

# 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.

## 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.

## 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** — Patented 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.



**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 and Twin Power®.

**PowerGrip® HTD®/GT®2 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 RMA 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®2 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	5VX500-5VX2000
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### Banded Construction PowerBand® V-Belts

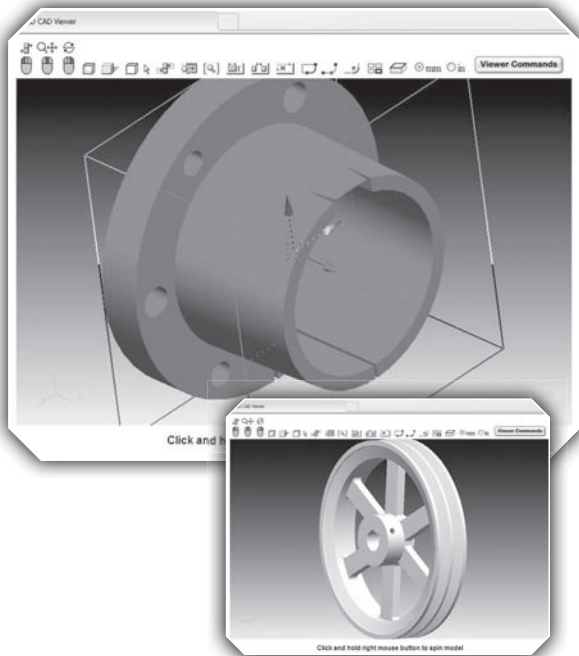
3V800-3V1400	B62-B315
5V670-5V3550	C60-C420
8V1000-8V6000	D144-D660
A62-A180	

# Services and Resources

*Gates is committed to providing you the best power transmission products and tools to quickly find the part you need, design better drives, keep your systems up and running, and so much more.*

**Case Study Library** – over 100 actual case studies document cost savings from upgraded belt drive solutions – increased uptime, reduced maintenance, and energy savings gained. [www.gates.com/ptcasestudies](http://www.gates.com/ptcasestudies)

**Online Catalog and CAD models** – PartView™ is Gates web-based interactive product catalog for industrial belts and pulleys. Pick the right parts via a high-speed, easy-to-use search engine and obtain solid models, specification sheets and additional product information. [www.gates.com/partview](http://www.gates.com/partview)



**Preventive Maintenance Training** – Proper installation and preventive maintenance procedures contribute to bottom line savings by reducing downtime and increasing production. Gates offers onsite Preventive Maintenance training for you and your staff. To schedule training or to learn more, contact your authorized Gates distributor and request onsite Preventive Maintenance Training from Gates.

You can also do the training yourself by ordering Gates Preventive Maintenance (PM) Training Kit. The complete kit provides tools and recommendations to keep your belt drives running efficiently.

- Included in the training kit:
- PM DVD
- Single Barrel Tension Testers
- Sheave Gauges
- Gates Preventive Maintenance Manuals
- Gates Pocket Catalogs
- Gates Power Transmission Catalog
- Belt Failure Wall Chart
- Belt Identification Poster
- Certification Quiz
- To order training for 10 people, please contact your Gates authorized distributor and ask for product number 9975-0002 or visit [www.gates.com/pmkit](http://www.gates.com/pmkit) to order direct from Gates.

# Services and Resources

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**Onsite Plant and Energy Saving Surveys** – Where could cost savings be easily achieved at your facility? Work with Gates to find out specific options for improving productivity, reducing downtime and reducing your energy bill. To schedule an onsite survey or to learn more, contact your authorized Gates distributor and request onsite Plant and Energy Savings Surveys from Gates.



**eLearning** – Talk with your Gates authorized distributor about the online Power Transmission training and employee development courses available through Gates Performance Learning Center. Expand your knowledge base and that of your employees via this interactive web-based tool. With progress tracking and quizzes built in, employee training has never been easier.

– [www.gates.com/ptlearning](http://www.gates.com/ptlearning)

**Design Flex® Pro™ and Design Flex® Web™** – If you currently design 2-point drives using manuals, then you know how long it can take and that you only get one solution. Use Gates Design Flex® Pro™ program and design a drive in minutes. Get every possible drive solution that fits your design parameters and print, email or create a PDF of the design specifications. Design Flex Pro is downloaded to your computer while Design Flex Web is an online tool not requiring download. [www.gates.com/drivedesign](http://www.gates.com/drivedesign)

**Design IQ™** – This program provides a blank slate for designing multi-point and complex serpentine belt drives. Utilizing a specific Gates product that you have identified, as well as your drive specifications, the software will calculate belt tension, shaft load, belt length and more. [www.gates.com/drivedesign](http://www.gates.com/drivedesign)



# Made-to-Order Metals

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*When standard products won't work, call the Gates Made-To-Order Metals Team. Our dedicated made-to-order metal staff specializes in providing prototype and production pulleys, sheaves and sprockets to meet your design expectations. No order is too large or too small.*

- **Pulleys, Sheaves and Sprockets** – All Gates Synchronous Profiles and Pitches, Micro-V® and V-belt, Plain or Profiled Idlers
- **Bores** – Plain, Straight, Tapered, Splined or any special bore. Manufactured to accept Taper-Lock®, Ringfeder®, QD, Torque Tamer, Trantorque® or other special bushings
- **Styles** – Bar Stock, Idlers, Ringfeder Connections, Torque Tamers, Custom Configurations, Special Hubs and more
- **Material** – Aluminum, Steel, Ductile, Cast iron, Phenolic, Stainless Steel or Plastics
- **Finishes** – Hard Coat, Food Grade, Zinc, Black Anodize, Nickel Plating, Painted, Custom Plating or any Special Coatings
- **Other Services** – Sub-Assemblies, Press Bearings, Sprocket/Bushing Balance and Index Marking
- **Processes** – Hob Cutting, Shaper Cutting, Die Casting and Molding

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