



The Next Step in Belting

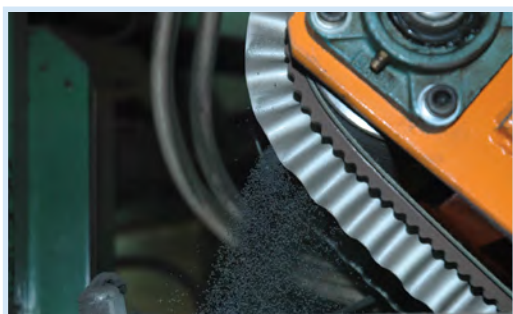


Flat Belts  
Industrial Applications

Conveying Solutions

# Flat Belts Industrial Applications

For over 50 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").



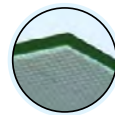
- Does not absorb industrial oils, fluids and chemicals.
- Absorbs the impact of falling products well to ensure a long belt life.
- Very low abrasion - no joints prone to wear and tear.
- Improved resistance to cuts and punctures.
- High carrying capacity with excellent grip.
- Safer product conveyance 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	1.8	60	2 <sup>3</sup> / <sub>8</sub>	1.90	10.60	
					2.5	80	3 <sup>1</sup> / <sub>8</sub>	2.50	14	
					3	88	3 <sup>1</sup> / <sub>2</sub>	3.20	17.60	
					4	105	4 <sup>1</sup> / <sub>4</sub>	4.20	23.50	
					5	150	5 <sup>7</sup> / <sub>8</sub>	5	28	
					6.5	195	7 <sup>11</sup> / <sub>16</sub>	6.50	36.40	
FZ	Green 05	95A/46D	-30° C to 70° C -20° F to 158° F	0.36	2	30	1 <sup>3</sup> / <sub>16</sub>	1.20	6.40	
					2.5	35	1 <sup>3</sup> / <sub>8</sub>	1.50	8	
					3	40	1 <sup>5</sup> / <sub>8</sub>	1.8	9.6	
					4	60	2 <sup>3</sup> / <sub>8</sub>	2.60	13.60	
					5	80	3 <sup>1</sup> / <sub>8</sub>	3.20	16.80	
FL	Brown	80A	-40° C to 50° C -40° F to 120° F	0.55	2.5	17	2 <sup>1</sup> / <sub>32</sub>	0.30	1.80	
					3	20	3/4	0.40	2.20	
					4	30	1 <sup>3</sup> / <sub>16</sub>	0.60	3.40	
					5	35	1 <sup>3</sup> / <sub>8</sub>	0.70	3.90	
					8	60	2 <sup>3</sup> / <sub>8</sub>	1.20	6.80	
Homogeneous Embossed Bottom Belts										
FEPZ	Green 05	86A	-30° C to 50° C -20° F to 120° F	0.35	3	30	1 <sup>3</sup> / <sub>16</sub>	0.80	5.10	
					4	40	1 <sup>5</sup> / <sub>8</sub>	1.10	6.30	
					6	60	2 <sup>3</sup> / <sub>8</sub>	1.60	10.20	
FEST	Green 05	65A	-40° C to 55° C -40° F to 125° F	0.70	2	9	1 <sup>1</sup> / <sub>32</sub>	0.30	1.68	
					3	14	9/16	0.45	2.52	
					4	18	2 <sup>3</sup> / <sub>32</sub>	0.60	3.36	
					5	22	7/8	0.75	4.20	
FEZ	Green 05	95A/46D	-30° C to 70° C -20° F to 158° F	0.20	2	30	1 <sup>3</sup> / <sub>16</sub>	0.80	4.50	
					2.5	35	1 <sup>3</sup> / <sub>8</sub>	1	5.60	
					3	40	1 <sup>5</sup> / <sub>8</sub>	1.30	6.60	
					4	60	2 <sup>3</sup> / <sub>8</sub>	1.60	9	
					5	80	3 <sup>1</sup> / <sub>8</sub>	2.10	11.80	

## Conveyor Belts Top & Bottom Surfaces



Smooth Top

ITR -10  
Impression  
Top RoughEmbossed  
BottomReinforced  
Bottom

### Homogeneous Impression Top Belt

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
FZ-ITR10	Green 05	95A/46D	-30° C to 70° C -20° F to 158° F	0.36	5	80	3 <sup>1</sup> / <sub>8</sub>	2.40	12.80

### Reinforced Belts

FRL*	Brown	80A	-40° C to 50° C -40° F to 120° F	0.20	2	10	3 <sup>3</sup> / <sub>8</sub>	5	28
					3*	30	1 <sup>3</sup> / <sub>16</sub>	12	67
					5*	60	2 <sup>3</sup> / <sub>8</sub>	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 <sup>1</sup> / <sub>4</sub>	6.50	36
					3*	36	1 <sup>7</sup> / <sub>16</sub>	7	39
					4	50	2	7.50	41.70
					5	65	2 <sup>9</sup> / <sub>16</sub>	9	50
FRG*	Grey	95A/46D	-30° C to 70° C -20° F to 158° F	0.20	2	27	1 <sup>1</sup> / <sub>16</sub>	6	33.50
					3	36	1 <sup>3</sup> / <sub>8</sub>	7	39
					4	60	2 <sup>3</sup> / <sub>8</sub>	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 <sup>3</sup> / <sub>8</sub>	6	33
	Grey				3.5	40	1 <sup>5</sup> / <sub>8</sub>	6	33
					5	60	2 <sup>3</sup> / <sub>8</sub>	7	39
FRPZ*	Green 05	86A	-30° C to 50° C -20° F to 120° F	0.20	2	20	3 <sup>3</sup> / <sub>4</sub>	5.20	29.12
					3	30	1 <sup>3</sup> / <sub>16</sub>	5.60	31.36
					4	40	1 <sup>5</sup> / <sub>8</sub>	6	33.60
					6	80	3 <sup>1</sup> / <sub>8</sub>	6.80	38.08
					8	100	4	7.60	42.56

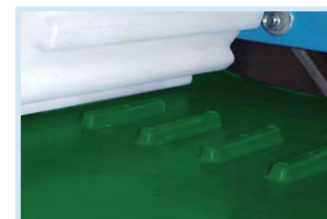
**Note:** \*Check availability before placing the order.

## 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 **		Pull Force: Pretension of 1%		
					mm	mm	Inch	kg/cm	lbs/in	
FZ-SD	Green 05	95A	-30° C to 70° C -20° F to 158° F	0.30	3	80	3 <sup>1</sup> / <sub>4</sub>	5	28	
					4	120	4 <sup>3</sup> / <sub>4</sub>	6.6	37	


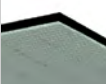
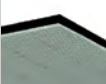

**Note:** All Inch sizes have been converted from metric sizes.

\*UHMW - Ultra-High Molecular Weight material (PE-1000).

\*\*Minimum Pulley Diameter - Normal Flex

## Anti Static (AS) and Electro Static Dissipative (ESD) Belts

This special belt is created from Anti Static (AS) or 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.

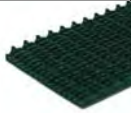
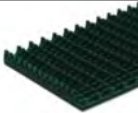
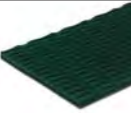


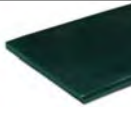
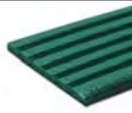
Anti Static (AS) and Electro Static Dissipative (ESD) Belts												
Product & Color			Shore Hardness	Temperature Range	Coefficient of Friction on S.Steel (bottom)	Thickness	Minimum Pulley Diameter		Pull Force: Pretension of 1%		Range Ohms (Ω)/ Square	
						mm	mm	Inch	kg/cm	lbs/in		
	FEBL - AS	Black	86A	-20 C to 50 C -5° F to 120° F	0.35	2.5	30	1 <sup>3</sup> / <sub>16</sub>	0.60	3.30	10 <sup>9</sup> - 10 <sup>10</sup>	
	FRBL - AS	Black		-20° C to 50° C -5° F to 120° F		2	25	1	5	28	10 <sup>9</sup> - 10 <sup>10</sup>	
	FRBL - ESD	Black	90A	0° C to 50° C / -32° F to 120° F	0.20	4	50	2	6	33.50		10 <sup>7</sup> - 10 <sup>8</sup>
	FNBL-CB-ESD*	Black				2	30	1 <sup>3</sup> / <sub>16</sub>	2.5	14	10 <sup>7</sup> - 10 <sup>8</sup>	
			90A	0° C to 50° C / -32° F to 120° F	0.38	2.5	37.5	1 <sup>1</sup> / <sub>2</sub>	3.12	17.44		
			90A	0° C to 50° C / -32° F to 120° F	0.38	2.4	40	1 <sup>5</sup> / <sub>8</sub>	2.4	13.44	10 <sup>7</sup> - 10 <sup>8</sup>	

**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 AS and 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	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	2,3,4,5	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	-40° C to 55° C / -40° F to 125° 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



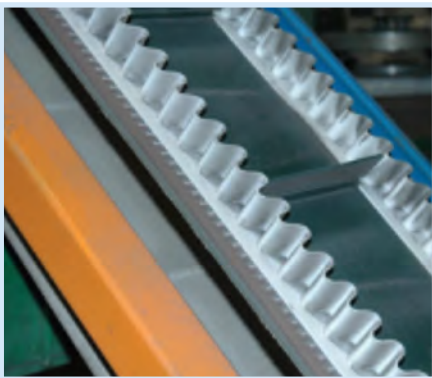
FRZ - 2  
Screw conveying



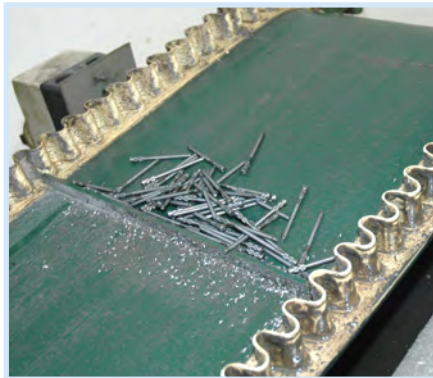
FRPZ - 6  
Hammocks in glass recycling



FRZ - 4  
Metal recycling



FEZ - 3.2  
Industrial chemical conveyor



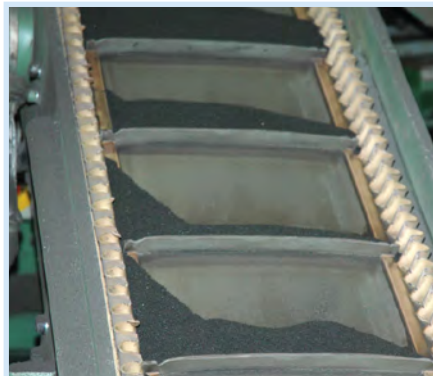
FEZ - 3.2  
Nails production



FRZ - 5  
Glass conveying



FRPZ - 6  
Glass recycling



FRG - 3  
Chemical powder conveying



FK - 3  
Brick pre - oven conveying