volta™
Belting Technology

The Next Step in Belting

Flat Belts
Industrial Applications

Conveying Solutions

Motech

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").

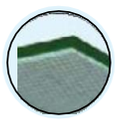
- Does not absorb industrial oils, fluids and chemicals.
- Absorbs the impact of falling products well to ensure a long belt life.
- Very low abrasion - no joints prone to wear and tear.
- Improved resistance to cuts and punctures.
- High carrying capacity with excellent grip.
- Safer product conveyance 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

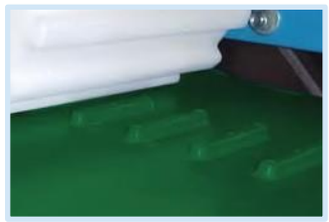
Reinforced Belts										
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%	
						mm	mm	Inch	kg/cm	lbs/in
FRL*	Brown		80A	-40° C to 50° C -40° F to 120° F	0.20	2	10	3/8	5	28
						3*	30	1 3/16	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™



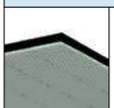
The additional advantage of the Positive Drive mechanism prevents any slippage or off-tracking, reducing maintenance costs dramatically. Lack of tensioning prevents elongation and allows for simple cleaning procedure and long belt life.

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.

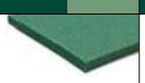
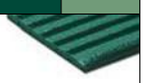
Electro Static Dissipative (ESD) Belts											
Product & Color				Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		ESD
							mm	mm	Inch	kg/cm	lbs/in	
	FRBL - ESD	Black		90A	0°C to 50°C / -32°F to 120°F	0.20	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

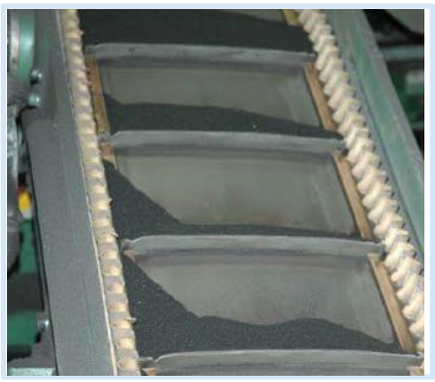
FRZ - 4
Metal recycling

FEZ - 3.2
Industrial chemical conveyor

FEZ - 3.2
Nails production

FRZ - 5
Glass conveying

FRPZ - 6
Glass recycling

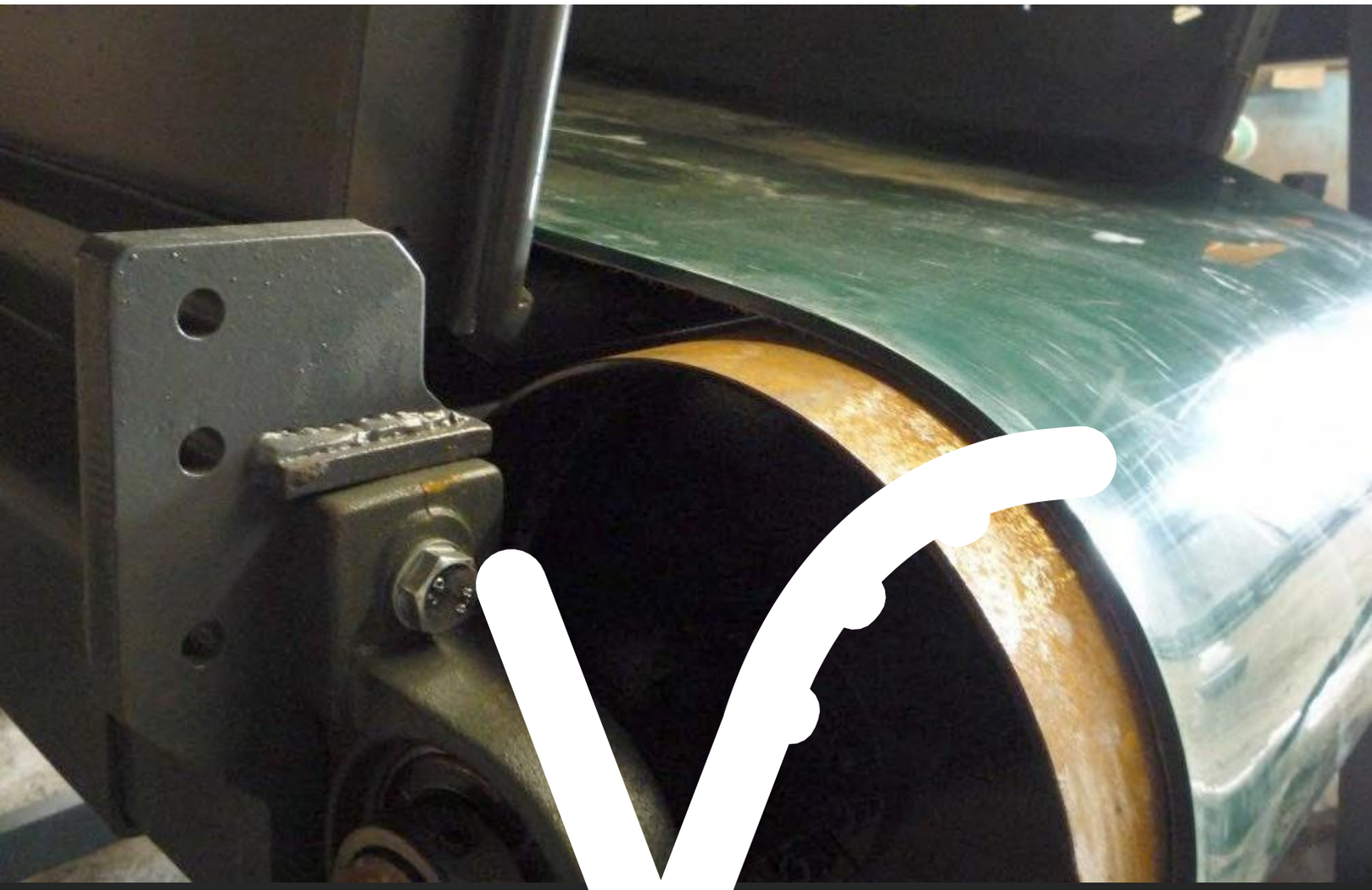


FRG - 3
Chemical powder conveying

FK - 3
Brick pre - oven conveying

volta™
Belting Technology

The Next Step in Belting



Industrial Grade Flat Belts

Conveying Solutions

Motech

The Light Side of Heavy Duty

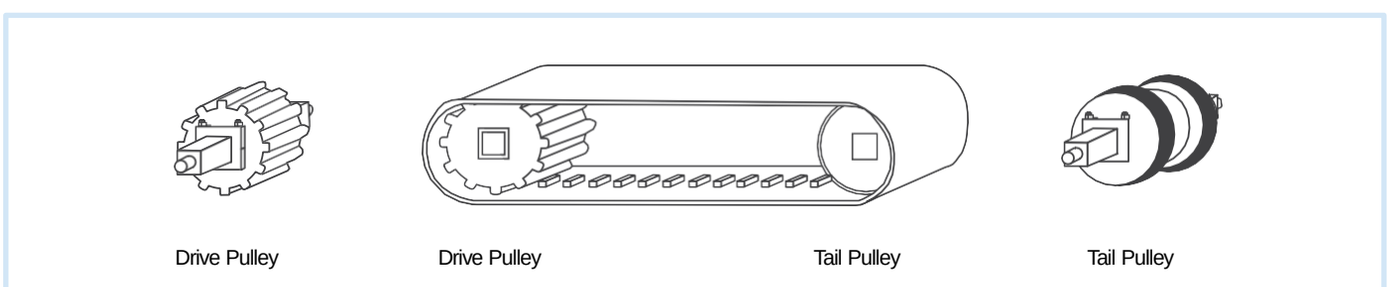
The distinguishable Volta design with fully extruded tough top layer is particularly durable while excelling in rough recycling applications where sharp edges of broken glass, metal, plastic, etc. could easily damage the belt. Our thick solid belt has proven to be highly cut & abrasion resistant and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

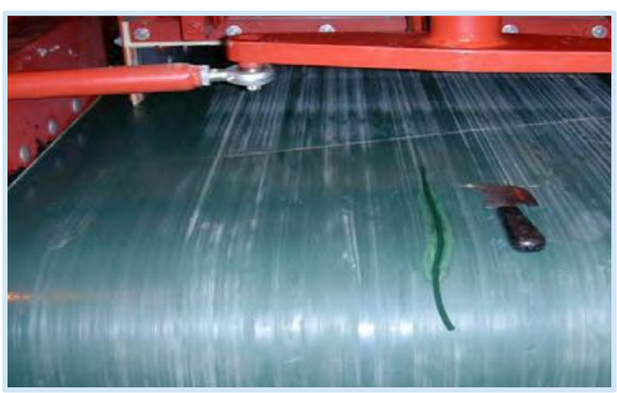
Non-absorbent to industrial oils, fluids and chemicals.

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.

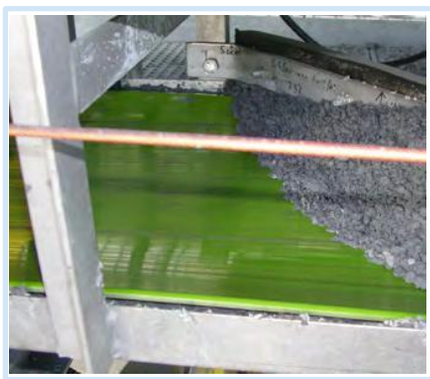
Industrial Applications

Volta Belt with Guide

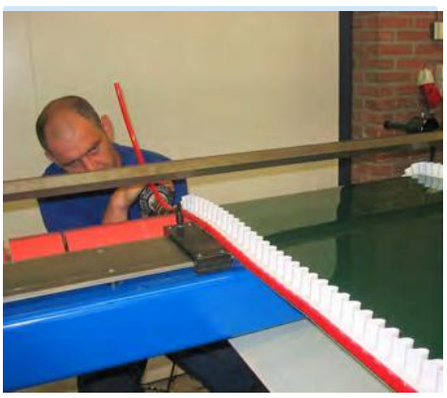
Floor Tile Production

Sewage Treatment

Metal parts conveying



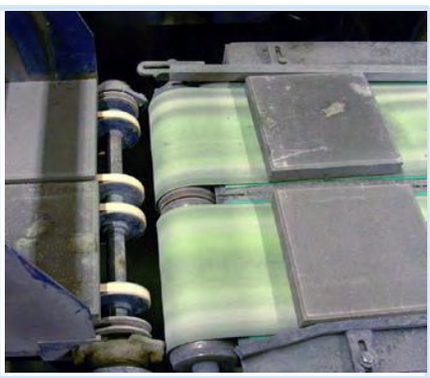
Metal Separator



Volta Fabrication

Volta Belt with Flights

Eddy Current Conveyor



Brick Conveying

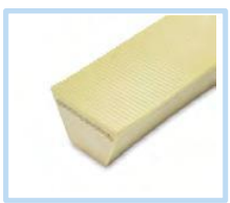
Volta Power® for the Wood Industry Products

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.