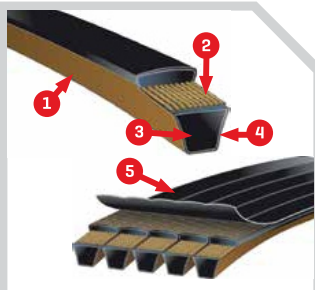




HIGH PERFORMANCE BELT DRIVES

Industrial Power Transmission Products and Services

HIGH PERFORMANCE BELT DRIVES



1. Reduce friction and heat build-up under shock loads with abrasion and puncture-resistant bareback (non-rubber) **double-layer fabric cover**.

2. Minimal need for re-tensioning due to stronger-than-steel **Aramid fibre (Kevlar)** tensile cords that reduce belt stretch by 50%.

3. Oil and heat resistant **Chloroprene compound body**, rated for 80°C, outperforms other rubbers in harsh operating conditions.

4. Extend drive life with the **patented curved sidewall** that allows belt to enter the pulley groove cleanly and smoothly, reducing sidewall wear on belt and pulley.

5. **Multiple-layer tie band** joins belts together into a Predator® Powerband® that provides lateral rigidity for reduced vibration and belt roll-over on multi-groove pulleys.

PREDATOR®

V-BELTS DESIGNED FOR THE MOST AGGRESSIVE APPLICATIONS

High powered motors. Shock loads from sudden starts and stops. Dirty operating environments. High heat. Contamination from oil or solvents. **Predator® V-belts handle them all.**

- > Maintenance free
- > 35% less drive cost
- > 60% less drive width
- > 50% less weight
- > Shaft load remains unchanged



NARROW



CLASSICAL

Predator® Cross Sections

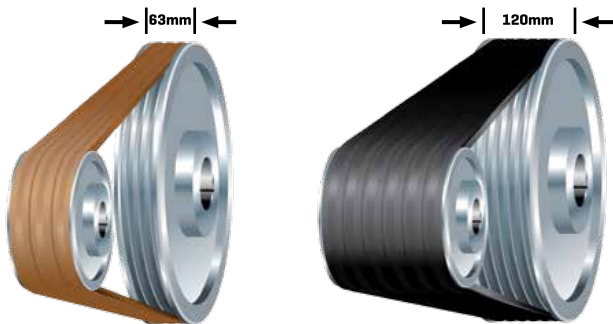
Belt Type	Classical	Narrow (ISO)	Narrow (RMA)
Singles	AP, BP, CP	SPBP, SPCP	5VP, 8VP
Powerbands®	BP*, CP*	SPBP, SPCP, 9JP*, 15JP*	3VP, 5VP, 8VP

NOTE: Predator® V-belts must be ordered in matched sets.

* Available on request

COMPACT DRIVE SAVES SPACE, WEIGHT AND MONEY

Predator® V-belts can handle up to 2.2 times more power than the equivalent size standard V-belt. A more compact drive that weighs less, puts less strain on costlier components, and uses fewer belts. All of which saves you money. See the difference in the following example:



Predator® - SPBP Belts
 > 3 belts required
 > Rated kW/Strand: 53.5kW
 > Total weight: 72.2 kg

VS

Standard - SPB Belts
 > 6 belts required
 > Rated kW/Strand: 26.8kW
 > Total Weight: 114.6 kg

Compared with standard V-belt drives, the compact Predator® drive provides greater power capacity in half the width and weight, at a third of the cost, with no change in shaft loads. Predator® V-belts provide the ideal solution to replace costly, made to order, 8V belt drive pulleys with standard SPB or SPC.



PROVEN SUCCESS STORIES

Gates Engineers can help develop the best drive solution for your particular application and need. Below is an example of a drive Gates Engineers successfully upgraded.

END MARKET INDUSTRY

Tin Mine

APPLICATION

Cone crusher
 150KW @ 1485rpm

ORIGINAL COMPONENTS

Belts = 6 x SPC2360 V-belts
 DriveR Pulley = 6/SPC380
 DriveN Pulley = 6/SPC380

SOLUTION COMPONENTS

Belts = 6 x SPC2360P Predator® V-belts
 DriveR Pulley = 6/SPC380
 DriveN Pulley = 6/SPC380

PROBLEM

A large tin mine was experiencing extremely poor belt life on one of their cone crushers. Belts were only lasting around 6 weeks. The belts would stretch rapidly and slip, then burn off. Belt failures would require the manual removal of rocks from the crusher, enabling it to be restarted.

BENEFITS OF GATES SOLUTION

The Predator® V-belts easily cope with shock loads and power of this drive. They have not required re-tensioning and have been in service for 12 months since installation. The mine has experienced large savings on new belts, installation and maintenance costs. Downtime costs have also been reduced significantly.



6 weeks belt life has turned into 12 months, how much production are you losing?

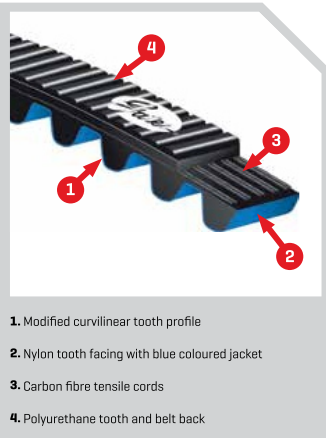
OUR GUARANTEE

If, for any reason, the Predator® belt drive system does not meet your expectations during the first 90 days, just return all components to your Gates distributor for a full refund.*

*To qualify for the 90 day risk free guarantee, the belt drive system must use new Predator® V-belts, pulleys and bushings. The drive must be designed using Gates design software and installed in partnership with Gates.



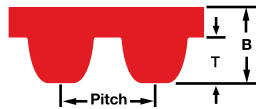
HIGH PERFORMANCE BELT DRIVES



POLY CHAIN® GT® CARBON™ POLYURETHANE SYNCHRONOUS BELT WITH CARBON FIBRE CORDS

Trying to reduce your energy bill? Experiencing downtime to re-tension & lubricate your roller chain? High moisture, oil or chemicals causing you problems? **Poly Chain® GT® Carbon™ synchronous belts are the solution.**

- > Maintenance free
- > 400% greater capacity than HTD timing belts
- > 5% energy savings over V-belts
- > 99% efficiency for life of the drive
- > Reduce downtime
- > Reduce weight and overhung loads
- > Over 120,000 possible drive combinations
- > Inert to most acids, chemicals and water



Poly Chain® GT® Carbon™ Pitch Sizes

	Pitch mm	T (mm)	B (mm)
8MGT	8.0	3.4	5.9
14MGT	14.0	6.0	10.2

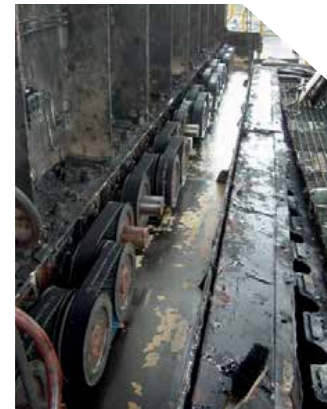
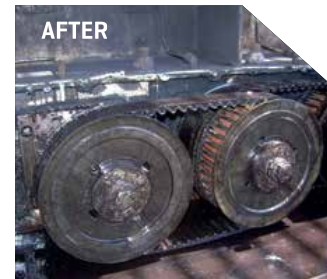


...it doesn't have to be like this.

- > Width-for-width roller chain conversions
- > No stretch, no lubrication, no re-tensioning
- > Outlasts roller chain up to 4 to 1
- > Outlasts roller chain sprockets up to 10 to 1
- > Inside & backside idlers can be used



No need for messy oil baths and constant chain replacements or re-tensioning.



PROVEN SUCCESS STORIES

Gates Engineers can help develop the best drive solution for your particular application and need. Below is an example of a drive Gates Engineers successfully upgraded.

END MARKET INDUSTRY

Coal Wash Plant

APPLICATION

Roller screen
7.5KW @ 138rpm

ORIGINAL COMPONENTS

Chain = 16B duplex roller chain

70mm wide
DriveR Sprocket = 19 Tooth
DriveN Sprocket = 19 Tooth

SOLUTION COMPONENTS

Belt = 14MGT-994-37 Poly Chain® GT® Carbon™

37mm wide
DriveR Sprocket = 40 Tooth
DriveN Sprocket = 40 Tooth

PROBLEM

The existing roller chain drives were stretching and breaking causing maintenance headaches. The chains also needed to run in an oil bath or be heavily greased in this filthy environment. 39 chains required replacement in one year on the screen.

BENEFITS OF GATES SOLUTION

The Poly Chain® GT® Carbon™ belts require no lubrication and the drives have now run for 24 months without requiring any maintenance. The success of the conversion has resulted in the screen manufacturer making this the original equipment design.

Poly Chain® GT® Carbon™ is now the drive system of choice for this global roller screen manufacturer.



OUR GUARANTEE

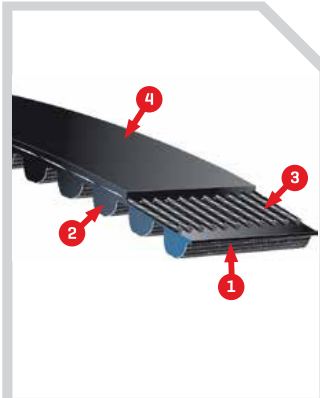
If, for any reason, the Poly Chain® GT® Carbon™ belt drive system does not meet your expectations during the first 90 days, just return all components to your Gates distributor for a full refund.*

*To qualify for the 90 day risk free guarantee, the belt drive system must use a new Poly Chain® GT® Carbon™ belt, Gates Poly Chain® GT® sprockets and bushings. The drive must be designed using Gates design software and installed in partnership with Gates.



You can find other case studies at www.GatesAustralia.com.au/CaseStudies.

HIGH PERFORMANCE BELT DRIVES



POWERGRIP® GT3 RUBBER SYNCHRONOUS BELT WITH FIBREGLASS CORDS

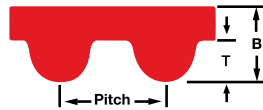
HTD belts not strong enough? After a more efficient drive than V-belts? Need a compact, high precision drive? Hazardous explosive areas requiring a static conductive rated belt? **Think PowerGrip® GT3 synchronous belts.**

- > Maintenance free
- > Low noise and vibration
- > Greater capacity, narrower drive designs
- > Abrasion resistant, longer life
- > Static conductive to ISO 9563

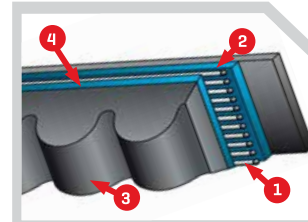
PowerGrip® GT3 Pitch Sizes

	Pitch [mm]	T [mm]	B [mm]
2MGT	2.0	0.7	1.5
3MGT	3.0	1.1	2.4
5MGT	5.0	1.9	3.8
8MGT	8.0	3.4	5.6
14MGT	14.0	6.0	10.0

1. Low friction nylon facing protects tooth surfaces against wear
2. Gates modified curvilinear tooth profile
3. Helicly wound fiberglass tensile cords provide enormous strength, flex life and elongation resistance
4. Technologically advanced elastomeric compound for teeth and backing



At least 200% capacity over HTD belts means you can halve your drive width using PowerGrip® GT3 belts.



QUAD-POWER® III RAW-EDGE, NOTCHED, NARROW SECTION V-BELT

Applications with extreme heat. Need to reduce your maintenance and downtime? Pulleys too small for your wrapped V-belts. **Quad-Power® III V-belts are the answer.**

- > Increased temperature range -40° to +110°C
- > 60% capacity increase over narrow section wrapped belts
- > Increase efficiency up to 3%
- > Reduce drive width up to 50%
- > Reduce drive maintenance
- > Space saving and design freedom
- > Static conductive to ISO 1813 and IP3-3
- > Match free to UNISET & V80 matching systems

1. High-strength, low elongation polyester cords.
2. Embedding adhesion layer (blue) provides resistance to bending stress and separation.
3. Notched construction to allow bending around small pulley diameters. Notch profile optimised to suit each cross section.
4. Cross orientated fibre loaded rubber compound for flexibility and stability.



Quad-Power® III Cross Sections

Belt Type	Narrow [ISO]	Narrow [RMA]
Singles	XPZ, XPA, XPB, XPC	3VX, 5VX, 8VX
Powerbands	XPZ, XPA, XPB	3VX, 5VX



Hi-Power® II 12 x B46
Pulley Width = 234mm
25,000 hr belt life



Super HC® 8 x SPB1250
Pulley Width = 158mm
25,000 hr belt life



Quad-Power® III 5 x XPB1250
Pulley Width = 101mm
25,000 hr belt life



New EPDM rubber construction is rated to 110°C.

HIGH PERFORMANCE BELT DRIVES



MAINTENANCE KIT 3

More than 60% of all belt drive issues are caused by improper drive maintenance or installation.

The right training matched with the appropriate product and tools reduce downtime and increase efficiency, saving energy and money.

PREVENTIVE MAINTENANCE TRAINING

Gates offers Preventive Maintenance Training to assist in achieving the best performance from your belt drives and keeping downtime and maintenance at a minimum.

The most common causes of poor belt life are improper maintenance and improper installation. The course aims to ensure that these causes are illustrated to provide trouble free drives and increase your uptime.

THE COURSE COVERS THE FOLLOWING:

- > Belt identification
- > Belt construction
- > Features and benefits
- > Belt drive problems
- > Pulley and belt inspection
- > Guard maintenance
- > Shutdown procedures
- > Pulley installation and alignment
- > Belt tensioning techniques
- > Re-tension periods
- > Training on the use of tension and laser alignment tools
- > Troubleshooting failure modes

Duration of course = 3 - 4 hrs.
Max 12 per class.

MAINTENANCE

Optimum belt drive performance is not achieved via guess work, you need the right tools for the job.

Gates most popular Maintenance Tool Kit [GIBMAINT-3] allows any belt drive to be accurately installed and maintained. It includes Gates premium 508C Sonic Tension Meter and EZ Align® Green laser alignment tool. The Belt Wear Gauges allow for quick V-belt pulley inspections.

The aluminium tension plates can be installed on the drive or guard to ensure belt details and tensioning data are always on hand.

Three other kit versions are available with slightly different components included to suit your requirements and budget.

MAINTENANCE

Item Code - GIBMAINT-1

- 1 x Hard Carry Case with foam liner
- 1 x Gates 508C Sonic Tension Meter
- 1 x Gates AT-1 Laser Alignment Tool
- 1 x Gates 15kg Single Barrel Tension Tester
- 1 x Gates 30kg Double Barrel Tension Tester
- 1 x Gates Belt and Pulley Gauges
- 2 x Gates Aluminium Tension Plates
- 2 x Gates Tension Stickers
- 1 x Gates Steel Ruler
- 1 x Gates Measuring Tape
- 1 x Gates Pocket Tension Guide

MAINTENANCE

Item Code - GIBMAINT-2

Same as Kit 1 minus the 508C Sonic Tension Meter

MAINTENANCE

Item Code - GIBMAINT-3

- 1 x Hard Carry Case with foam liner
- 1 x Gates 508C Sonic Tension Meter
- 1 x Gates EZ Align® Green Laser Alignment Tool
- 1 x Gates 15kg Single Barrel Tension Tester
- 1 x Gates 30kg Double Barrel Tension Tester
- 1 x Gates Belt and Pulley Gauges
- 2 x Gates Aluminium Tension Plates
- 2 x Gates Tension Stickers
- 1 x Gates Steel Ruler
- 1 x Gates Measuring Tape
- 1 x Gates Pocket Tension Guide

MAINTENANCE

Item Code - GIBMAINT-4

Same as Kit 3 minus the 508C Sonic Tension Meter



508C - SONIC TENSION METER

Item Code - 7420-0508

The 508C Sonic Tension Meter can easily be operated by one person for fast, accurate readings on all types of synchronous and V-belt drive systems. Use the standard cord sensor to reach inside cramped compartments where conventional methods would be impossible.

This small, light and user friendly meter features:

- > Output readings measurable in hertz, pounds, kilograms and newtons.
- > Improved frequency range from 10-5000 hertz.
- > Variable frequency range filters.
- > Auto gain control automatically adjusts meter sensitivity.
- > 20 memory registers for belt contents.
- > LCD screen with back light.



Optional Sensors:

1. Standard Cord Sensor [7420-0206] [Included with 7420-0508].
2. Flat Flexible Sensor [7420-0205] Bend to required shape for convenient, one-hand operation. [Replaces 7420-0204]
3. Inductive Sensor [7420-0212] [Magnets included]
4. Replacement Magnet [7420-1212]

EZ ALIGN® GREEN - LASER ALIGNMENT TOOL

Item Code - 7420-3000

Gates EZ Align® Green precision laser alignment device allows a single person to quickly and easily align a belt drive.

The green laser is **10x brighter** than the previous red laser design allowing for much easier use in bright areas.

Gates EZ Align® Green tool uses powerful laser line technology for maximum angular accuracy on belt drives up to 7.6 metres in centre distance.

- > FAST and EASY
- > Shows parallel and angular misalignment simultaneously
- > More accurate and efficient than any other laser tool or method
- > Reduces vibration and belt noise
- > Prolongs belt and pulley life
- > Suitable for both V-belt and synchronous belt drives
- > For both horizontally and vertically mounted drives
- > Alignment can be adjusted by one operator



HIGH PERFORMANCE BELT DRIVES



Replacement Targets
Item Code - LASERTARGET

AT-1 LASER ALIGNMENT TOOL

Item Code - 7401-10010

This tool can be used to align both V-belt and synchronous belt drives. It can show both parallel and angular misalignment between the pulleys.



V-BELT & PULLEY GAUGES

Item Code - 7401-0015

Gates colour coded V-belt and pulley gauges provide a simple solution for detecting worn pulleys and identifying V-belt cross sections.

The pulley wear gauges fit standard industrial grooves, identifying excessive wear before it leads to premature belt failure.



TENSION TESTERS

**Item Codes - Single Barrel - 15kg (7401-0076)
Double Barrel - 30kg (7401-0075)**

Gates has available two tension testing tools for use in the servicing of belt drives.

The single barrel (15kg) and the double barrel (30kg) tester can be used to accurately measure the tension of individual or joined belts upon installation or during maintenance.

Using the tension tester ensures that correct tension is maintained and is repeatable. This will yield not only a longer service life but a predictable one, enabling scheduled replacement rather than breakdown replacement.



INDUSTRIAL BELT MEASURER

Item Code - 7401-10001

Gates belt measurer can be mounted on your wall to easily find the inside length of a V-belt. It provides an accurate measure of all belt sizes between 600mm to 4100mm. When used in conjunction with our belt and pulley gauges belt identification is simple.

TENSION PLATES & STICKERS

**Item Codes - Plates (496-1997)
Sticker (496-5008)**

No more guessing tensions or wondering what the correct belt should be. Gates can supply all your drive critical information on adhesive backed aluminium plates or stickers that can be attached right onto the machine.

With the plate and sticker specifying which belt, how many and the tensioning data, incorrect belt installation is avoided.



ENGINEERING TECHNICAL SERVICES

Gates field team members are available to work with you on site to provide solutions for any new drives or belt drive problems you are currently experiencing.

Gates can visit and survey your entire site/plant, offering:

- > Drive design expertise
- > On-site drive performance evaluations
- > Laser alignment
- > Belt tensioning
- > Drive operating condition analysis
- > Belt failure analysis
- > Solutions for special application requirements
- > Recommendations and solutions



DESIGN FLEX® PRO™ BELT DRIVE DESIGN SOFTWARE

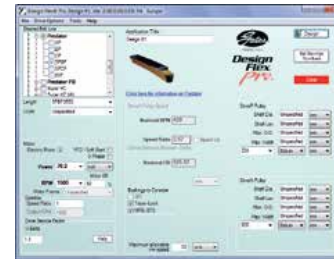
Gates Design Flex® Pro™ software is the ideal tool for checking existing belt drives and designing new ones.

Fast and Easy

With as little as 6 pieces of data you can instantly generate a report providing you with the capacity and accurate tensioning details for your belt drive.

If you are trying to modify an existing drive, or design a completely new one, then just select the desired belt types, enter in the required parameters and you will have a list of all possible drive options. All you need to do then is select the solution that best suits your requirements.

The detailed design reports generated can easily be printed or saved as a PDF and emailed to clients or staff.



Download FREE from www.Gates.com/DesignFlex

Industrial Power Transmission Products and Services



POWERING PROGRESS™



Rydell Beltech Pty Ltd



www.ammeraalbeltech.com/au

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NEW SOUTH WALES	BRANCH 22 Binney Road Kings Park 2148 New South Wales	Phone (02) 8664 9800	Fax (02) 8664 9809
QUEENSLAND	BRANCH 12 Machinery Street Darra 4076 Queensland	Phone (07) 3375 6211	Fax (07) 3375 6042
QUEENSLAND	BRANCH 8 Machinery Street Darra 4076 Queensland	Phone (07) 3375 6211	Fax (07) 3375 6042
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