



Power Transmission & Endless Belts

Conveying Solutions

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:

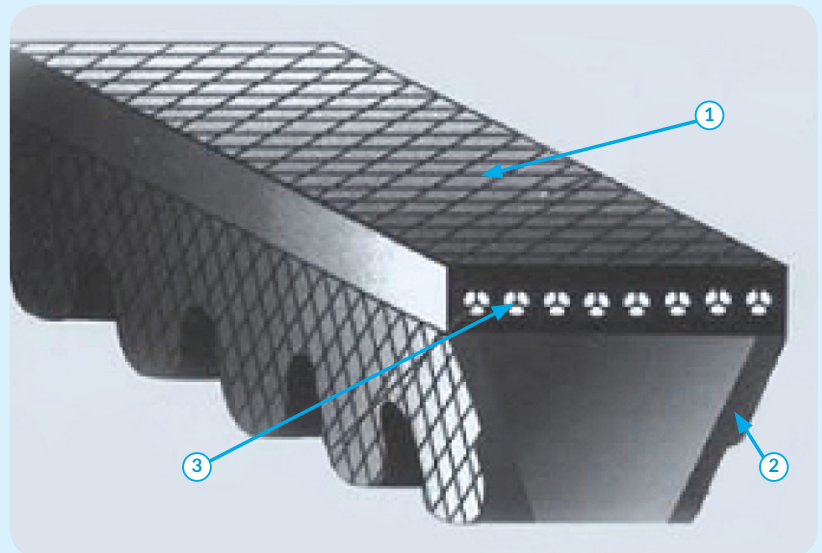
- Protects cords with Uniform thickness.
- Firmly bonds components together.

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:

- | | |
|---|--|
| ✓ Custom products capability | ✓ Length accuracy up to 4 times tighter |
| ✓ Recyclable | ✓ Heat-welded, compatible Coatings |
| ✓ Extended service against exposure to Cold, UV, Oil, Water and Chemicals | ✓ -40°C/-40°F cold service against -20°C/-4°F for rubber |

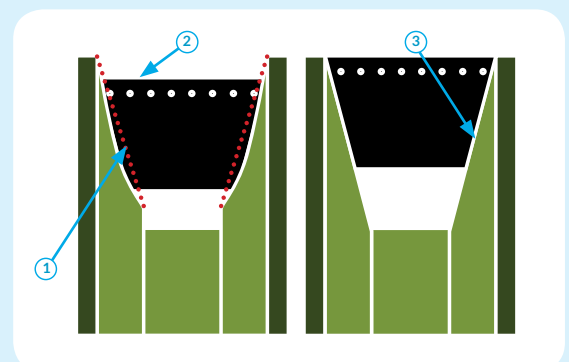
Limitations:

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

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

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/XPC	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

Note: Banded belts are also available in white.

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

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 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

Ordering Instructions: Specify Section, Length and Length Location (Inside length -Li, Pitch length -Lp or Outside length -La) and also specify Number of Ribs.

Volta Power® in the Wood Industry

WOOD Belts - for woodworking machinery.

Coated White belts from Volta 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-extruded components, 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.

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 - Special 2x20

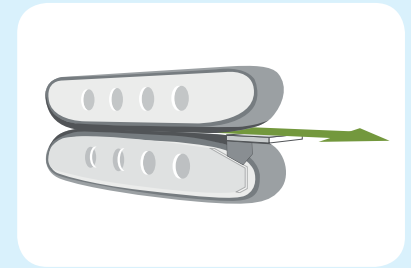
**70x17 - Special 2C

Endless Belts

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.



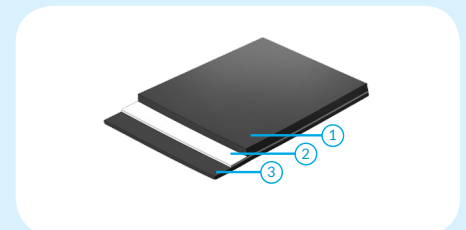
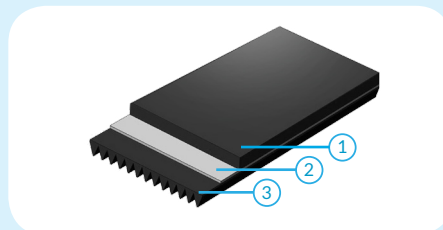
The Volta Power line has a wide range of Haul-off belts produced on either Flat or Poly-V bases.

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.

Poly-V Haul off belt

FLAT Haul off belt

Pitch Width (mm)	
PJ	2.34
PL	4.70
PM	9.40



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 latera 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 -400C.
- **High Performance and Operating Life:**
Non-Marking Thermo-Plastic Polyurethane in a resistant belt design offers extended service in tough applications.

Endless Belts

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
 - 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

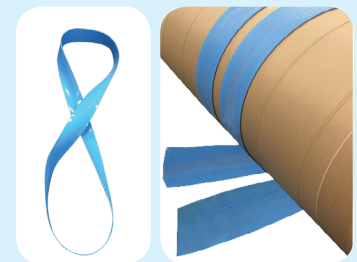
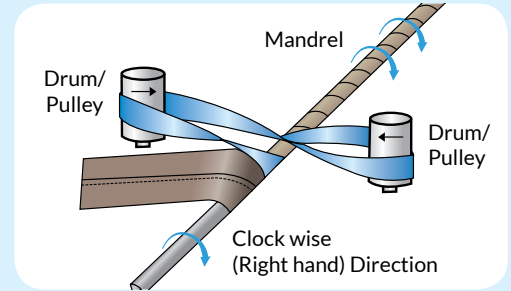
Volta offers belts with a pre-twist incorporated in the belt construction. The pre-twist offers a smooth, low tension operation. The pre-twist direction should be defined according to the winding direction of the tube production process. Refer to Figure 1.

- 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.

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

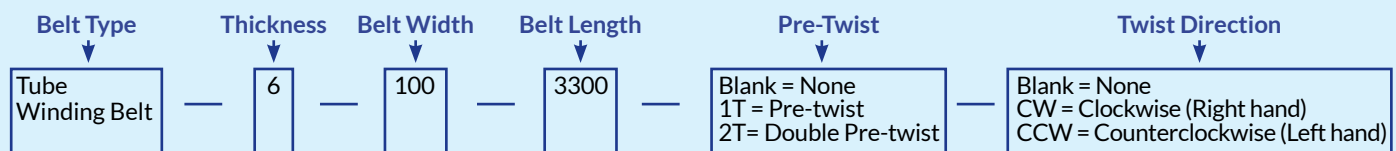
Figure 1



Double Pre-Twist

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



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)

