

# General Information and Glossary

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## Dimensions

Gates reserves the right to make changes in design or dimensions of standard products to improve their quality or to accommodate improved manufacturing techniques. All dimensions in this catalog are for reference only.

## Weights

All weights are close approximations and may vary slightly from actual weights.

## Glossary

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### Ordering Terminology

**PBL** — “Private Brand Label” of Gates standard line belts. Available upon customer request. PBL products are made-to-order and may require additional lead times and cost.

**Standard/Non-Stock Belt Products** — Products do not require minimum production quantities but may require production lead time and items are not returnable. Check with customer service for details.

**Standard/Non-Stock Metal Products** — Products do not require minimum production quantities but may require production lead time and items are not returnable. Check with customer service for details.

**Stock Belt Products** — Products in this catalog are stock unless otherwise noted.

### Belt Products Terminology

**Aramid Tensile Members** — Available in several stock lines and on an MTO basis. Also referred to as Kevlar® or Flexten®.

**Arched Top** — Construction feature that provides superior strength to prevent distortion of the tensile section.

**Banded** — Belts with a fabric cover over the belt body. Also referred to as wrapped or covered belts.

**Bandless** — Belts with no fabric cover. Also referred to as cut edge, raw edge or machined edge.

**Bareback** — Belts manufactured without rubber material being applied to the outside surface of the banded belt. Also known as low friction, dry cover or clutching cover.

**Belt Body** — The main part of any belt that generally surrounds, supports and protects the load-carrying tensile cords.

**Belting** — see Long Length.

**Carbon Tensile Member (U.S. Patent 5,807,194 & 5,112,282)** — Currently available in Poly Chain® GT® Carbon™ belts. Gates provides the only belt on the market utilizing carbon fiber tensile in a dynamic application.

**Compound** — Mixtures of rubber, plastics and other materials that are used to form the body of the belt.

**Concave Sides (U.S. Patent 1813698)** — Construction that allows the belt to make uniform contact with sheave groove, thus distributing wear uniformly.

**Datum Diameter** — A system that defines specific sheave and belt dimensions, previously known as the pitch system (diameter or length) for classical belts and sheaves.

**Effective Length (E.L.)** — A standard length measurement that accounts for varying construction and manufacturing methods in the industry. The length is determined by adding the effective circumference to twice the measured center distance using sheaves and an applied tension specified by the RMA.

**Eliminator® Belt** — Gates trade name for a high-performance, polyurethane, synchronous belt designed to replace RPP® belts.

**Endless** — also known as **truly endless**, a belt manufactured in a continuous circle, never utilizing a splice or joint.

**EPDM** — ethylene propylene diene monomer. A unique rubber construction that provides improved performance and heat resistance.

**Extended Length™** — a descriptor of Poly Chain® GT® Carbon™ belts that are longer than the standard catalog lengths. Extended Length is achieved through a special manufacturing process. Design support is available from Product Application for drives needing Gates Extended Length solutions.

**Flex Bonded Cord** — Strong chemical bond between rubber body and tensile cord. Allows for absorption of bending stress and long service life. Avoids premature failure due to cord separation.

**Flex-Weave® Cover (U.S. Patent 2519590)** — Nylon and cotton blended fabric construction that increases flexibility and reduces cover stress providing longer cover life and longer protection of belt core.

**Gates Curves** — Belts with this feature compensate for effects that occur when a V-belt bends in a sheave. Curved belts feature concave sides, radius relief and arched tops.

**Hi-Power® II Belt** — Gates trade name for belts commonly referred to as classical, wedge or conventional.

**Idler** — 1) A non-powered pulley, sheave, sprocket or wheel around which a belt travels. 2) A non-powered roll or rolls supporting a belt.

**Long Length** — also known as belting, the same construction as a conventional belt but not in a continuous circle. Long Length belting is used in applications such as rack systems, linear actuators, automatic commercial door openers, garage door openers, etc.

**Metric Power™ Belt** — Gates trade name for molded notch, narrow and classical section V-belts in metric sizes.

**Micro-V® Belt** — Gates trade name for belts commonly referred to as V-ribbed, multi-rib and Poly-V.

**Molded Notch Belts** — Often referred to as cogged, notched or cut notch belts. Notches reduce bending stress.

**Multi-Speed™ Belts** — Gates trade name for products commonly referred to as variable speed, wide range variable speed, adjustable speed and variable pitch.

## Transportation Policy

All prices are F.O.B. point of shipment. The “F.O.B. point of shipment” term means that the title to the goods, as well as the full responsibility of all aspects of the shipment, passes to the consignee (customer) at time of shipment, and any tracking or claims against the carrier for loss or damage become the responsibility of the consignee.

## Aircraft Policy

**WARNING! BE SAFE!** Do not use Gates belts, pulleys or sprockets on aircraft propeller or rotor drive systems or in-flight accessory drives. Gates products are not designed or intended for aircraft use.



**Oil and Heat Resistance (OHR)** — Property of the belt that allows it to withstand the effects of oil, heat, sunlight, ozone, weather and aging.

**Outside Circumference (O.C.)** — The circumference (total length) measured around the outside of the belt, typically with a tape, while the belt is still on the drive. This measurement can be used to determine the closest belt length when a part number is not available.

**Poly Chain® GT® Belt** — Gates trade name for a premium, high torque, polyurethane, synchronous belt with aramid tensile cord.

**Poly Chain® GT® Carbon™ Belt** — Gates trade name for the ultimate, high-torque, polyurethane, synchronous belt utilizing carbon cord as the tensile member.

**Polyflex® Belt** — a Gates trademark for a polyurethane V-belt that is often used in high precision drives, such as machine tools and small appliances.

**Polyflex® JB® Belt** — a Gates trademark for two or more joined polyurethane V-belts.

**PowerRated® Belt** — Gates trade name for a line of premium fractional horsepower belts.

**PowerBack® Belt** — Gates trade name for a specialty construction V-belt with a flat back for driving roll-to-roll conveyor applications.

**PowerBand® Belt** — Gates trade name for two or more belts joined together at the top of the belt. It is also referred to as a joined or banded belt.

**Power Curve® Belt** — Gates trade name for a special flexible construction V-belt for curved conveyor applications.

**PowerGrip® Belt** — Gates trade name for several synchronous product lines including timing, HTD®, GT®2, GT®3, and Twin Power®.

**PowerGrip® HTD®/GT®2/GT®3 Belts** — Gates trade name for a high-torque drive system with a curvilinear tooth profile. These belts are often referred to as Gilmer, timing, positive or synchronous belts. They are sometimes referred to, in error, as cogged or notched belts.

**Predator® Belts** — Gates trade name for the highest performing V-belts. Predator belt construction is available in narrow and classical profiles and single and PowerBand® configurations.

**Radius Relief** — Construction that minimizes corner wear and works with concave sides to assure proper support of the belt.

**Super HC®/Super HC® Molded Notch Belt** — Gates trade name for a drive system commonly known as narrow or deep wedge.

**Superior Length Stability** — Assures V-belts require less re-tensioning and take-up during their service.

**Synchro-Power®** — Gates trade name for endless polyurethane construction belts, also known as Gates Mectrol® belts. Also available as long length belting in specialized constructions such as food grade, heavy backing, textured backing, and utilizing various tensile cord materials.

**Synchronous** — Generic term used for power transmission drive systems utilizing toothed belts in mesh with grooved pulleys or sprockets. These systems are also referred to as Gilmer or timing.

**Tensile Cord** — V-belts typically use special polyester cords, with aramid used in some specialty belts, such as Predator® and PowerRated® belts. Synchronous belts generally have fiberglass cords, except for the carbon fiber used in Poly Chain® GT® Carbon™ belts. Steel is rarely used, except in some special or Made-to-Order synchronous belts.

**Tooth Facing** — Specially woven and treated nylon fabric that reduces friction of the belt in the sprocket and resists abrasion and other tooth damage.

**Tri-Power® Belts** — Gates trade name for molded notch classical section or conventional belts.

**Truflex® Belts** — Gates trade name for Fractional Horsepower (FHP) light duty belts.

**PowerGrip® TruMotion® Belts** — Gates trade name for white rubber belts for use on light power and precision applications with cleanliness requirements.

**Truncated Rib** — Construction profile that provides improved crack resistance, higher load-carrying capacity and improved flex fatigue resistance.

**Twin Power® Belts** — Gates trade name for PowerGrip® rubber synchronous belts ideal for serpentine applications. Twin Power belts are specially made to handle the same load capacity on either side of the belt.

**V80®** — Gates trade name for V-belt matching system that meets ARPM tolerances. Any V80® belt will match and perform with any other V80® belt of the same size and type.

**Wrapped** — see **Banded**.

## Power Transmission Metal Terminology

**Bushings** — A hub system that allows adaptation of sheaves, pulleys and sprockets to varying shaft sizes. Common bushing systems offered by Gates are QD® and Taper-Lock®.

**Idler** — an adjustable free-wheeling pulley used to apply pre-tension to belts and take up slack.

**Pulley** — A common term that usually refers to sheaves, sprockets or pulleys. The term correctly used applies to metal used for PowerGrip® timing belts.

**Sheaves** — Metal products with “V” shaped grooves specially designed for various types of V-belts.

**Sprockets** — Metal products for high-torque synchronous power transmission systems, such as PowerGrip® GT®3 and Poly Chain® GT® Carbon™. Sprockets are specifically designed to transmit power with only the corresponding belt product line.

### The following Super HC®, Hi-Power® II and Tri-Power® belts are V80® belts:

#### Molded Notch Construction Single V-Belts

3VX250-3VX1400	XPA630-XPA3000
5VX350-5VX2000	XPB1250-XPB3000
8VX1000-8VX2000	XPC1800-XPC3000
AX21-AX173	10X530LI-10X1750LI
BX24-BX300	13X715LI-13X4000LI
CX51-CX360	17X875LI-17X8636LI
XPZ604-XPZ3000	

#### Banded Construction Single V-Belts

3V250-3V1400	D98-D660
5V500-5V3550	E144-E660
8V1000-8V6000	SPZ3150-SPZ3550
A24-A200	SPA3070-SPA4500
B28-B472	SPB3150-SPB8000
C44-C450	SPC3150-SPC10600

#### Molded Notch Construction PowerBand® V-Belts

3VX250-3VX1400	BX42-BX158
5VX500-5VX2000	CX75-CX173

#### Banded Construction PowerBand® V-Belts

3V800-3V1400	A62-A180
5V670-5V3550	B62-B315
8V1000-8V6000	C60-C420
	D144-D660