



DRIVEN BY POSSIBILITY™

DRIVE WITH BELTS

Gates designs modern high-performance belt drive systems to support global personal mobility OEMs. Our leading power transmission solutions help you gain a marketable advantage. Optimize your design with Gates application engineering support, products, and customer service.



WORKING WITH GATES CAN HELP YOU ACHIEVE

- Elimination of Metal-on-Metal Chain Clatter
- Corrosion Resistance
- Reduced Maintenance
- Increased Durability
- Improved Efficiency
- Weight Reduction
- Higher Speeds and Torque
- Greater Power and Load
- Cleaner Drives



SYNCHRONOUS BELTS – ENGINEERED ELASTOMERS



CHLOROPRENE GLASS CORD POWERGRIP™

- Pitch/Profile:
2mm HTD or GT
3mm HTD or GT
5mm HTD or GT
- Temp: -35C to +85C
- Low torque applications



HNBR GLASS CORD

- Pitch/Profile:
5mm HTD or GT
8mm HTD or GT
- Temp: -30C to +130C
- Submersed oil applications



HNBR CARBON CORD

- Pitch/Profile:
5mm HTD or GT
11mm HTD or GT
- Temp: -15C to +130C
- Medium torque applications
- High modulus, lowest tension decay



ETHYLENE ELASTOMER GLASS CORD

- Pitch/Profile:
8mm HTD or GT
14mm HTD or GT
- Temp: -40C to +140C
- Medium torque applications
- Best low temp performance

SYNCHRONOUS BELTS – THERMOSET POLYURETHANE



X5N FLEXIBLE CARBON CONSTRUCTION

- Pitch/Profile:
8mm GT
11mm HTD
- Temp: -53C to +85C
- Special construction designed for small sprockets and small backside idlers



X7N STANDARD CARBON CONSTRUCTION

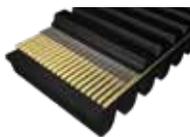
- Pitch/Profile:
8mm GT
11mm HTD or GT
14mm HTD or GT
- Temp: -53C to +85C
- Designed for applications with high load and tensile strength requirements



X9N PREMIUM CARBON CONSTRUCTION

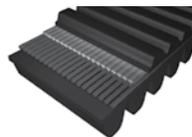
- Pitch/Profile:
11mm HTD or GT
14mm HTD or GT
- Temp: -53 to +85 deg C
- Premium construction designed for use on high load drives with benefits of narrow width, smaller sprockets and/or backside idlers

CVT BELTS – ENGINEERED ELASTOMERS



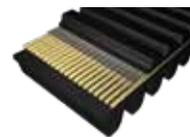
POWER SPORTS CVT CHLOROPRENE ARAMID CORD

- Trapezoidal top cog with rounded bottom cog provides excellent flexibility and efficiency
- Fiber loaded elastomer compound for durability
- Laminated fabric cog provides smooth shifting and higher abrasion resistance
- Cost effective performance for mid-range horsepower off-road CVT applications



POWER SPORTS CVT CHLOROPRENE CARBON CORD

- Advanced carbon cord results in minimal stretch with extraordinary strength for faster acceleration
- Trapezoidal top cog with rounded bottom cog provides excellent flexibility and efficiency
- Aramid fiber loaded elastomer compound for durability and optimized performance
- Designed for high-horsepower off-road CVT performance applications



POWER SPORTS CVT ETHYLENE ELASTOMER ARAMID CORD

- High tensile aramid cord maximizes acceleration, shock load resistance and service life
- Trapezoidal top cog with rounded bottom cog provides excellent flexibility and efficiency
- Aramid reinforced EE compound provides extreme temperature range, heat recovery, and excellent flex life
- Designed for the most demanding, turbo-charged off-road CVT applications



SCOOTER CVT CHLOROPRENE AND EE COMPOUNDS

- Multiple cord options to optimize tensile strength, flex and service life
- Single notch and double notch designs for improved flexibility and efficiency
- Broad temperature range coverage, abrasion resistance and consistent performance across belt life



DRIVEN BY POSSIBILITY™

SPROCKETS



CNC / HOBBED / FORGED

- Pitch/Profile:
5mm HTD or GT
8mm HTD or GT
11mm HTD or GT
14mm HTD or GT
- Aluminum
- Steel
- Stainless Steel



POWDERED METAL

- Pitch/Profile:
5mm HTD or GT
8mm HTD or GT
11mm HTD or GT
14mm HTD or GT



CAST ALUMINUM, STEEL

- Pitch/Profile:
5mm HTD or GT
8mm HTD or GT
11mm HTD or GT
14mm HTD or GT
- Thermal spray (ceramic) coating



INJECTION MOLDED COMPOSITES

- Pitch/Profile:
5mm HTD or GT
8mm HTD or GT
11mm HTD or GT
14mm HTD or GT

ADDITIONAL DRIVE COMPONENTS



IDLERS

- High performance bearings, eccentric design option for belt tensioning



DAMPERS

- Tunable design to target specific motor/drive NVH dynamics



ENGINEERING DESIGN SUPPORT

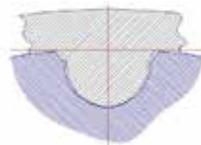
- Complete drive system design & analysis
- Proprietary design software
Component FEA
- NVH - modeling and troubleshooting
- Prototyping & test plans

CARBON DRIVE TECHNOLOGIES



CENTERTRACK DESIGN

- Pitch/Profile:
8mm HTD or GT
11mm HTD
- Optimal debris shedding, reduced tension requirement, more tolerant of misalignment
- Belt Temp: -53 to +85 deg C



MODIFIED HTD SPROCKET

- Pitch/Profile:
11mm HTD
- Optimized tooth profile for increased power, lower tension requirements



SUREFIT

- Pitch/Profile:
11mm HTD
- Flexible interface for the 3-lobe design of some internally geared hubs adjusts to provide the proper fit on a broad range of tolerances



CRANKSETS

- Pitch/Profile:
11mm HTD
- Gates crankset designs and assemblies are pre-engineered to match beltlines to specific rear internal geared hubs



DRIVEN BY POSSIBILITY™

DESIGN. ENGINEER. TEST. SIDE BY SIDE.

Gates has technical engineering centers and technical sales offices around the world to support your design, manufacturing and after-sales efforts. To upgrade from chain to belt, or compare Gates vs. your existing drive options, contact us at [Gates.com/mobility](https://www.gates.com/mobility).



GLOBAL ENGINEERING DESIGN & SUPPORT

■ Drive System Design

- Advanced Systems Engineering
- Component Modeling and Design

■ Drive System Validation

- Clarify System Targets
- Product Testing Assistance
- Drive Improvement Analysis

■ Value Analysis / Value Engineering

- Evaluate Opportunities to Improve Drive System
- Supply Chain Simplification

■ Global Project Coordination

- Seamless Global Collaboration to Completion
- Global Sourcing Capabilities



UNCHAIN YOUR FUTURE



Meeting your design needs at every turn

Partnering with Gates early in your design extends your engineering team and expands your power transmission experience from day one. Achieving the right balance between performance and cost effectiveness. How does your design move, operate, and function? What temperatures, environments, fuel efficiency, loads, or power demands will your system require? What type of service, maintenance, and support is required to meet your market demand? Gates can help.



©2019 Gates

[GATES.COM/MOBILITY](https://www.gates.com/mobility)

17550 July 2019