



DRIVEN BY POSSIBILITY™

POWER TRANSMISSION:

CHAIN TO BELT





DRIVEN BY POSSIBILITY™

THE BENEFITS OF DITCHING CHAIN:

CHAIN TO BELT: INDUSTRIAL ENGINEERED SOLUTIONS

GATES DELIVERS MODERN TECHNOLOGY TO SOLVE CHALLENGES OF TRADITIONAL METHODS

Gates believes in innovation and keeping our customers at the forefront of everything we do. That's what the Chain to Belt program is all about. Chain systems require constant maintenance, unsanitary oil baths, and can cause long, costly downtimes when they fail. Converting chain drive systems to a Gates belt drive solution eliminates those concerns. There is no lubrication or tensioning required which saves your people time and energy, while lasting three times as long as traditional chain and weighing 97% less on average. The end result is a system that will easily pay for the cost to upgrade in six to twelve months.

BREADTH OF PORTFOLIO

CREATING SYSTEM SOLUTIONS

that address today's industrial challenges, including Synchronous Belts, Thermoplastic Polyurethane (TPU), V-Belts, and metals.

MATERIALS SCIENCE INNOVATION

POWER TRANSMISSION SOLUTIONS

delivering improved safety, reliability and productivity through advanced materials science technologies.

COVERAGE & SUPPORT

GATES INFRASTRUCTURE

supports customers every step of the way, through extensive distribution networks, technical application engineers, and technical sales support.

TRADITIONAL METHODS (HISTORIC TECHNOLOGIES)	GATES SOLUTIONS (MODERN TECHNOLOGIES)	VALUE PROPOSITION
Roller Chain	Poly Chain® GT™ Carbon™	■ 3X Longer Lifetime ■ Employee Health + Safety Benefits ■ Lighter Weight ■ Lower maintenance
Gear Boxes / Direct Drive	Poly Chain® GT™ Carbon™	■ Equivalent Lifetime ■ Shorter Lead Time ■ Lower Maintenance ■ Easier Rebuild ■ Reduced Spare Part Cost
Engineered Chain	Profile Thermoplastic Polyurethane (TPU)	■ Smooth + Quiet ■ No Rust + No Grease ■ Less Maintenance ■ Lighter Weight ■ Run at Faster Speeds
Plastic Modular Chain	Supported Thermoplastic Polyurethane (TPU)	■ HSE (Reduced Contamination Risk) ■ Smooth + Quiet ■ Easier + Cheaper to Clean ■ Reduced Maintenance
Lift Cables	Flat Belt Thermoplastic Polyurethane (TPU)	■ Reduced Stretch + Maintenance ■ Smooth + Quiet ■ Lower Power Consumption
Lead/Ball Screw Systems	Linear Belt Thermoplastic Polyurethane (TPU)	■ Faster Speeds ■ More Cost Effective for Longer Lengths + Lighter Loads ■ Reduced Maintenance

INDUSTRIES + END MARKETS	APPLICATIONS
Material Handling, Distribution, + Intralogistics	Storage + Retrieval Systems
Food Processing	Direct Contact Conveyance
Packaging Manufacturing + Automation	Horizontal + Vertical Positioning
Asphalt + Cement Plants	Bucket Elevators
Aggregates + Bulk Materials	Vertical Lift Systems
Health Sciences	Analyzers + Fitness Equipment
Agriculture + Grain Silo	Transport Conveyors
Lumber Mills	Leg Elevators
Oil + Gas	Fans + Pumps



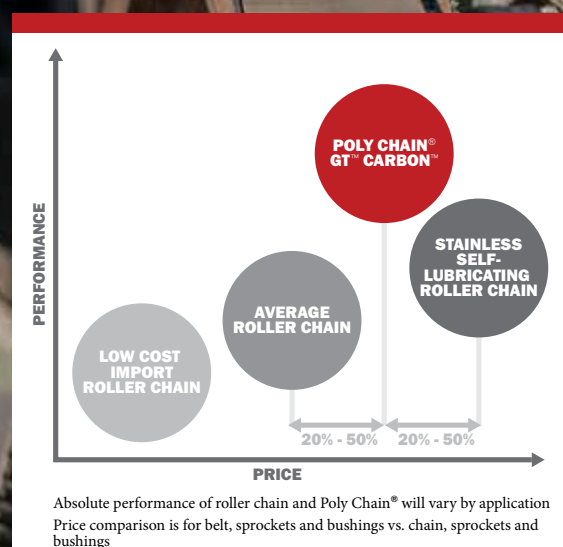
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POLY CHAIN®

THE GATES BELT-DRIVE-SOLUTIONS

- 3x Longer Life
- Requires no lubrication
- Virtually maintenance free, with no re-tensioning required
- Significantly reduced weight and noise
- Carbon tensile cord does not stretch
- Belt sprockets good for 2 to 3 belt changes
- Increased uptime
- No crane rental to replace the belt
- Increased safety
- Can reach virtually any center distance

THE BENEFITS EASILY PAY FOR THE COST TO UPGRADE,
PAYBACK PERIOD IN 6-12 MONTHS



POLY CHAIN® GT™ CARBON™ ROLLER CHAIN COVERAGE CHART																
Chain	3/8"	1/2"	5/8"	1 1/2"-2	3/4"	1 1/2"-3	5/8"-2	5/8"-3	3/4"-2	1"	3/4"-3	1 1/4"	1"-2	1 1/2"	1"-3	1 1/4"-2
Width (mm)	12.7	17.0	21.1	31.5	26.4	45.7	39.4	57.4	49.3	33.5	72.1	40.9	62.7	50.8	91.9	76.7
8M-12	8M x 12 mm															
8M-21				8M x 21 mm												
8M-36								8M x 36 mm								
8M-62											8M x 62 mm					
14M-20							14M x 20 mm									
14M-37											14M x 37 mm					
14M-68															14M x 68 mm	

POLY CHAIN® GT™ CARBON™ ROLLER CHAIN COVERAGE CHART CONTINUED																
Chain	1 3/4"	2"	1 1/2"-2	1 1/4"-3	2 1/4"	1 3/4"-2	1 1/2"-3	2 1/2"	2"-2	2 1/4"-2	2 1/2"-2	3"-2	2 1/2"-3	3"-3	2 1/2"-4	2 1/2"-5
Width (mm)	54.4	64.5	96.3	112.5	73.2	103.4	141.7	79.2	123.2	139.2	150.9	184.7	222.5	272.5	294.1	363.2
14M-68	14M x 68 mm															
14M-90						14M x 90 mm										
14M-125									14M x 125 mm							
19M-100									19M x 100 mm							
19M-150										19M x 150 mm						
19M-200											19M x 200 mm					
19M-250													19M x 250 mm			
19M-300															19M x 300 mm	

NOTES:

- Chain size ordered in increasing load capacity
- Chart indicates Poly Chain® GT™ Carbon™ belt widths and roller chain sizes with equivalent power ratings
- Not to be used for drive design purposes.

POLY CHAIN® PORTFOLIO

LENGTHS AVAILABLE	UP TO 20 METRES (65.6 FT) (PITCH DEPENDENT)
PITCHES AVAILABLE	5MM, 8MM, 14MM, 19MM
WIDTHS AVAILABLE	9MM TO 300MM
TEMPERATURE RANGE	-53°C (-65°F) TO +85°C (+185°F)
CONSTRUCTION	CARBON TENSILE CORDS; TRULY ENDLESS
OTHER FEATURES	HIGH-MODULUS CORD WHICH ALLOWS USE OF BACKSIDE IDLER

POLY CHAIN® EXTENDED LENGTH™

Gates' innovative carbon tensile technology and extended length polyurethane belting capability enables manufacturers to have higher uptime, lower maintenance, multiyear solution longevity, and greatly reduced multi-year operating costs.

POLY CHAIN® ADV™

Higher power than you've reached before. Narrower drives than ever before. Poly Chain® ADV™ is designed for significantly reduced weight and maintenance in your high-torque applications with limited space constraints.

POLY CHAIN® CARBON™ VOLT®

Suitable for high torque, low speed drives and environments with explosive atmospheres, Poly Chain® Carbon™ Volt® is Static conductive to ISO 9563 throughout the lifetime of the belt.



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GATES TPU:

THERMOPLASTIC POLYURETHANE

WHY TPU?

Polyurethane is extremely wear and fatigue resistant and at the same time highly flexible. TPU is abrasion- and chemical-resistant.

TPU belts replace engineered chain, plastic modular chain, steel cable, ball screw systems, and more. In all of these applications, TPU offers clean and quiet performance, easier cleaning, incredible strength, and absolute precision. And, like all Gates belt solutions, no lubrication is ever required.

INDUSTRIAL SEGMENTS

APPLICATIONS + SOLUTIONS

MATERIAL HANDLING

- Intralogistics Applications: Automated miniload warehouses, stacker cranes, shuttle systems, and intralogistic conveying systems
- Lifting Applications: Material lift, automotive lift, scissor tables, and process cranes

AUTOMATION

- Indexing & Conveying: Displacing attachment chain, welded linear belts with and without profiles
- Linear Positioning: Open-ended linear belts for positioning and lifting

HEALTH SCIENCE

- Hygienic Applications: Welded linear and wide belts displacing lightweight flat belts (friction drives)
- Fitness & Healthcare Applications: Flat belts displacing cable

FOOD PROCESSING

- Food Conveyor Belting: Replacing attachment chain and plastic modular belting

PRODUCT LINE		CONSTRUCTION	OFFERING	APPLICATIONS
LINEAR BELTS		Open Ended & Welded	Various Pitch, Cord Type, Resins, and Coatings Available	Linear Actuation, Lifting, Material Handling, Conveying
WIDE BELTS		Welded	Various Pitches, Kevlar Cord, Widths up to 450mm	Process Conveying, Hygiene, Tire
FLAT BELTS		Open Ended	Kevlar or Steel Cord in Most	Material Lifts, Live Roller Drives, General Conveying
FLEX BELTS		Truly Endless	Various Pitch, Steel Cord, 1.5 – 22.5m Lengths	Light Power Transmission, High Load Motion Control. (Longer Lengths)
SLEEVES		Truly Endless	Various Pitch, Steel Cord, .12 – 2.25m	Light Power Transmission, High Performance Conveying (Short Lengths)
FOOD BELTS		Welded	PosiClean®, CenterClean™, FlatClean™, Kevlar Cord, Various Fabrication, Joining Options, & Certifications	Food Handling and Conveying





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SYSTEM SOLUTIONS:

MACHINEWORKS: CUSTOM METALS



GATES DRIVE EXPERTS GET YOU UP AND RUNNING IN NO TIME. ANY DESIGN, ANY MATERIAL, AND NO MINIMUMS.

ENGINEERING

- Application Engineering
- Field Engineering
- Packaging Design

MANAGEMENT

- Production Sourcing
- Field Sales Support
- Distribution + Transportation

OEM LOGISTICS

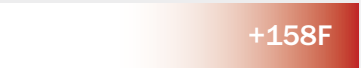
- EAU (Estimated Annual Usage)
- Inventory Management
- Just-In-Time Delivery
- Packaging + Container
- Distribution + Transportation



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PORTFOLIO SUMMARY:

BELT SELECTION MATRIX

ATTRIBUTE	POLY CHAIN®	POWERGRIP™ GT™	TPU
TORQUE	 HIGH TO LOW	 MEDIUM TO LOW	 LOW (POSITIONING)
RIM SPEED WITH STANDARD SPROCKETS*	 MAX 6500FPM	 MAX 6500FPM	 MAX 3000FPM
NOISE	 HIGHER AT HIGH SPEED	 MEDIUM AT HIGH SPEED	 MEDIUM AT HIGH SPEED
LENGTH (ENDLESS)	20M (65.6FT) UP TO 65.6FT ENDLESS (PITCH DEPENDENT)	7M (22.5FT) UP TO 22.5FT ENDLESS (PITCH DEPENDENT)	23.5M (77FT) UP TO 77FT ENDLESS
LENGTH (LONG LENGTH)	274M (900FT) UP TO 900FT (PITCH AND WIDTH DEPENDENT)	180M (590FT) UP TO 590FT (PITCH AND WIDTH DEPENDENT)	300M (984FT) UP TO 984FT (PITCH AND WIDTH DEPENDENT)
CONDUCTIVITY	 VOLT ONLY	 YES (8 AND 14MM)	 STANDARD NO, SPECIAL RESIN AVAILABLE
TEMPERATURE	 -65F TO +185F, -54C TO +85C	 -30F TO +185F, -34C TO +85C	 +23F TO +158F, -5C TO +70C
CHEMICAL RESISTANCE	 HIGH	 MEDIUM	 HIGH
FOOD APPLICATIONS	 YES (NOT FDA)	 NO	 YES (FDA)
CUSTOMIZATION	 VERY LOW	 LOW (SOME BACKINGS)	 HIGH (BACKINGS, PROFILES, MODIFICATIONS)
DUAL SIDED POWER TRANSFER	 NO	 YES (TWIN POWER™ GT2™)	 NO

* Higher speeds can be reached with custom sprockets.

SATISFIED CUSTOMERS:

CONTINENTAL PAVING

Continental Paving has been in business for 40 years and is always looking for ways to improve what they do.

“Back in the 80’s if you put down five to seven hundred tons a day, it would be a great day. Today, our goal is twenty five hundred a day. Then we get on some projects and we put down as much as thirty five hundred to four thousand tons a day” notes Mark Charbonneau, the President of Continental Paving. “Downtime is extremely expensive and one of the biggest problems is that you have 30 trucks with 10-man paving crews. If any one thing goes down, then it shuts the whole operation down. So it is important to have products that are sustainable and give you the most efficiency and long life.” Replacing the chain system helped resolve very time consuming and tedious maintenance, which frees up Continental Paving to be more efficient. “The solution was the 19 mm pitch Poly Chain® belt. They installed it almost two years ago and it’s been working flawlessly. It’s exciting to have this kind of technology and this horsepower behind me.”



“THEY INSTALLED IT ALMOST TWO YEARS AGO AND IT’S BEEN WORKING FLAWLESSLY. IT’S EXCITING TO HAVE THIS KIND OF TECHNOLOGY AND THIS HORSEPOWER BEHIND ME.”

CHANGEOVER PROCESS

Gates field engineers perform an onsite application survey to get measurements and application requirements.

Gates engineers use proprietary software to generate a bill of materials.

Quote and ROI proposal is delivered to the customer.

Customer commits to order, and schedules future install.

Installation is performed by onsite staff or Gates installation partners.

Gates provides tools and support to keep you running long into the future.



**“NOW OUR BANDS RUN EXACTLY HOW
THEY ARE SUPPOSED TO BE,
BUT BETTER. ... WE DON'T HAVE A GUY
POURING OIL ON IT AND NEVER HAVE TO
RETENSION IT.”**

**WEIGHT
SAVINGS**

**MAINTENANCE
SAVINGS**

**REPLACEMENT
PART SAVINGS**

**IMPACT ON
EMPLOYEE
SAFETY**

SATISFIED CUSTOMERS:

CULP LUMBER TESTIMONIAL

One belt doing what many chains used to do.

Culp Lumber is a fifth-generation family-owned business. We interviewed Charlie Smith, the Maintenance Manager for Culp Lumber, after they switched from chain drives to Poly Chain® systems throughout the entire mill. “We were having lots of trouble with our band mills. We were going through two to three sets a year, at two, three, four thousand [dollars] a set.” Culp Lumber was using wide, cumbersome chain before Gates replaced it with Poly Chain®. “We put a little 2 ½ inch wide belt on there and put 150 horsepower and I really didn't have much confidence in it. Five years later it's still running.”



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GATES AUSTRALIA PTY LTD

200 National Drive, Dandenong South VIC 3175
PH: +61 3 9797 9666 FAX: +61 3 9797 9600

WWW.GATES.COM/AU/EN.HTML
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