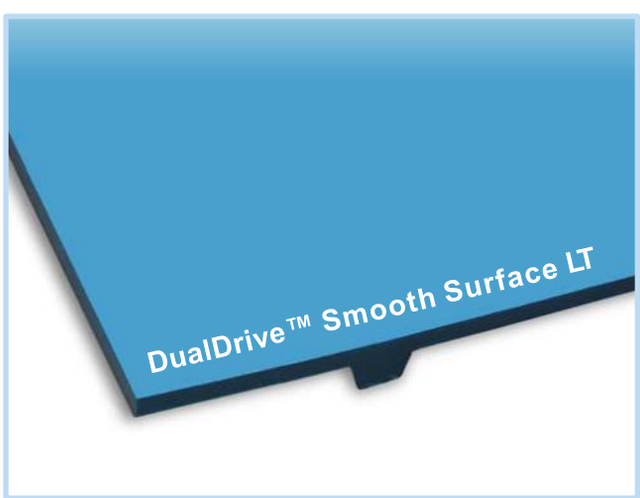
Low Temperature (LT) Belts for Deep Freeze Applications

Volta Belting Technology has successfully launched the latest addition to the largest range of hygienic belts available. A thermoplastic material with excellent strength and enhanced resistance to frozen temperatures, the LT (Low Temperature) belting is rated for use at temperatures down to -35° C / -31° F. The belting will not crack and fragment. It is not brittle which means an end to fragmented particles being fed into the product flow. For extra safety, it is manufactured in a food-certified blue color.

The belt is employed in plants processing fish and vegetables in deep freeze environments and it can be perforated for use in freezer tunnels. It is available in continuous lengths with a maximum width of 1500mm. In addition to the resistance to low temperatures, the LT material adheres to the Volta tradition of low bacteria counts and offers the usual Volta savings in running costs with reduced cleaning time and low maintenance. Factories working at close to full capacity will benefit from the availability of extra production time currently wasted on cleaning procedures needed for modular belts.

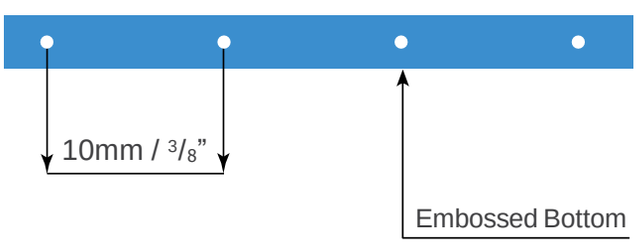
LOW TEMPERATURE (LT) POSITIVE DRIVE BELTS											
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction (bottom) UHMW	Thickness	Minimum Pulley Diameter		Maximum Pull Force		Certifications
						mm	mm	Inch	kg/cm width	lbs/in width	
SuperDrive™ (LT) Belts											
FMB-SD-LT	Blue 15		95A/46D	-35°C to 65°C -31°F to 149°F	0.30	3	80	3 1/4	3	16.80	FDA/EU
DualDrive™ (LT) Belts											
FMB-DD-LT	Blue 15		95A/46D	-35°C to 65°C -31°F to 149°F	0.30	3	80	3 1/4	3	16.80	FDA/EU



LOW TEMPERATURE (LT) FLAT FOOD CONVEYOR BELTS											
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction (bottom) UHMW	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		Certifications
						mm	mm	Inch	kg/cm width	lbs/in width	
Smooth Homogenous Low Temperature (LT) Belts											
FMB-LT	Blue15		95A/46D	-35°C to 65°C -31°F to 149°F	0.30	3	40	1 5/8	1.20	6.70	FDA/EU
						4	60	2 3/8	1.60	9	
						5	80	3 1/8	2	11.20	
						6	90	3 9/16	2.40	13.40	

Aramid Cord Reinforced (ACR) Low Temperature (LT) Belts*											
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction (bottom) S.Steel	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 0.2%		Certifications
						mm	mm	Inch	kg/cm width	lbs/in width	
FELB-ACR-ITO50-LT	Blue 15		80A	-40°C to 50°C -40°F to 120°F	0.45	2.5	18	45/64	4	22.40	FDA/EU
FEMB-ACR-ITO50-LT	Blue 15		95A/46D	-35°C to 50°C -30°F to 120°F	0.25	2.5	40	1 5/8	4	22.40	FDA/EU

Note: *Pull force in table relates to a finger splice weld 20x50mm.
The calculation is in accordance with a welding area which has a strength of 28kg/cm. Note that various finger splice methods and different tools can result in differing belt strengths.



Guidelines and Suggested Materials for the Fabrication of Low Temperature (LT) belts

Important Note: The Low Temperature material (LT) should be treated as a separate family of materials in terms of fabrications. The Low Temperature material (LT) must not be combined with/welded to Volta H material.

- **Sidewalls & Guides:** It is possible to weld Sidewalls from L material to the LT belts. Sidewalls & Guides must be positioned at a minimum distance of 100mm from the belt teeth.
- **Flights**: Should be welded between the teeth as indicated on the sketch in the SuperDriveTM Technical Manual. Can be welded over the teeth if they do not exceed the tooth width. Must not be welded next to the teeth as indicated on the sketch.
- **Electrodes**: We do not recommend using electrodes for welding flights on these belts. The entire belt area around the welded electrode becomes rigid and the belt’s flexibility is lost.
- **HF Welding:** We only approve HF welding of flights on LT belts.
- **Endless Joining:** We recommend joining LT belts with a butt weld using the FBW Tool.

Guides			
Product		VLB-LT / VLC-LT	
Bottom		V guide	
Shore Hardness		80A	
Color		Blue 15	Clear

Size (mm)			
Width	Height	mm	inch
10	6	45	1.77
13	8	50	1.97
17	11.50	75	2.95

Guidelines and Suggested Materials for the Fabrication of Low Temperature (LT) belts

- Pulleys: Use the largest diameter available.
- Open the conveyor in the area of the pulleys to allow air circulation and reduce the humidity.
- The environment in the work area should be as dry as possible.
- Ice formation results from humidity and cold and a limiting of these parameters will reduce the problem.
- Use carefully positioned scrapers made from H material on the top side of belt to avoid product sticking.
- Use carefully positioned scrapers made from H material in front of the tail pulley and on the inside of the belt to avoid ice build-up.

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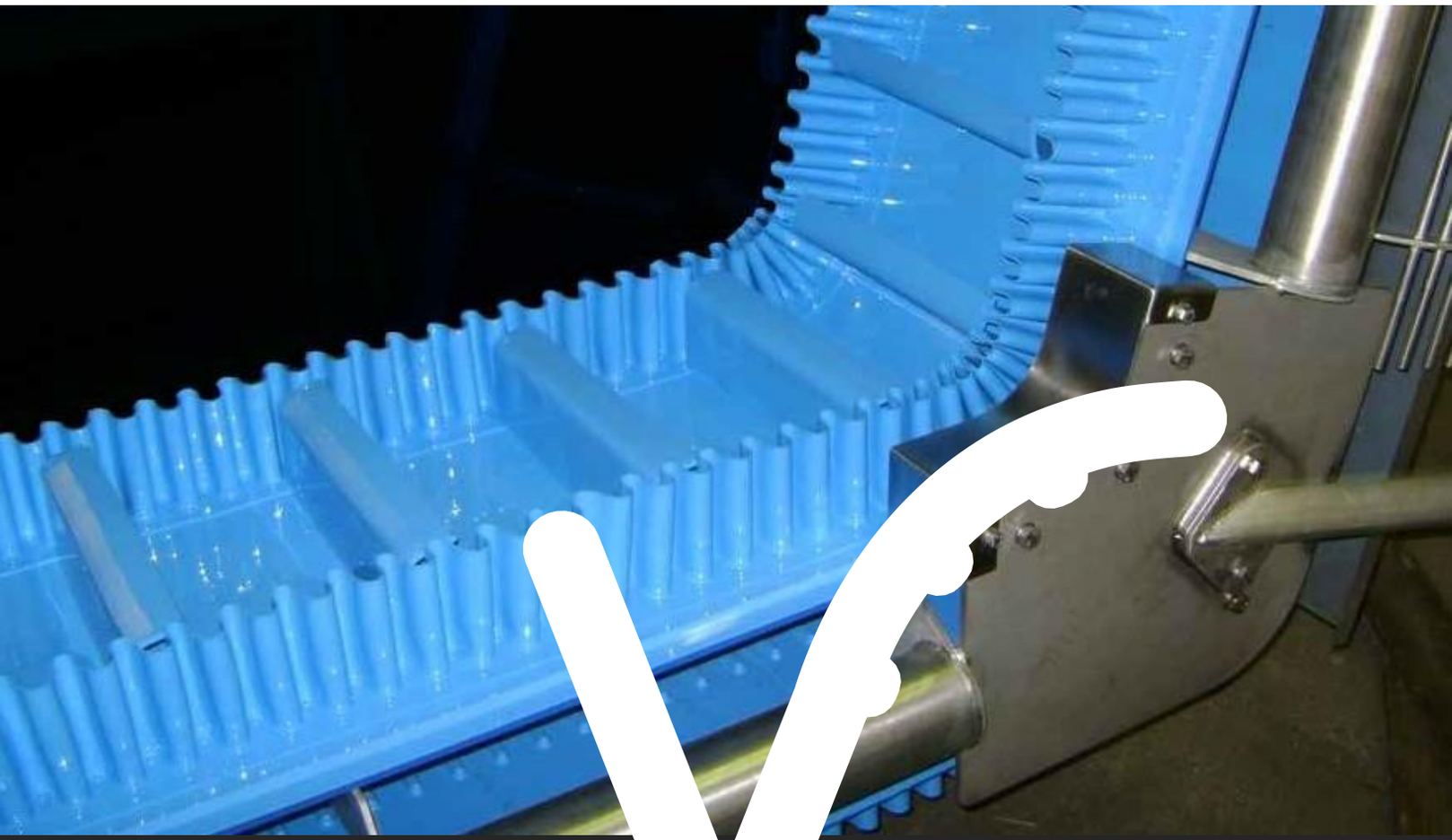
The Next Step in Belting



Volta Alternatives to Bucket Elevators

Conveying Solutions

Motech

Bucket elevators are used in many food processing factories to move primary dry and bulk materials. They usually have a vertical section and sometimes additional horizontal sections for in-and/ or out feeds.

When the elevator consists only of vertical elements for lifting and descending, the buckets can be bolted or riveted to a friction belt of canvas or rubberized fabric. When the infeed is horizontal, the buckets are adjacent one to another to ensure all the product is fed into them. They are assembled on a chain drive running on either side. Vertical elevators are commonly used in the tea industry, as well as cereal, coffee, cocoa powder, salt and other bulk applications,both in the food industry and elsewhere.

A battery of friction driven bucket elevators used in elevating tea leaves

Vertical and second horizontal sections used in elevating cereals

Chain driven continuous buckets shown at infeed in the snacks industry

The main advantage of the bucket system is a high throughput capacity enabled by the depth and general geometry of the buckets.

However, the efficiency of capacity is often compromised by other factors such as:

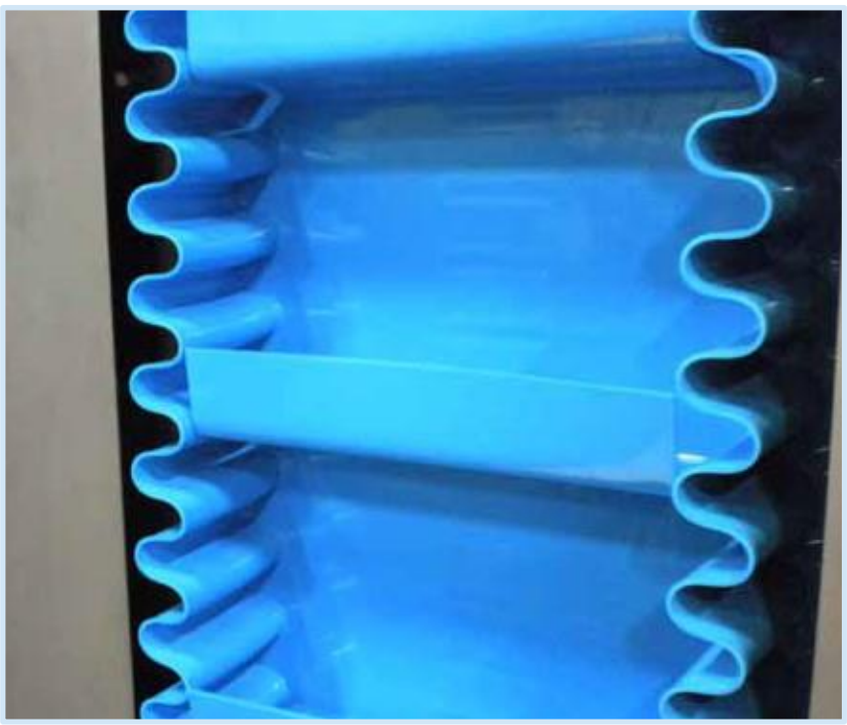
1. The system may need to work at a very high speed if the discharge is a throwing motion relying on inertia.
2. Relatively large motors may be needed especially where a friction belt system is used.
3. The bucket systems are high maintenance because chain systems can get clogged with dirt and are unhygienic in a food application. Friction belt systems have the buckets riveted on, causing unhygienic conditions and breakdowns where buckets rip away from the belt.
4. Bucket elevators running in a closed casing are difficult to access and therefore a problem for cleaning and for maintenance.
5. The conveyor can be noisy.
6. The footprint of the system on a factory floor is not flexible and the elevator may prove difficult to install and to adapt to changes in production procedures.

Open chain contaminated by food soil

Closed system - cannot be cleaned

Bottom side of a modular belt

Volta has succeeded in developing a Positive Drive design that can replace a classic bucket elevator. The design can incorporate welded integral side walling or a fixed conveyor side wall according to product type. The belts are accessible, easy to clean, low maintenance, can be run with small motors and can work at a variety of speeds. They can be made as Z conveyors to assist in infeed and discharge or in a simple elevator format where they can also be inclined to improve the material flow.



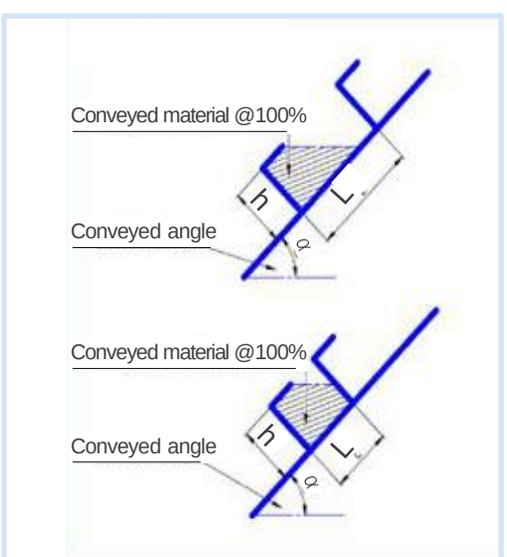
Integral welded side wall

Fixed conveyor side wall

Scoop Cleats

In order to match the throughput capacity of an existing bucket elevator (or indeed to plan a new one in a projected factory layout) a number of key factors are taken into account.

A schematic representation of volume is translated into actual throughput capacity by factoring in product bulk density (i.e. kg in a cubic meter), belt speed and an estimated filling coefficient.



Schematic representation

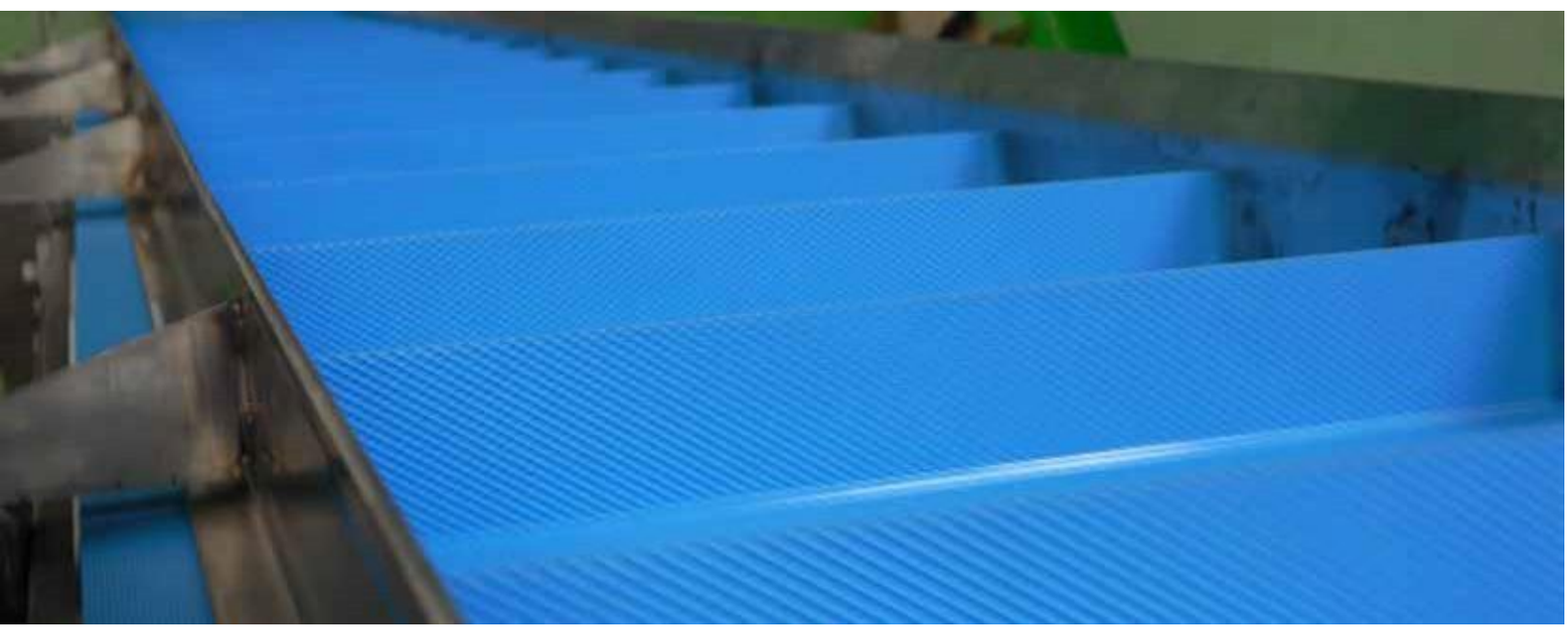
The following chart shows 4 potential scenarios using scoop cleats on 90 degree elevators to achieve throughput capacities between 1296kg/hr and 2025kg/hr.

			1	2	3	4
Cleat width	W	[mm]	400	400	500	500
Cleat height	H	[mm]	100	100	100	100
Scoop lip width	w	[mm]	30	30	30	30
Cleat pitch	L	[mm]	200	300	200	300
Conveyor angle		[Deg.]	90	90	90	90
Conveyor speed	V	[M/Min.]	15	18	15	18
Vol. weight of conveyed material	G	[Kg/M^3]	500	500	500	500
Coefficient of filling %		%	60	60	60	60
Flow Capacity	Q	[Kg/Min.]	27	22	34	27
		[Kg/Hour]	1,620	1,296	2,025	1,620

The nature of the Volta design module enables engineers and users to design a hygienic replacement for a bucket conveyor at the lowest cost.

Increasing speed, cleat height, scoop length and width, as well as decreasing pitch distance, will all add to the throughput capacity. Even the relatively small variations here display options with a variance of over 60%.

The footprint of such a system on a factory floor is different. The Volta conveyor will usually be wider, especially where welded side wall is used, but the conveyor is far more compact in terms of depth and can be more easily adapted to specific measurements by applying the available space and adjusting the other variables in a far less rigid way that a bucket elevator.



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Belting Technology

The Next Step in Belting

Pet Food Industry

Conveying Solutions

Motech

Simply Hygienic Belting for the Safe Manufacturing of Pet Foods

Cross contamination of Salmonella (even after taking pre-conditioner and extruder "kill steps") and odor control are among the most common challenges facing the pet food industry. Volta's homogeneous thermoplastic elastomer (TPE) food grade belts ensure the safe and hygienic manufacturing of dry and wet pet food. Our highly durable moistureresistant belts comply with the strict hygiene requirements of the food industry, EU No.-10/2011 amended by 2017/752, 1935/2004 and 2023/2006 and FDA Art. 21. CFR.177.2600.,USDA and are HACCP compatible.

Volta's Clean & Simple Hygienic Solution

Hygiene Inspired

With a smooth non-porous homogeneous surface that does not absorb water or grease, preventing product residue and contamination from penetrating the belt to preserve and prolong product shelf life.

Food Safety Awareness

Made from strong abrasion resistant material that is completely sealed with no cracks, crevices or hinges that can harbor micro-organisms. The belt enables low bacteria counts and a reduced risk of Salmonella and E. coli contamination.

Reduce Cost of Ownership

Volta`s high performing belts hold heavy loads and are safe and easy to install. They offer significant savings on processing lines, requiring reduced usage of water and chemicals and allowing easier and faster sanitation procedures that do not involve the removal of belts from conveyors, thereby saving labor costs and freeing up more production time. With less maintenance, easy on-site repair and less production downtime, you can concentrate on maximizing your product output.

Environmentally Responsible

Our simple to clean belt design will significantly reduce your water consumption and sanitizing energy, enabling savings on harsh detergents, water treatment and cleaning labor.

Work Safety Awareness

The belts run at lower noise levels making the working environment safer. Belt cleanliness and the reduction of dangerous bacterial elements and belt odors contribute not only to product safety but also to a safer working environment.

Homogeneous Safety & Quality

- Advanced Cleanliness - the easy to clean surface of our belts minimizes downtime for sanitation and waste management while extending production time and controlling belt odor.
- Homogenous Structure - with no moving parts that can harbor the growth of bacteria and no fabric layers that can soak up water, delaminate or fray to contaminate your product.
- Improved Shelf Life - reduced bacteria growth on your assembly lines will improve the quality of your meat products and extend shelf life.
- Hydrolysis Resistance - the tough belt material is impervious to fluids including blood, oils and fats.
- Self-Tracking -our SuperDrive™ positive drive system has a built in guide mechanism that prevents off-tracking and requires minimal tensioning for reduced belt wear and tear.
- Substitution Option - some modular belts with a 2" pitch can usually be changed to Volta's DualDrive positive drive conveyor belt with no retrofit.
- Easy On-Site Repair - keeping downtime to a minimum for improved productivity.

Super Drive™ and the Dual Drive belts

These tough positive drive belts meet the most demanding challenges in the pet food processing industry. They are resistant to cuts caused by knives and bone fragments and can work in high impact applications, absorbing the shock that would fracture or rip other belts. The easy to clean surface keeps contamination risks in check to better preserve the quality of your product and keep belt odors at a minimum. With minimal tensioning required, the belts are easy to maintain with low belt wear and tear.

The Super Drive™ and the Dual Drive belts clearly offer an improved performance over modular belts.

Cutting Lines

Volta's tough TPE belts are very resistant to cuts and abrasion and highly sustainable for this application. The belts will remain hygienic for longer and can be cleaned easily and effectively without having to be removed from the conveyor. Cuts are superficial and clean out perfectly as the belt structure is dense and homogeneous even inside the cut.

Offal Lines producing pet food varieties from organ meats and require a belt surface that will preserve the product from mechanical or bacterial damage. Volta's smooth anti-absorbent surface will out-perform all other belts with its high resistance to blood, fat and grease. Your profits are maximized through significant cuts in waste.

Minced Meat Lines and Extruders

The homogenous surface of the belt prevents liquid from leaking through conveyors for increased product yield. The belts are easy to clean, minimizing the risks of contamination and product rejection.Volta's SuperDrive™ belt prevents off-tracking and works with minimal or no tensioning.

Frozen Gradients

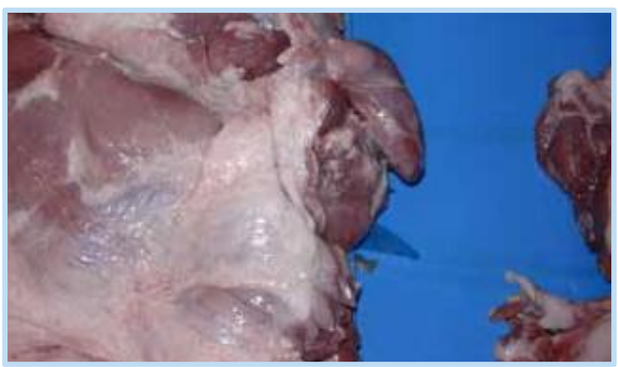
The belts will not abrade even from constant contact with frozen products. As a result, the possibility of belt fragments entering the product, which cannot be traced by metal detectors, is virtually eliminated (a problem that is common with more breakable modular belts). Where high durability and hygiene levels are essential, homogeneous belts can be relied on to ensure the highest standards observed to safeguard the meat product.

Canning Lines

The Volta RCW "can cable" is an extremely strong thermoplastic profile with a reinforced core displaying outstanding wear resistance that makes it especially suitable for conveying full and empty cans. The low friction properties enable continuous smooth conveying on the line. The profile's non-absorbent character resists oil and water while the reinforced cord prevents stretching. The RCW is Volta's high performance alternative to steel cables, offered in a choice of reinforcements; Polyester, Steel or Aramid/Kevlar cord.

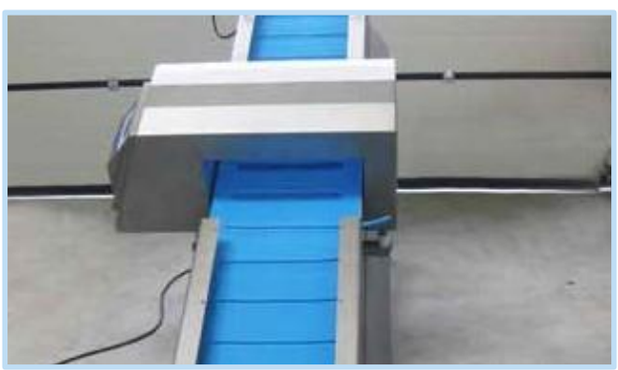
Visual Control

Volta offers food grade flat belts and positive drive belts in a variety of colors including our special blue color for an improved modern image, which gives the required contrast for visual identification of product contamination. This ensures less cross contamination, less risk of product liability and a cleaner belt and conveyor. In recent years, processors found that the blue color also relieves eye strain and improves employee performance. Optical scanners on these lines perform excellently on the blue surface of our belts.



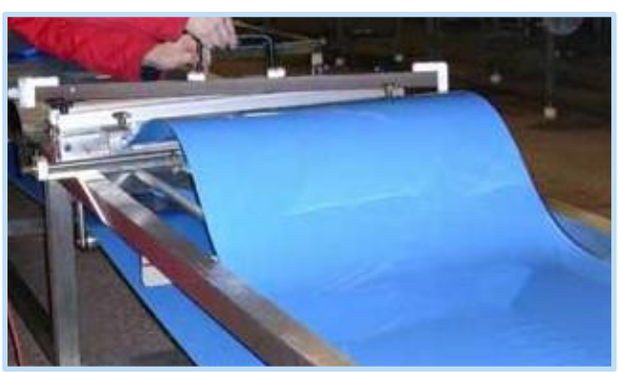
Metal Detectors

Over eighty percent of foreign bodies found in food are metallic and depending on size, these can pose a serious threat to consumers. As a result, the food industry requires the use of metal detectors to detect this contamination. Volta belts are easy to install on metal detectors and can be supplied with the Volta lace system where the detector is designed in such a way as to make standard splicing awkward. Volta's superior belt longevity means fewer refits over time, resulting in less troublesome re-calibration of these sensitive instruments. Many producers of these devices make Volta their belt of choice for these reasons.



On-site Repair

Our fully extruded homogeneous belts can be welded easily and efficiently onsite with Volta's thermo welding tools, making repair and maintenance simple and fast. The tools do not require air and water for cooling, run on single phase power supplies, and can be operated by one person.



Pet Food Processing Benefits with Volta's Homogeneous Belts

Wet Pet Food Processing

According to the Pet Food Institute, except for the ingredients, the general manufacturing process for pet food is similar to that for making processed food. The same federal regulations for making low acid foods for humans apply to manufacturing wet pet food products packaged in cans, bags and trays.

- Volta's homogeneous, strong and highly durable (abrasion resistant) belts comply with EU, FDA and USDA regulations and handle goods of various sizes, weights, shapes and consistencies; including sharp elements.
- Our solid TPE belt with its non-porous surface will not absorb fats, liquids, and chemicals, or harbor bacteria or other micro-organisms such as Salmonella or E. coli, which continue to be a major challenge for the pet food industry.
- The belts' resistance to bacterial contamination and its' easy to clean surface minimizes belt odor and reduces cleaning downtime and waste management while increasing production time.

Dry Pet Food Processing

When developing and formulating dry pet food, manufacturers adhere to the standards set out by the Association of American Feed Control Officials (AAFCO) and the Nutritional Guidelines for Cats & Dogs by the European Pet Food Industry Association, which specify ingredients that best meet all of the animals' nutritional needs. The most common way of making dry pet food is by an extrusion process where the mixed ingredients are fed into an extruder and are palletized into small pieces as they exit the device.

- Our solid TPE belts are very resistant to cuts and replacement parts. abrasions and can be welded easily and efficiently onsite.
- Volta's special belts can work at high or low temperatures.
- Our durable belts offer an improved resistance to the sprays applied to the kibble prior to being sealed in packages, consisting of fats, oils, minerals and vitamins, including the amino acid taurine.
- Improved cleanliness and homogeneous belt structure reduces the possibility of product recalls.

Homogeneous Belting for Longer Belt Life & Better Hygiene

In comparison with Ply belts:

- Ply belts (also known as coated fabric belts) are fingerspliced, unlike Volta's homogenous thermo-welded belts which are butt.
- Flights on a ply belts are stuck onto the top thin layer of plastic which cannot withstand flexing from product and in time, tear away from the base belt. Volta offers solid welded flights that cannot detach from the base belt even when carrying heavy loads.
- Ply belts fray at the edges and delaminate particularly on the finger splice. This problem is accelerated when frozen or abrasive products are carried. The damage on the belt becomes a breeding ground for bacteria, which in turn contaminates the product and releases very bad odors associated with decay.
- Volta's homogenous material and the sealed and recessed edge belt technologies (used in special cases) prevent bacteria from growing on the belt and contaminating products on the conveyer.

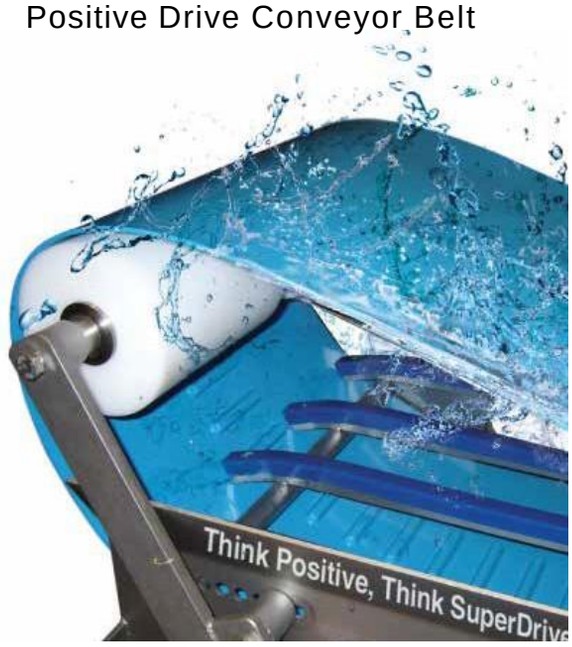
In comparison with modular belts:

- Modular belts are very difficult to clean effectively, with their hidden joints, pins and recesses.
- To obtain the desired bacteriological results and a truly clean belt, modular belts must be removed from the conveyor and soaked for hours or cleaned using high water pressure, and then dried thoroughly. This laborious process is costly in water, chemicals, manpower and results in massive downtime.
- When subjected to conveying heavy or frozen products, their brittle and friable structure breaks and chips easily. This feeds undetectable hard plastic fragments into the food they are carrying. The common argument that modular belts are self-servicing due to their easily replaceable parts does not take into account the high risk of contamination to the processed food or the additional high costs of Our solid TPE belts are very resistant to cuts and replacement parts.

HYGIENIC ENGINEERING & DESIGN GROUP EUROPEAN COMPANY MEMBER

EHEDG members and co-authors of Guidelines 43

SuperDrive™ A Homogeneous, Positive Drive Conveyor Belt



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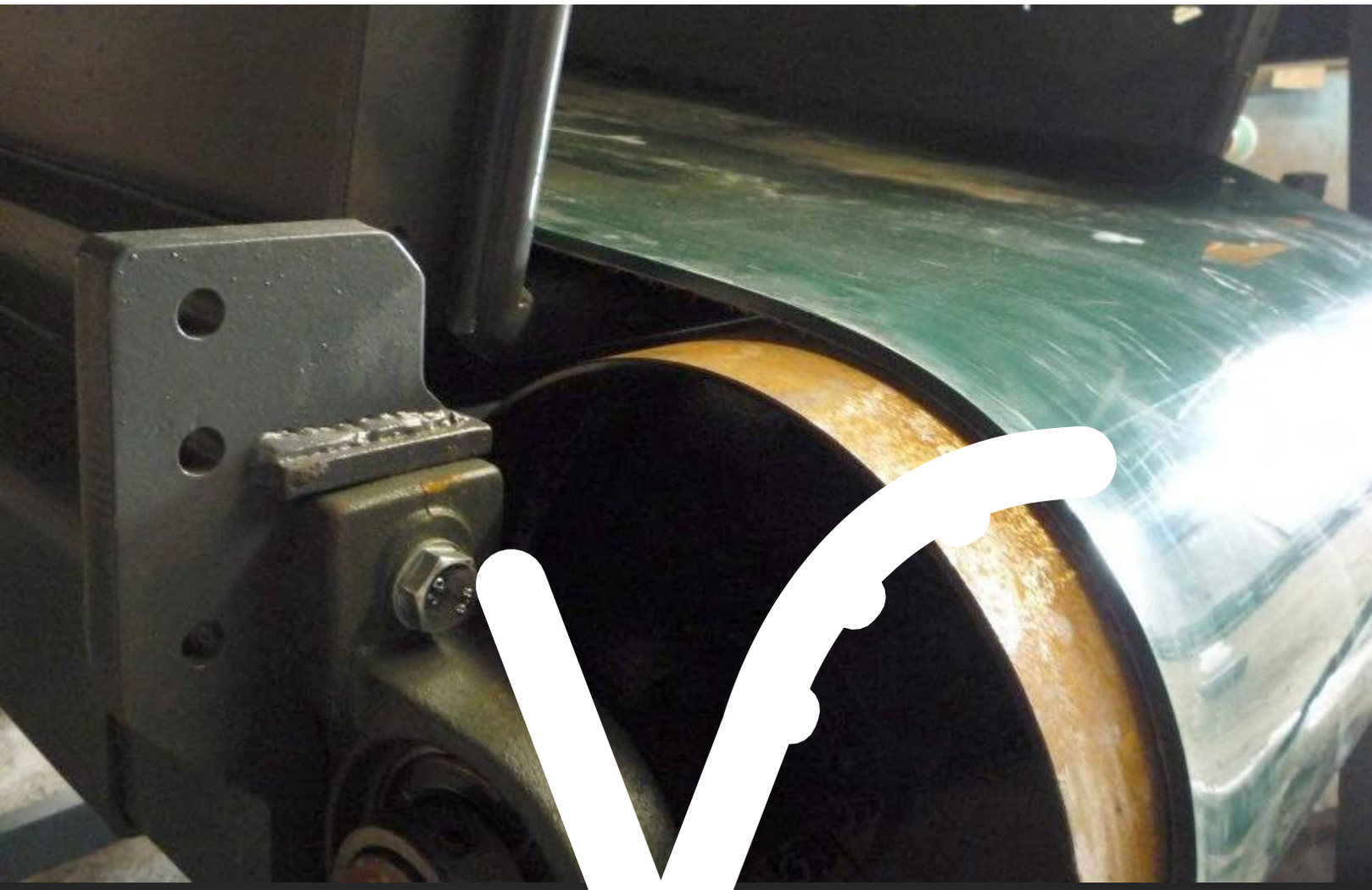
Belting Technology

The Next Step in Belting



Industrial Grade Flat Belts

Conveying Solutions

Motech

The Light Side of Heavy Duty

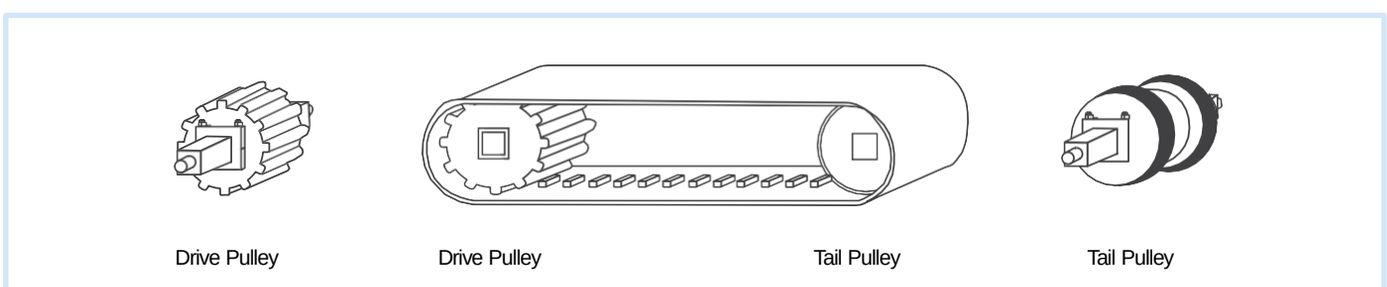
The distinguishable Volta design with fully extruded tough top layer is particularly durable while excelling in rough recycling applications where sharp edges of broken glass, metal, plastic, etc. could easily damage the belt. Our thick solid belt has proven to be highly cut & abrasion resistant and long lasting in these heavy duty, aggressive conditions.

Revealing the Volta Heavy Duty Advantage

- 6mm-8mm thick solid belts stand up to the harsh conditions of heavy duty industrial applications.
- The belt materials' flexible character is highly resistant to abrasion and inhibits surface cuts from spreading.
- Homogeneous smooth surface does not crumble or crack.
- Material is non-corrosive and long-lasting.
- Reinforced bottom belts used to prevent elongation on very long conveyors.
- Lightweight belt and conveyor construction reducing energy consumption.
- Ease of installation – simple on-site welding.
- Can withstand extremely cold conditions –temperatures of up to -20°C.
- Can be used in conjunction with metal detectors or magnetic systems.
- Superior lifetime - less maintenance and downtime on critical work stations.

Positive Drive Concept: SuperDrive™

- The additional advantage of the Positive Drive mechanism eliminates slippage and pretensioning while carrying heavy loads. This reduces elongation and strain on the belt, extending belt life and performance.
- Integral teeth on the drive-side of the SuperDriveTM belt serve as a built-in guide system for the belt.



SuperDrive™ components

Thick, solid upper layer resists cuts, cut expansion & impact punctures.

Fully extruded belts of up to 8mm thick solid material with option of fabric reinforcement on bottom. This superior, strong surface withstands cuts that can pierce the upper surface of the belt. There are no fabric layers dividing the belt's strength and damage caused by aggressive products will only penetrate a fraction of the top surface. The belt material resists spreading of cuts giving the Volta belt a much longer operational life than conventional conveyor belting.

FRZ-5mm with welded Sidewalls: METAL RECYCLING

Absorb the impact of falling products well to ensure a long belt life.

Volta thick TPE belts act as a good cushion for heavy objects falling onto the conveyor. The elasticity of the belt softens the fall of the product and displays exceptional resistance to heavy wear and tear. The high resistance to abrasion and cuts allows long term operation under the harshest conditions.

FRPZ-6: GLASS RECYCLING

Resistant to chemicals.

The sealed surface of this homogeneous material will not absorb industrial liquids, grease or chemical remains. Delamination as seen on regular plied belts where liquids seep into the fabric layers and cause breakdown of the belt is eliminated.

FZ-5: CONVEYING CAUSTIC SODA

Highly resistant to abrasion caused by rough materials.

Abrasion resistant material gives you a longer belt life - less downtime and fewer intervals in production time.

FRZ-4: HEAVY BRICK CONVEYING

Flexible material ideal for forming slides or hammocks to soften the fall onto belt.

Belt material absorbs the impact of falling products. Simple to cut and attach hammocks along the line. Resists cut and abrasion from sharp objects and does not encourage spreading of cuts.

FRPZ-6 with Hammocks : PLASTIC PARTS CONVEYING

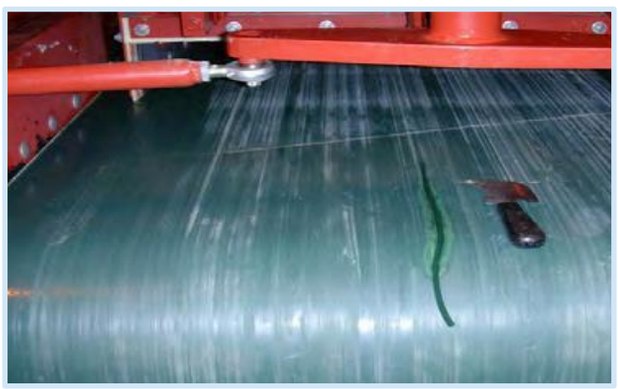
Non-absorbent to industrial oils, fluids and chemicals.

Sealed belt surface has no reaction to chemicals. Perfect material for incline applications where fabrications are needed. This resistant quality also inhibits pungent odors.

FRG-3 with thermo welded sidewalls and flights:
CHEMICAL POWDER (RECYCLED SEWAGE)

Easily repaired on site with electrode weld.

Quick and easy repair by heat welding an electrode into the cut. No need to remove the belt. Keeps maintenance and downtime costs down to a minimum.



FRPZ-8 Belt

Energy saving – lightweight conveyor construction suitable to low powered motor.

Reduce energy and maintenance costs with lightweight simple basic components of the conveyor construction. Improve plant production flow and efficiency with the Volta solution.

Belt repaired on site.

Easy and quick thermo-welded fabrications using Volta state-of-the-art tools.

Volta provides you with a choice of tools specially designed to ensure high quality heat welding of the full range of belts.

- Using VOLTA lightweight tools, belts can be made endless & repaired on-site, within minutes, reducing downtime. No more finger-splice weak points to deal with.

- When using Volta tools only electrical power is needed and no water cooling or air pressure is required. No more use for adhesives.

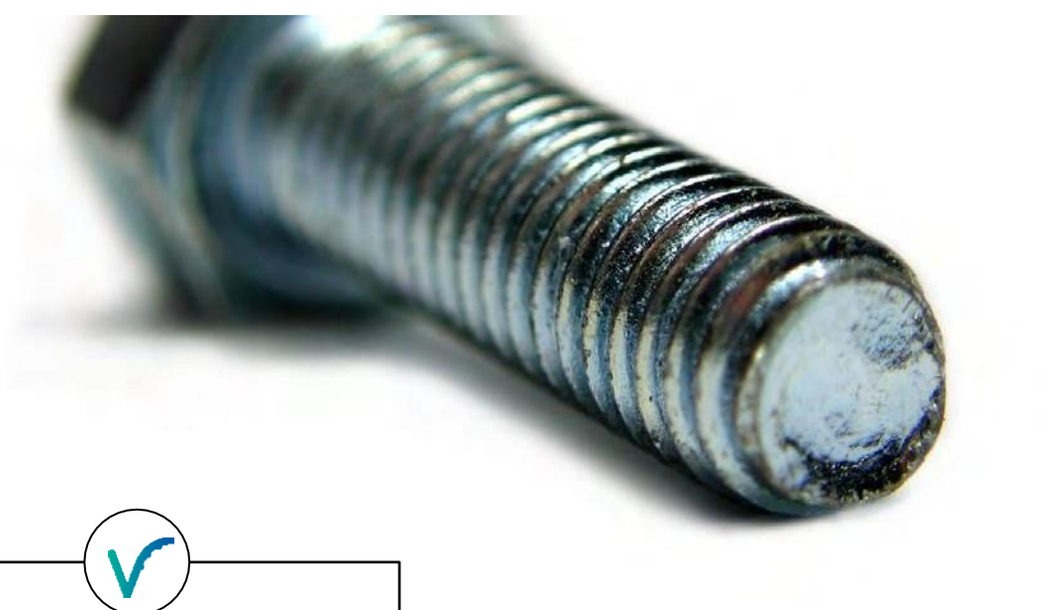
- Heat-welded fabrications. Fusing of the solid flat belt with matching material flights, sidewalls, guides, etc. result in a nearly unbreakable fabrication and superior performance.

Volta tips for best results when fabricating reinforced flat belts:

- Reinforced belts are butt-welded in an angle of less than 90° to ensure that the weld is not located along a single point and in order to give a longer line of contact between the joined edges.

- Belts can be equipped with bottom guides to prevent off-tracking. The fabric reinforcement can be machined off and the guide heat welded directly onto the base belt making the join solid and unbreakable.

- Scoop cleats can be fitted to increase belt capacity and gusseted cleats can assist in elevating heavy loads.



Custom-made fabrications are our specialty.

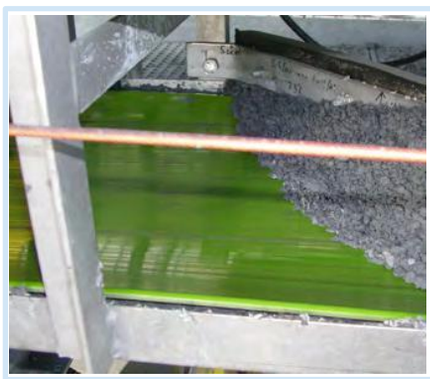
Industrial Applications

Volta Belt with Guide

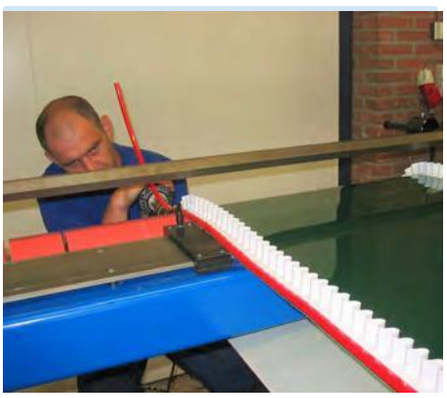
Floor Tile Production

Sewage Treatment

Metal parts conveying



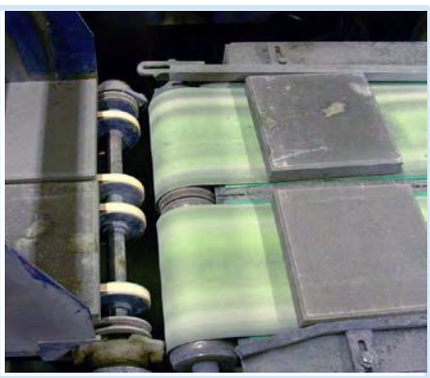
Metal Separator



Volta Fabrication

Volta Belt with Flights

Eddy Current Conveyor



Brick Conveying

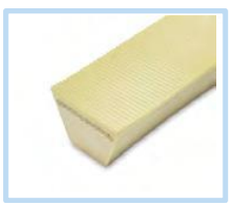
Volta Power® for the Wood Industry Products

Classical Power Belt with Smooth Top

Sections	A	B	20	C	25	D
Width (~)	13	17	20	22	25	32
Height (~)	11	14	15	17	19	23
Min. Pulley (mm)*	80	140	180	200	280	400

Classical Power Belt with ITO (Impression Top Oval) & Waffle Top

Sections	A	B	20	C	25	D
Width (~)	13	17	20	22	25	32
Height (~)	11	14	15	17	19	23
Min. Pulley (mm)*	80	140	180	200	280	400



Classical Power Belt with Roof Top

Sections	D/32
Width (~)	32
Height (~)	24
Min. Pulley (mm)*	400

Banded Belt with Waffle & Smooth Top

Volta Power® produces a line of special white banded belts. The belts are available with smooth, soft top (PKR0) or with waffle top (PKR2). These belts are designed to be used on processing machinery requiring a belt that is non-marking and has high grip. In addition, the belt provides excellent strength and carrying capacity.

The benefits of the banded belts are:

- increased transmission efficiency
- eliminates belt twisting and reduces whipping
- reduced maintenance cost
- ensures even belt tension

Volta Power® for the Wood Industry Products

Special Dimension Belts with Waffle Top

Dimensions	48x15	50x20
Min. Pulley (mm)*	140	200

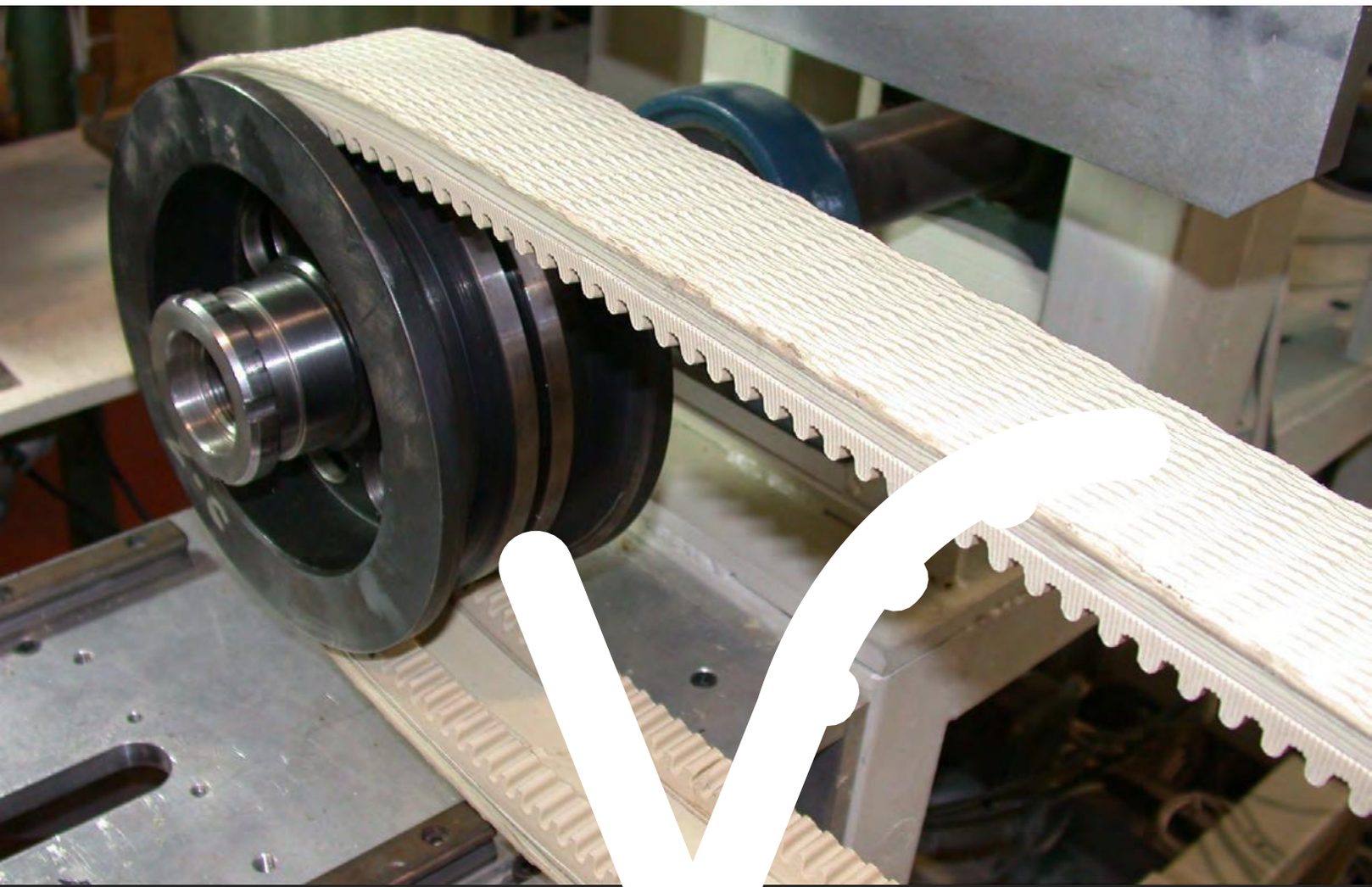
Special Banded Belt

Dimensions	62x18	67x17	70x17	75x17
Min. Pulley (mm)*	200	200	200	200

Classical, narrow, banded and conveyor belts are also available in white.

volta™
Belting Technology

The Next Step in Belting



Wood Industry

Conveying Solutions

Motech

Wood processing machinery performs many unique and difficult applications. Volta Belting Technology has the product range, experience and technologies to provide solutions for these machine-based applications.

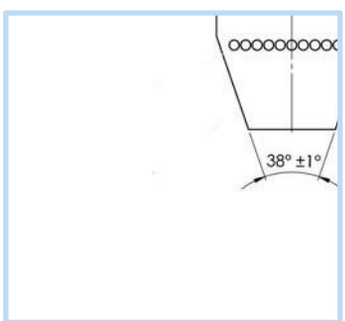
The product range includes:

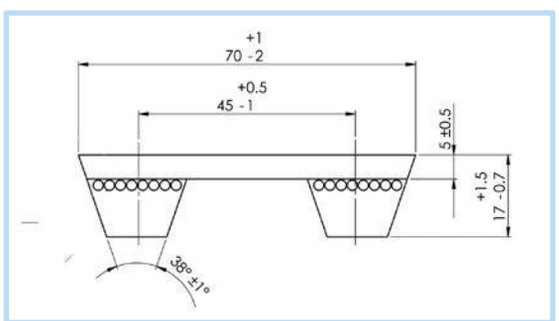
- 1524 mm/60" wide flat belts on cutting & gluing lines and for transporting in the wood industry.
- White Volta Power® Transmission belts for applications requiring high grip and non-marking characteristics.
- Belt coatings for flat wide belts, profiles and timing belts.
- Belts for specific use machines such as edge banders and tenoners.
- Roller coating sleeves.

Volta Power® in the Wood Industry

The Volta Power® product line includes belts specially designed for wood processing machinery produced from white colored Thermoplastic Rubber (TPR) that combines the performance properties of Thermo set rubber with the capabilities of the Thermoplastics' processing equipment. Compared to rubber, TPR gives a better quality final product with superior dimensional accuracy.

Our unique computerized production system enables us to manufacture standard or non-standard power transmission belts in any length up to 70 meters without minimum quantities and shipping within days.





Typical (Machine) Applications

Double-end tenoners and edge banders are designed for high-speed processing of panel shaped workpieces such as:

- direct coated panels
- cork
- MDF
- plywood
- hard foam
- plastics
- core board
- post forming or cement-bonded fiber
- solid wood

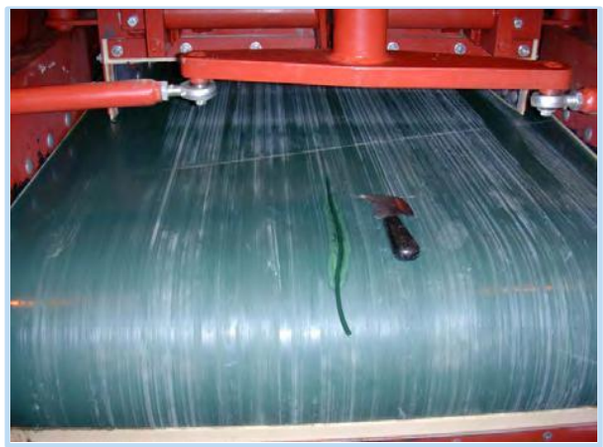
This work requires a belt that will firmly grip any material used without marking the final product.

Typical Machine

- HOMAG
- STEFANI
- BIESSE
- IDM
- IMA
- CELASCHI
- OLZ-HER
- NARDELLO

Flat Belts in the Wood Industry

The belts made for Industrial Applications are manufactured from Thermoplastic Elastomer (TPE) material with unique homogeneous characteristics. These belts are most suitable for conveying wood and are available in a wide range of colors, thicknesses, hardnesses and surface textures. Quality thermo-welded fabrications are custom-made to suit your specific needs perfectly.
Standard Belt Width = 1524mm /60".



The product range includes:

- √ High carrying capacity with excellent grip.
- √ Soft, non-marking belts treat the product conveyed with extreme care.
- √ The belts absorb the impact of the falling products well ensuring long life.
- √ Resistant to chemical action from moisture, paints and other compounds and resistant to glues adhering to the belt surface.
- √ The belt materials' flexible character is highly resistant to abrasion and inhibits surface cuts from spreading.
- √ Homogeneous smooth surface does not crumble or crack (as seen in rubber belting).
- √ Reinforced - bottom belts used to prevent elongation on very long conveyors.
- √ Quick and easy to repair and to make endless with Volta thermo welding tools.

Classical Power Belt with Smooth Top

Belt Type	Color	Shore Hardness	Thickness mm	Industry	Application	Reinforced	Non-Marking	Grip	Resists Paints & Glues	Quick Splice & Repair	Resistant to Abrasio
FRL	Brown	80A	2	Wood Flooring	Dimpter of Graycon Sorters	√	√	high	√	√	√
			3	Melamine	Transfers						
				Cabinet Manufacture	Dimpter Sorters						
			5	Plywood	Skinner Saws,Trim Saws, Jumper Belts, Inclines						
FRZ	Green 05	95A/46D	4	Wood Flooring	Dimpter of Graycon Sorters	√	√	medium	√	√	√
				Plywood	Putty Lines						
				Cabinet Manufacture	Dimpter Sorters						
			3	Plywood	Veneer Stackers, Jumper Belts, Putty Lines						
FRG	Grey	95A/46D	2	Plywood	Set of Narrow Spaced Belts	√	√	medium	√	√	√
			3		Alignment Belt						
FK	Green 17	59D	3	Sawmill	Cut Board Transfer Belts	√	√	low	√	√	√
			4	Raw Timber	Feeding Belt						
FRPZ	Green 05	86A	3	Floor Lamination	Feeding Belt	√	√	high	√	√	√

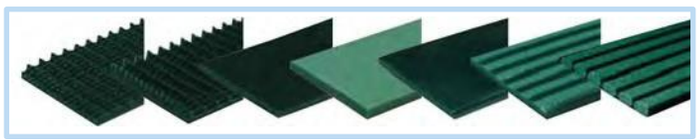
Roller Coating Sleeves

Volta Sleeves have an abrasion resistant, soft, non-marking surface that is ideal for coating rollers. Using Volta proprietary tools, the sleeves are easily mounted without lubricants or glues. Sleeves are available with a smooth surface and in dimensions from 27 mm O.D. to 95 mm O.D.

Contact your local distributor for further details regarding the dimensions and availability of Ribbed Sleeves.

Belt Coatings

A wide range of heat-welded coatings can be applied to achieve extra grip and added protection against forceful impact of falling wood.

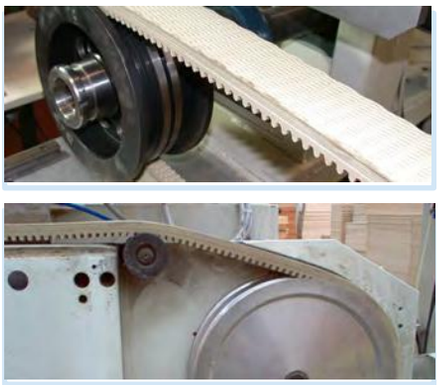


Volta Products in the Wood Industry

Product Types	Non- marking	Resistant to abrasion	Resistant to paints and glue	High grip	Dimensional stability	Hard material	Soft material	Surface texture
PU V belts	√	√	√	√	√	√	√	
PU Round belts	√	√	√	√	√	√	√	
A * section	√	√	√	√	√	√		
B * section	√	√	√	√	√	√		
C * section	√	√	√	√	√	√		
D * section	√	√	√	√	√	√		
Double-C	√	√	√	√	√	√		
48x15	√	√	√	√	√	√		
50x20	√	√	√	√	√	√		
SP-2x20 (67x17) *	√	√	√	√	√	√		
SP-2C (70x17) *	√	√	√	√	√	√		
PU Waffle	√	√	√	√	√		√	
FSTF	√			√	√		√	
FST	√		√	√	√		√	
FSTF-ST strips	√			√	√		√	√
Machine tapes (SM)	√		√	√	√		√	
Sleeves, Standard Smooth	√	√	√	√	√		√	
Sleeves, Special Ribbed**	√	√	√	√	√		√	√

*Available with a standard smooth top PKR0 and Waffle top PKR2 patterns.

Wood Industry



Edge Bander
Belt Section: SP - 2C
Quantity In Machine: 1

Post forming
Belt Section: SP - 2C
Quantity In Machine: 1

Wood Processing
Belt Section: SP - 2C
Quantity In Machine: 1

Tenoners
Belt Section: D - PKR0
Quantity In Machine: 2

Tenoners
Belt Section: D - PKR0
Quantity In Machine: 2

Edge Bander
Belt Section: 48x15
Quantity In Machine:1

volta™
Belting Technology

The Next Step in Belting

Ceramics Industry

Conveying Solutions

Motech

Volta Belting manufactures high quality belting for the ceramics industry. All materials are characterized by high dimensional accuracy and consistency, delivering a long lasting and dependable performance.

Powder Lines

Volta flat belts can be installed quickly and safely. They reduce the percentage of reject tiles where other belts will deteriorate and release belt particles into the powder flow resulting in black burnt flecks on the tile surface.

Tile Transportation

Volta is the pioneer of TPE profiles for ceramic tiles and today manufactures original belts and sleeves for most of the leading ceramic machine producers' delivered around the world. The classic range includes:

1. V profiles for conveying

These belts suit all known sizes and pulley diameters and are known for dimensional stability and lifetime.

2. Roof top (crescent) and Y profiles for glazing lines

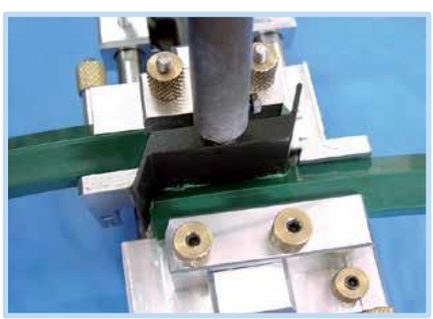
3. Grip Top belts for stop/start applications

4. Round profiles for corners

5. Sleeves (), flat belt () and double V profile () for tile handling out of the oven

These materials prevent cracking and enable fast and trouble-free throughput.

All Volta materials are weldable with specially designed tooling that enables factories around the world to perform the servicing on site without delay and downtime.



Easy Overlap Welder (EZOL) for Reinforced profiles

F51 Pliers for larger profiles

R8 Mini Pliers for smaller profiles

Kit for small profile welding

volta™
Belting Technology

The Next Step in Belting

Recycling Industry

Conveying Solutions

Motech

- Recycling evolved from being a sideshow to a major production industry. More and more materials either have sufficient economic value to warrant recycling and/ or are recycled out of necessity to protect the planet.
- It would be absurd if the recycling industry did not do its utmost to reduce its own carbon footprint by reducing energy consumption and the changeover of the large quantities of plastics and textiles used as belting.
- Volta is the only belt producer in the world to make serious advances in belts for recycling solid waste, whether it's used on conventional conveyor types or on magnetic systems such as Eddy Current separators.

Industrial or Household

Sorted or Mixed

Volta's Materials

Last Longer

Chemical and oil resistant

Abrasion and cut resistant

Functions under water without degradation

Common Recycling Processes

- Transfer of solid waste: unbroken, in large pieces, granular or in powder form
- Sorting lines: including where manual sorting is incorporated or high-speed belts are used with optical sorters
- Magnetic conveyor systems: magnetic drums, overband conveyors and Eddy Current separators

Unique Belt Advantages

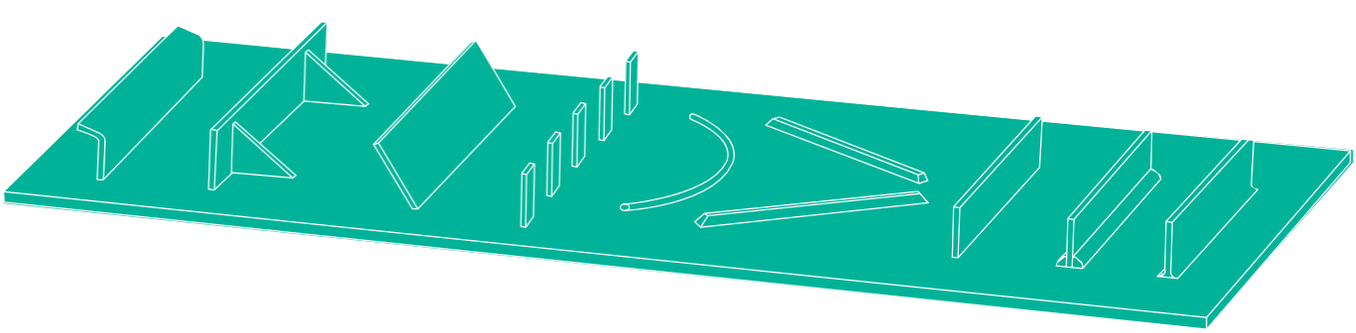
- Volta SuperDrive™ offers thermoplastic positive drive belts with self-tracking. Conveyor design is simplified, and the lightweight package of conveyor and belt can handle heavy loads with small motors and reduced electrical consumption.
- On-site welding is fast and reduces downtime and maintenance on systems that require high throughput.
- Elevators suffer less damage to cleats from falling materials and from abrasion.
- Thin belts are more durable than conventional ply/ fabric belts, thus reducing the air gap and increasing the magnetic field intensity acting on metals in separation applications.
- High impact and abrasion-resistance than any other belt type.
- Difficult to assemble and maintain, extra thick rubber belts can be conveniently replaced by over 50% thinner thermoplastic belts without loss of lifetime.
- Butt welded joints reduce vibrations even at high speed.

- Belts can work underwater and can be perforated with custom-made hole designs.
- Dual layer belts are available for gauging belt lifetime during use.
- Special 6mm positive drive belts can handle extra heavy loads and accumulation.
- All belts can work on roller beds and in troughs.
- Anti-static belts are available.
- Repairs can be performed on cuts and tears and patches (Dutchmen) can be welded in seamlessly.
- Where cleaning is essential to eliminate odors or remove particles, the belts clean up better and faster than any other available belt material, saving time and costly resources.
- Funnels and chutes can be custom-made to solve problems such as wear, impact, and noise at infeed and outfeed points.
- 100% homogeneous skirting materials are available for protecting belts. Do not curl in outdoor applications.
- Tooling can be acquired for inhouse belt replacement along with training for technicians and maintenance staff. The necessary skills can be acquired in minutes.

Recommended Belt Types and Fabrication Options

Applications	Type	Code	Thicknesses	Colour	Extra Features
General conveying belt for wet ambient	Flat homogeneous	FEZ	2, 2.5, 3, 4, 5 mm		
General conveying impact belt for wet ambient	Flat homogeneous	FEPZ	3, 6 mm		
General conveying – High grip top surface for inclines	Flat reinforced	FRG/ST	3, 3.5, 5 mm		Double layer for monitoring wear progress
General conveying abrasion resistant belt	Flat reinforced	FRZ	2, 2.5, 3, 4, 5 mm		
General conveying abrasion resistant belt for wet ambient	Flat reinforced	FRG	2, 3, 4 mm		
General conveying impact belt	Flat reinforced	FRPZ	2, 3, 4, 6, 8, 10 mm		
General conveying impact belt	Flat reinforced	FRBL ESD	2, 2.5 mm		Anti-static, no fabrications
Positive drive – All ambientes	Positive Drive homogeneous	FMB SD	3, 4, 6 mm		
Positive drive – Dry ambient	Positive Drive homogeneous	FEZ SD	3, 4 mm		
Positive Drive – Special	Positive Drive homogeneous	FMB SD MD	3 mm		Metal detectable

*Fabrications include: Cleats, cleats with gusset ,sidewalls, guides, and perforations. Special options are available with most materials.



Volta - Recycling Applications

Car Parts

Aluminum

Magnetic Metal Separator

Glass

Paper

Sewage Treatment Lines

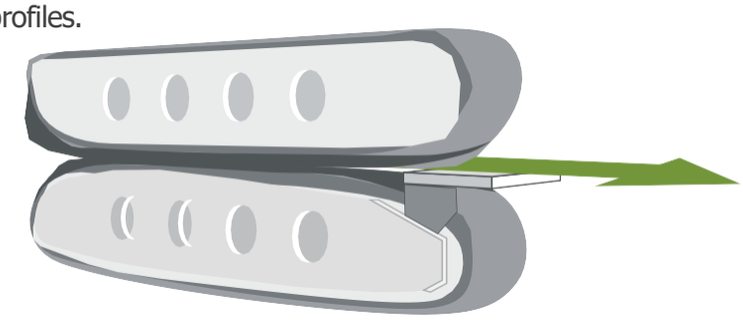
Magnetic Metal Separator

Biomass

FRPZ-8 belt repaired with electrode

Haul off Belts

"Haul-offs" are pulley-driven parallel belts that contact opposite sides of in-process products, usually by means of rollers exerting suitable pressure for the belts to grip and haul them, with the desired controlled pulling action. These work in pairs and are custom made with a cover layer that is suitable for the shape and consistency of the hauled product. A sectioned cover, known as "caterpillar", allows added flexibility for the belt to fit small pulleys. A cord or fabric reinforcement layer is selected to withstand the belts' pull-force, while the base layer fits pressure-roller and drive pulley profiles.

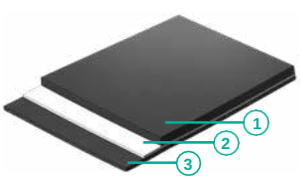


The Volta Power line has a wide range of Haul-off belts produced on either Flat or Poly-V bases. Other bases, such as Timing or Banded-V are available by request. Polyurethane Haul-off belts are outstanding for low wear and chemical resistance. V-section bases are self-centering, eliminating the need for added belt guides. Non-marking cover textures provide a variety of solutions for your process needs.

Pitch Width (mm)	
PJ	2.34
PL	4.70
PM	9.40

Poly-V Haul off belt

FLAT Haul off belt



1. PU (Polyurethane) Cover Layer - Product-Hauling Side of Belt

- Shore hardness: 72A
- High abrasion resistance
- Excellent grip properties
- Excellent chemical resistance
- Homogeneous coating
- All half round and V-grooves on request
- Options for smooth surfaces and lateral grooved surfaces

2. Polyester Cord Reinforcement Layer

- Tensile strength of the cord - up to 670 kg/cm belt width
- Cord layer is truly endless no weak point

3. PU (Polyurethane) Base Layer - Pulley-Side

- Shore hardness: 80A
- Customized profiles on the pulley

Outside lengths are available from 1200 mm to an unlimited maximum. Widths manufactured range from 50 mm to 400 mm. Thicknesses are typically from 8 mm to more than 30 mm.

Unique belts are designed for use in plastic extrusion, as well as for the production of bundled cables.

The belts mobilize the processing of extruded profiles and hose; also in drawing and rolling of plastic, metal or other materials as shaped profiles, tubes or rods. Haul-off belts handle materials in stacks or rolls, for printing, labeling and packaging. These are useful in cable and wire production, hose, tubing and rod manufacturing.

Volta Haul off belt benefits

- **Withstand exposure to Harsh Environments:**
  Volta Power belts are highly resistant to chemicals, hydrolysis, oils and exposure to very low temperatures, down to -40^{0}C.
- **High Performance and Operating Life:**
  Non-Marking Thermo-Plastic Polyurethane in a resistant belt design offers extended service in tough applications.
- **No Minimum Quantity Required:**
  Volta Power technology allows us to manufacture these belts in small quantities, in no time.

Motech

Volta™ Belting Technology

The Next Step in Belting

Volta Tube Winding Belts

Volta's new spiral core winding belts offer maximum winding precision for cardboard and paper spiral tube manufacturing. These belts give precise results, reducing waste and increasing tube quality. Volta belts have a durable surface to ensure consistent grip and movement of materials being processed. All belts are truly endless and can be made to exact dimensional tolerances to provide a tight wrap on mandrels.

Belt Construction:

- Lower layer - Polyurethane 80A or 72A Shore hardness
- Reinforcement - Polyester cord
- Upper layer - Polyurethane 80A or 72A Shore hardness

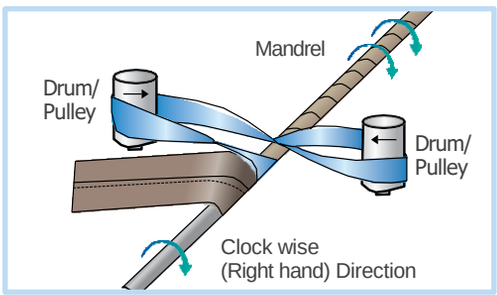


Figure 1

Polyurethane Upper (or Lower) Layer:

Polyurethane 80A or 72A Shore hardness.
Advantages of Polyurethane upper (or lower) layer:

- High abrasion / wear resistance
- Excellent coefficient of friction
- New 72A Shore for improved high grip

Pre-Twist

Volta offers belts with a pre-twist incorporated in the belt construction. The pre-twist offers a smooth, low tension operation. The pre-twist direction should be defined according to the winding direction of the tube production process. Refer to Figure 1.

- Pre-twist with one wrap is used for the common practice of one wrap around the tube.
- Pre-twist with a double wrap is used to wind the belt twice around the tube.
  The two full wraps offer a higher grip and are generally used for thicker tube walls.


Double Pre-Twist

Advantages:

- Truly endless
- Any length from minimum 960mm/37.8"
- Pre-twist for improved performance
- Double pre-twist for tube double wrap
- High breaking strength
- Low stretching

Belt Type	Color	Thickness	Shore	Tensile Strength N/cm width	Tensile Strength LBS/inch width	Minimum Cardboard Tube / Mandrel Diameter	
Tube Winding Belt FLB	Blue	4 mm	80A	3250	1853	30 mm	1 1/6"
Tube Winding Belt FL	Brown	6 mm	80A	5830	3324	70 mm	2 3/4"
Tube Winding Belt FLB	Blue	8 mm	80A	5830	3324	76 mm	3"
Tube Winding Belt FTB	Blue 10	4 mm	72A	3250	1853	25 mm	1"
Tube Winding Belt FTB	Blue 10	6 mm	72A	5830	3324	63 mm	2 1/2"
Tube Winding Belt FTB	Blue 10	8 mm	72A	5830	3324	70 mm	2 3/4"
Tube Winding Belt FFL	Brown	8 mm	76A	5830	3324	70 mm	2 3/4"

When ordering a Volta Tube Winding Belt please use the information as below:

Belt Type	Thickness	Belt Width	Belt Length	Pre-Twist	Twist Direction
Tube Winding Belt	6	100	3300	Blank = None 1T = Pre-twist 2T= Double Pre-twist	Blank = None CW = Clockwise (Right hand) CCW = Counterclockwise (Left hand)

Example:

Tube Winding Belt FLB - 4 - 100x3300 - 1T - CW (Tube Winding Belt FLB - 4 - 100x3300 - Pre-Twist - Clockwise)
Tube Winding Belt FLB - 4 - 4"x130" - 1T - CW (Tube Winding Belt FLB - 4 - 4"x130" - Pre-twist - Clockwise)

Volta™ Belting Technology

The Next Step in Belting

Electro-Static Dissipative (ESD) Belts & Anti-Static (AS) Profiles

Conveyor belts for certain uses must not collect electro-static charges, especially where impulsive releases of built-up charges could cause damage to conveyed products or cause other hazards.
Most belts are made of polymers that are insulators, with high surface resistivity that does not allow electrostatic charges to ow and dissipate. Belts are considered to be insulators when their surface resistivity is greater than 10^{12} ohms/square (10^{12} Ω/sq.)
For cases where electrostatic protection is required, Volta makes special belting in two low resistivities that allow charges to dissipate onto grounded elements which contact the belt.

Available Resistivity Ranges:

Volta ESD - Electro-Static Dissipative: With resistivity below 10^{8} ohms/square (10^{8} Ω/sq.),
ESD materials offer Volta's highest level of antistatic protection to date. ESD is useful in processes that are very sensitive to electrostatic discharges as in the manufacturing of electronics components. ESD belts are mechanically joined or finger-spliced to meet specified pull-strengths.

Volta AS - Anti-Static profiles resistivity is lower than 10^{10} ohm/square (10^{10} Ω/sq.)
Allows electro-static charges to flow and dissipate to grounded elements.

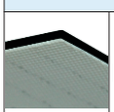
Available Resistivity Ranges:

Although the ability to dissipate charges is only measured on a belt's surface, Volta meets the required levels of electrostatic protection by making the AS profiles and the ESD belts special raw materials with lower surface and internal resistivity. Other manufacturers use coatings, surface-applied salts or solutions that wear-off or even contaminate conveyed products. Although these electrostatic protection methods may be less costly than Volta's approach, their ability to dissipate charges is lost as coatings wear-off or when conducting salts are removed by cleaning. Other manufacturers' ESD/AS belts can lose their conductive coatings or active salts simply through changes in weather and humidity.

Volta ESD belts and AS profiles have been successfully implemented in electronics manufacturing facilities and other uses where these abrasion resistant materials have resulted in lower maintenance and service costs as well as reduced product loss. The dense resilient thermoplastic is quick and easy to install and cushions sensitive conveyed materials such as glass screens and components.

Following these guidelines, Volta offers the following:

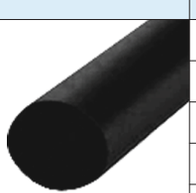
Flat Belts

Electro Static Dissipative (ESD) Belts												
Product & Color				Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		Range Ohms (Ω)/ Square
							mm	mm	Inch	kg/cm	lbs/in	
	FRBL-ESD	Black		90A	0°C to 50°C / -32°F to 120°F	0.20	2	30	1 3/16	2.5	14	10^7 - 10^8
							2.5	37.5	1 1/2	3.12	17.44	
	FNBL-CB-ESD*	Black		90A	0°C to 50°C / -32°F to 120°F	0.38	1	20	25/32	1.8	10.08	10^7 - 10^8
							2.4	40	1 5/8	2.4	13.44	

*Belts can only be made endless with mechanical systems or finger splice. Pull force values are recommended only when using finger splice.

WARNING: Volta ESD belts are not ATEX certified at this time

Round Profiles

Round Anti Static (AS) Profiles						
Product & Color	Code	Hardness	Range - top surface	Diameter	Min. Pulley	
				mm	mm	Inch
	RPD-2-AS	88A/37D	10^9-10^{10} ohms/sq	2	20	13/16
	RPD-3-AS	88A/37D	10^9-10^{10} ohms/sq	3	30	1 3/16
	RPD-4-AS	88A/37D	10^9-10^{10} ohms/sq	4	40	1 9/16
	RPD-5-AS	88A/37D	10^9-10^{10} ohms/sq	5	50	2
	RPD-6-AS	88A/37D	10^9-10^{10} ohms/sq	6	60	2 3/8
	RPD-8-AS	88A/37D	10^9-10^{10} ohms/sq	8	80	3 1/8

WARNING: Volta AS profiles are not ATEX certified at this time

Volta™ Belting Technology

The Next Step in Belting

Chemical-Resistance Guide

Motech

Statement of Expectations

The data tabulated in the following pages summarize the effects of a broad variety of Chemicals on Volta products. Most of the data are based on the information given by the raw material manufacturers and suppliers and some on laboratory tests performed on an immersed specimen at room temp unless otherwise specified. The data does not take into account all variables that can be encountered in actual use.

We emphasize that the data contained herein should be used as a guideline only. We recommend testing chemical resistance under your operating conditions using the actual media in contact with the belt.

Generally chemical resistance depends on the chemical properties, period of exposure, temperature and concentration.
According to a general rule, chemical resistance may be improved when reducing:

- Temperature.
- Exposure time between cleaning.
- Concentration.

Index

Reagents	Code	Reagents	Code
Acetic Acid (glacial)	1.1	Cyclohexane	6.1
Acetic Acid (20%)	1.1	Cyclohexanol	5
Acetic Acid (3%)	1.1	Dibuthyl Phthalate	9
Acetone	8	Diesel Fuel	11
Aluminum Chloride (25%)	3	Diethyl Ether	12
Aluminum Sulfate (25%)	3	Diethyl Sebacate	9
Ammonium Chloride	3	Dimethyl Acetamide	12
Ammonium Hydroxide (3%)	2	Dimethyl Formamide	12
Ammonium Nitrate (25%)	3	Dimethyl Sulphexide	12
Ammonium Sulfate (25%)	3	Dioctyl Phthalate	9
Amyl Acetate	9	Epichlorohydrin	7.3
Amylalcohol	5	Ethanol	5
Aniline	12	Ethyl Acetate	9
Anti-Freeze (Glysantine)	12	Ethyl Chloride	7.1
ASTM - Oil 1 (>100°C)	10.1	Ethylene Dichloride	7.1
ASTM - Oil 2 (>100°C)	10.1	Ethylene Glycol	5
ASTM - Oil 3 (>100°C)	10.1	Fish Oil	10.3
ASTM Reference Fuel A	11	Formaldehyde (40%)	8
ASTM Reference Fuel B	11	Formic Acid (20%)	1.1
ASTM Reference Fuel C	11	Freon (116 , 12, 113, 114)	7.1
ASTM Reference Fuel D	11	Glycerin	5
Benzene	6.2	Hexane	6.1
Benzyl Alcohol	5	Hexanol	5
Boric Acid (3%)	1.2	Hydrazine	12
Brake Fluid	12	Hydrochloric Acid (20%)	1.2
Bromine (anhydrous Liquid)	4	Hydrochloric Acid (3%)	1.2
Butane	6.1	Hydrochloric Acid (37%)	1.2
Butyl Acetate	9	Hydrofluoric acid (48%)	1.2
Calcium Chloride (25%)	3	Hydrogen Peroxide (30%)	4
Calcium Hydroxide (dilute)	2.1	Hydrogen Sulfide	1.2
Carbon Tetrachloride	7.1	iso Butanol	5
Castor Oil	10.3	Iso Octane	6.1
Chlorine gas	4	Iso-Propanol	5
Chlorobenzene	7.2	Javelle water (0.5%)	4
Chloroform	7.1	JP-4 Jet Fuel	11
Citric Acid (3%)	1.1	Kerosene	11
Coconut Oil	10.3	Lactic Acid (3%)	1.1
Corn Oil	10.3	Lubricating Oil	10.2
Cottonseed Oil	10.3	Methanol	5
Cyclo hexanone	8	Methyl ethyl ketone	8

Reagents	Code
Methylene Chloride	7.1
Mineral Oil	10.2
Nitric Acid (20%)	1.2
Nitric Acid (3%)	1.2
Nitrobenzen	12
N-Methyl Pyrrolidone	12
Nut Oil	10.3
Oleic acid	1.1
Oleum (20%)	1.1
Olive Oil	10.3
Ozone	4
Palmitic acid	1.1
Peanut Oil	10.3
Pentane	6.1
Perchloroethylene	7.1
Petrolether	12
Phenol	5
Phenolic Solution (3%)	1.1
Phosphoric Acid (3%)	1.2
Potassium Hydroxide (dilute)	2.1
Pyridine	12
Sea Water	0
Silicone Fluid	12
Sodium Bisulfate (3%)	1.2
Sodium Chloride (25%)	3
Sodium Citrate	3
Sodium dichromate (20%)	4

Reagents	Code
Sodium Hydroxide (Caustic Soda) (3%)	2.1
Sodium Hydroxide (Caustic Soda) (46%)	2.1
Sodium Hypoclorite (3%) (Javelle water)	4
Sodium Nitrate (25%)	3
Sodium Nitrate (3%)	3
Sodium Propionate	3
Sodium Sulfite (3%)	3
Steam (100°C)	0
Styrene	12
Sulfuric Acid (20%)	1.2
Sulfuric Acid (3%)	1.2
Sulfuric Acid (Battery Acid)	1.2
Sunflower oil	10.3
Super Gasoline Leaded	11
Super Gasoline Unleaded	11
Tanic Acid (10%)	1.1
Tap Water	0
Test Fluid A	11
Test Fluid B	11
Test Fluid C	11
Tetrachloroethylene	7.1
Tetrahydrofurane	12
Toluene	6.2
Trichloroethane	7.1
Triethanolamine Solution (3%)	2.2
Urea Solution (3%)	2.2
Xylene	6.2

Chemical-Resistance chart of Volta Belts

Rating key: G-Good resistance, F-Fair, P-Poor resistance

Reagents Type	L & M Family	H Family	LT/DR
0. Water			
Tap Water	G	G	G
Sea Water	G	G	G
Steam (100°C)	P	F	F
1.Acids			
1.1 Organic Acids			
Formic Acid (20%)	P	F	P
Acetic Acid (glacial)	P	F-G	G
Acetic Acid (20%)	P	G	P
Acetic Acid (3%)	P-F	G	G
Lactic Acid (3%)	P-F	G	G
Citric Acid (3%)	F	G	G
Tanic Acid (10%)	G	G	G
Palmitic acid	P-F	G	G
Oleic acid	P-F	G	G
Phenolic Solution (3%)	F-G	F-G	F-G
1.2 Inorganic Acids			
Hydrochloric Acid (37%)	P	P	P
Hydrochloric Acid (20%)	P	F	F
Hydrochloric Acid (3%)	P	F	G
Nitric Acid (20%)	P	P	P
Nitric Acid (3%)	P	F	P
Sulfuric Acid (Battery Acid)	P	P	P
Sulfuric Acid (20%)	P	F	P
Sulfuric Acid (3%)	P	G	G
Oleum (20%)	P	P	P
Hydrogen Sulfide	--	G	--
Sodium Bisulfate (3%)	F-G	G	G
Phosphoric Acid (3%)	F	G	G
Boric Acid (3%)	F-G	G	G
Hydrofluoric acid (48%)	P	P	P

Reagents Type	L & M Family	H Family	LT/DR
2. Basic Solution			
2.1 Alkaline			
Sodium Hydroxide (Caustic Soda) (46%)	P-F	F	F
Sodium Hydroxide (Caustic Soda) (3%)	F	G	G
Calcium Hydroxide (dilute)	G	G	G
Potassium Hydroxide (dilute)	F	G	G
2.2 Other			
Ammonium Hydroxide (3%)	P-F	F	G
Urea Solution (3%)	F-G	--	G
Triethanolamine Solution (3%)	F-G	--	G
3. Salt Solution			
Aluminum Chloride (25%)	G	G	G
Aluminum Sulfate (25%)	G	G	G
Ammonium Nitrate (25%)	G	--	G
Ammonium Sulfate (25%)	G	F	G
Ammonium Chloride	G	G	G
Calcium Chloride (25%)	F-G	G	G
Sodium Chloride (25%)	F-G	G	--
Sodium Nitrate (25%)	F-G	--	--
Sodium Nitrate (3%)	G	--	G
Sodium Sulfite (3%)	G	--	G
Sodium Citrate	P-F	F	--
Sodium Propionate	P-F	F	--
4. Oxidizing			
Hydrogen Peroxide (30%)	F	P	F
Ozone	F	F	F
Sodium Hypoclorite (3%) (Javelle water)	P-F	G	F
Javelle water (0.5%)	F	G	G
Chlorine gas	P	P	P
Bromine (anhydrous Liquid)	P	P	F
Sodium dichromate (20%)	--	F	--

Reagents Type	L & M Family	H Family	LT/DR
5. Alcohols			
Methanol	P-F	G	F
Ethanol	F	G	G
Iso-Propanol	F	G	G
Iso Butanol	F	G	F
Amylalcohol	F	G	G
Hexanol	F	G	G
Cyclohexanol	F	G	F
Benzyl Alcohol	P	--	P
Ethylene Glycol	G	G	G
Glycerin	G	G	G
Phenol	--	P	P
6. Hydrocarbon			
6.1 Aliphatic			
Butane	G	G	G
Pentane	G	G	G
Hexane	G	G	G
Cyclohexane	G	G	G
Iso Octane	G	G	G
6.2 Aromatic			
Toluene	F	F	F
Benzene	F	F	F
Xylene	F	F	F
7. Halogenated Hydrocarbon			
7.1 Aliphatic Halogenated Hydrocarbon			
Methylene Chloride	P	P	P
Ethyl Chloride	P	P	P
Ethylene Dichloride	P	P	P
Chloroform	P	P	P
Carbon Tetrachloride	P	F	F
Tetrachloroethylene	F	P	F
Trichloroethane	F	P	F
Perchloroethylene	--	P	--
Freon (11^{6}, 12, 113, 114)	--	G	--

Reagents Type	L & M Family	H Family	LT/DR
7.2 Aromatic Halogenated Hydrocarbon			
Chlorobenzene	P-F	P	P
7.3 Other Halogenated Hydrocarbon			
Epichlorohydrin	--	P	P
8. Aldehides & Ketones			
Methyl ethyl ketone	P	F	P
Acetone	P-F	F	P-F
Formaldehyde (40%)	--	F	F
Cyclo hexanone	P	--	P
9. Aliphatic Esters			
Ethyl Acetate	P-F	F	F
Butyl Acetate	P-F	F	P-F
Amyl Acetate	P-F	F	P-F
Dibuthyl Phthalate	G	G	--
Diethyl Sebacate	G	G	--
Dioctyl Phthalate	G	G	G
10. Oils			
10.1 ASTM Oils			
ASTM - Oil 1 (>100°C)	G	G	G
ASTM - Oil 2 (>100°C)	G	G	G
ASTM - Oil 3 (>100°C)	G	G	G
10.2 Others			
Mineral Oil	G	G	G
Lubricating Oil	G	G	G
10.3 Edible Oils			
Cottonseed Oil	G	G	F
Castor Oil	F	F	G
Olive Oil	G	G	G
Corn Oil	G	G	G
Coconut Oil	G	G	G
Fish Oil	G	G	G
Peanut Oil	G	G	G
Nut Oil	G	G	G
Palm Oil	G	G	G
Soya Oil	G	G	G
Sunflower oil	G	G	G

Reagents Type	L & M Family	H Family	LT/DR
11. <u>Fuels</u>			
Test Fluid A	G	--	F
Test Fluid B	F	--	F
Test Fluid C	P-F	--	F
Diesel Fuel	G	F	G
ASTM Reference Fuel A	G	G	G
ASTM Reference Fuel B	F	G	F
ASTM Reference Fuel C	F	G	F
ASTM Reference Fuel D	F	G	F
Super Gasoline Leaded	G	F	--
Super Gasoline Unleaded	G	F	--
Kerosene	G	G	G
JP-4 Jet Fuel	G	G	--
12. <u>Other Solvents</u>			
Anti-Freeze (Glysantine)	F-G	P	G
Silicone Fluid	G	G	G
Brake Fluid	P	P	P
Aniline	P	P	F
Tetrahydrofurane	P	F	P
Dimethyl Formamide	P	G	P
Dimethyl Acetamide	P	--	P
Pyridine	P	P	P
N-Methyl Pyrrolidone	P	--	P
Dimethyl Sulphexide	P	--	P
Nitrobenzen	--	P	--
Diethyl Ether	F	F	F
Petrolether	G	G	G
Hydrazine	P	P	P
Styrene	--	P	P

volta™ Belting Technology
The Next Step in Belting

Cleaning and Disinfecting Volta Belts

All cleaning and disinfecting procedures must be re-examined periodically to confirm that the required hygiene level is maintained. Evaluation and inspection procedures should be carried out in order to verify that long term compliance with procedures is observed and specific local regulations and requirements are met.

As for any other plant operation, cleaning and disinfecting should be equally documented. If a HACCP concept is applied, these procedures should be treated as Critical Control Points (CCPs).
If a Quality System like ISO is in operation, they should be integrated in the System.

It is vital that all cleaning procedures consider the following critical factors that could affect hygiene levels and influence the longevity of the belt itself.

- The amount of time the belt is exposed to the cleaning/disinfecting substance.
- The concentration of the cleaning/disinfecting chemicals.
- The ambient temperature.
- The conveyor construction.

General Information:

- Safety is a primary concern; you should observe any local health and safety regulation and use common sense when dealing with any machinery. Particular care should be taken in the machine around the area of the pulleys or rollers which can easily trap body parts and cause serious injuries.
- Most large Detergents and Cleaning Solvent manufacturers have tested their solvent's effects on Volta belts and can therefore recommend the best solution for your application.
- When converting from modular belt to Volta Positive Drive belts the cleaning procedure can be simplified and the use of highly concentrated harsh chemicals can be reduced. You are advised to re-evaluate your procedure in order to save time, use less water and use less chemicals. By re-evaluating the procedure you can also reduce costs and increase belt life.
- We do not recommend that you remove Volta belts for soaking. This procedure was developed in order to combat the low hygiene level of modular belts and is generally not necessary once Volta Positive Drive Belts have been fitted, in which case you are advised to re-evaluate your cleaning procedure. If you still feel the need to perform the soaking stage, Volta can offer you a lace solution which enables frequent belt removal.
  We suggest that you contact your nearest Volta representative to evaluate the effect this could have on the belt.
- One of the most important recommendations regarding the belt cleaning procedure is for you to make sure that the belt is left as dry as possible at the end of the process; any leftover "pools" of water will reduce the belt life.

Cleaning Procedure Tips

1. Completely stop and disconnect any electrical flow to the conveyor.
2. Release the quick tension unit.
3. Removal of Bulky Product Residue.

   We advise you not to use any sharp tools or harsh metal brushes/Wire wool to remove stuck material; a flat low friction tool or soft cloth should be used to loosen remains if necessary.
4. Pre-Rinse

   In order to remove any food residue remaining on the belt surface should be thoroughly rinsed by using low pressure water at 130°F/54°C to 160°F/71°C. Water pressure used should be at 10 to15 Bar. A thorough pre-rinse can reduce the amount of chemicals required in the cleaning process. You should avoid rinsing of belt surface closely with high pressure water jet.

5. Foaming

   Selecting the detergent type most suitable will depend on the character of the product being conveyed. We recommend that you consult with your detergent supplier for best cleaning results and minimal possible harm to the belt surface.

   Commonly used Mild Alkaline Foam Cleaner, Acidic Foam Cleaner, or Chlorinated Alkaline Foam cleaner with concentration of 2-3% and applying time of around 15 minutes are safe to use on all Volta belts.

6. Post-Rinse

   The post rinse process is to ensure that all pieces of remaining product wastage will be removed from the equipment. During this process it is also important to make sure that all chemical residues are thoroughly removed. A low pressure wash with warm water is best for this stage of the process. Water temperature should not exceed 130°F/54°C to 160°F/71°C. Any residual chemicals could cause damage to the conveyor belt and reduce its life span.

7. Additional Sanitizing.

   It is highly important to make sure that your belt has been meticulously cleaned before beginning the sanitation process. Sanitation chemicals will not have any effect on a surface that is not completely clean.

As for the foaming stage, selecting the detergent type most suitable will depend on the character of the product being conveyed. We recommend that you consult with your detergent supplier for best cleaning results and minimal possible damage to the belt surface.

Commonly used Neutral Foaming Disinfection, Per-Acetic Acid and Alkaline Disinfections with concentration of 1-2% and applying time of around 15 minutes are safe to use on all Volta belts.

Various types of chemical disinfectants act differently on certain groups of bacteria and under certain pH-ranges. In order to achieve the maximum disinfecting effect, you are recommended to periodically alternate the type of the chemical disinfectant applied. If using Chlorine at this stage it is not recommended to exceed 200ppm, Ozone can be used according to local health and safety regulation.

Check list after cleaning procedure:

1. It is most important that all harsh chemical residues are rinsed off the surface of the belt.
2. Make sure that the belt is left dry as possible at the end of the process; any leftover "pools" of water will reduce the belt life. Run the conveyor or lift the belt to drain the excess water.

Check list before activating your production line:

1. Chemical residues have been rinsed of the belt.
2. Tension (if necessary) was restored to the correct measure.
3. Belt tracking is restored.
4. There are no obstructions along the conveyor construction that could prevent the belt from running smoothly.
5. Belt is not vacuumed pinned to the conveyor.

Conveyor Constructions Tips (must comply with local health and safety regulations):

1. All plant equipment should be designed to be adequately cleanable.
2. Open Side-Guards should be fitted - or removable sides for easy access to internal wash down.
3. Create a natural flow design - avoid any dirt traps and fluid accumulation points.
4. Include a quick tension unit - allows for easy tension release and belt lifting for internal wash down.
5. Open-Side conveyor - a possible solution for easy endless belt removing and refitting.

Storage Recommendations for Volta belts

In order to maintain maximum shelf life belting material should be stored in;

- A dry and low humidity environment.
- In an ambient temperature below 30° C.
- An environment away from:
  1. Direct sunlight.
  2. Direct fluorescent or strong light.
  3. Exposure to fluids including moisture.
- Utilize a covering such as dark plastic, to wrap the material. This should be ventilated enough to prevent the build-up of condensation.
- Store in a raised position off the ground. E.g. Palletized.
- Store in a well-ventilated area. We recommend:
  - to lay the rolls of 2,032 mm length down;
  - to lay the rolls made of L material with a thickness of 1.6 mm down;
  - Metal Detectable (MD) products should be kept in a dry place with minimal humidity.

Rolling Recommendations for Volta Flat belts

- Re-rolling of material should be on the original cardboard sleeve or one of a similar diameter.
- Material must be re-rolled in the same direction (inner and outer surfaces) as per the original.
- Positive Drive teeth/Embossed/Fabric side must be rolled facing inwards.
- Make sure to roll the belt straight (parallel edges) before storing.

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