



# The Next Step in **Belting**



## Power Transmission

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:

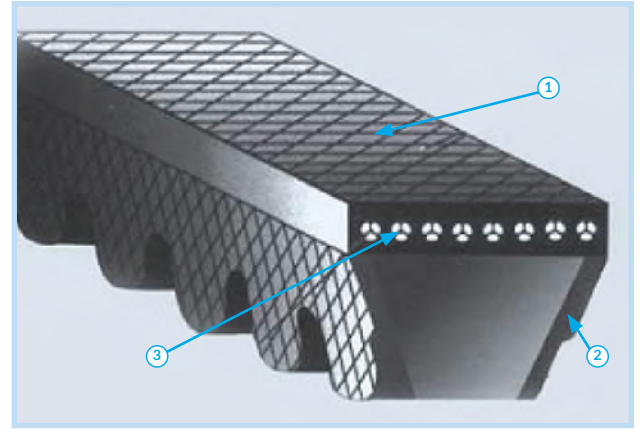
- Protects cords with Uniform thickness.
- Firmly bonds components together.

#### 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:

- ✓ 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

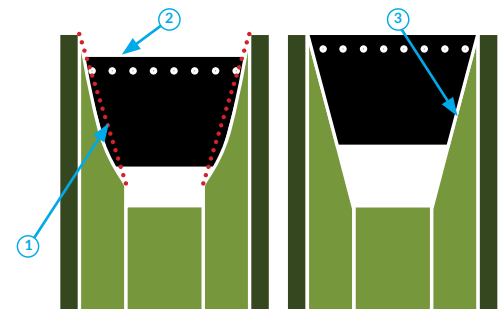
### Limitations:

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/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



### 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

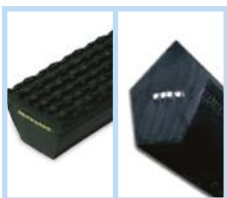
Besides standard v-belts, bowling equipment uses sections like our Pinsetter cross conveyor belt and Ball retainer T-belt which offer extended service and reduced lane downtime.



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 (~)	33	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.

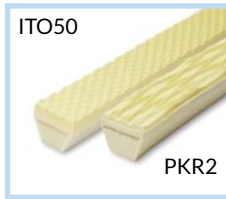
Coated White belts from Volta Power® have proven themselves with woodworking machine OEMs in their Edgebanders, Tenoners and other equipment. Heat-welded construction does-away with contaminating glues and belt failures from material incompatibility.

- ✓ 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.
- ✓ 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

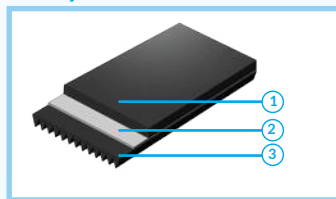
Made on flat or poly-V bases per customer requirements. Called Caterpillar belts when their covers are segmented, the low wear features of our ThermoPlastic Elastomers (TPE) offer extended operation world-wide, in tough cable-making and in precision extrusion equipment. Compatible TPE components are 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.

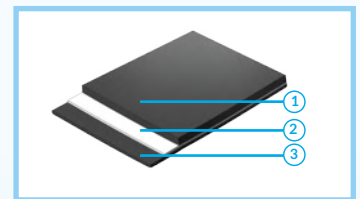
Pitch Width (mm)	
PJ	2.34
PL	4.70
PM	9.40

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.

