

Spring Capabilities



Explore Our Spring Solutions



Trelleborg Sealing Solutions offers a comprehensive portfolio of spring products custom-designed to meet customers' demanding requirements. Our problem solving solutions are featured in virtually every application conceivable within the industrial, aerospace and automotive markets.

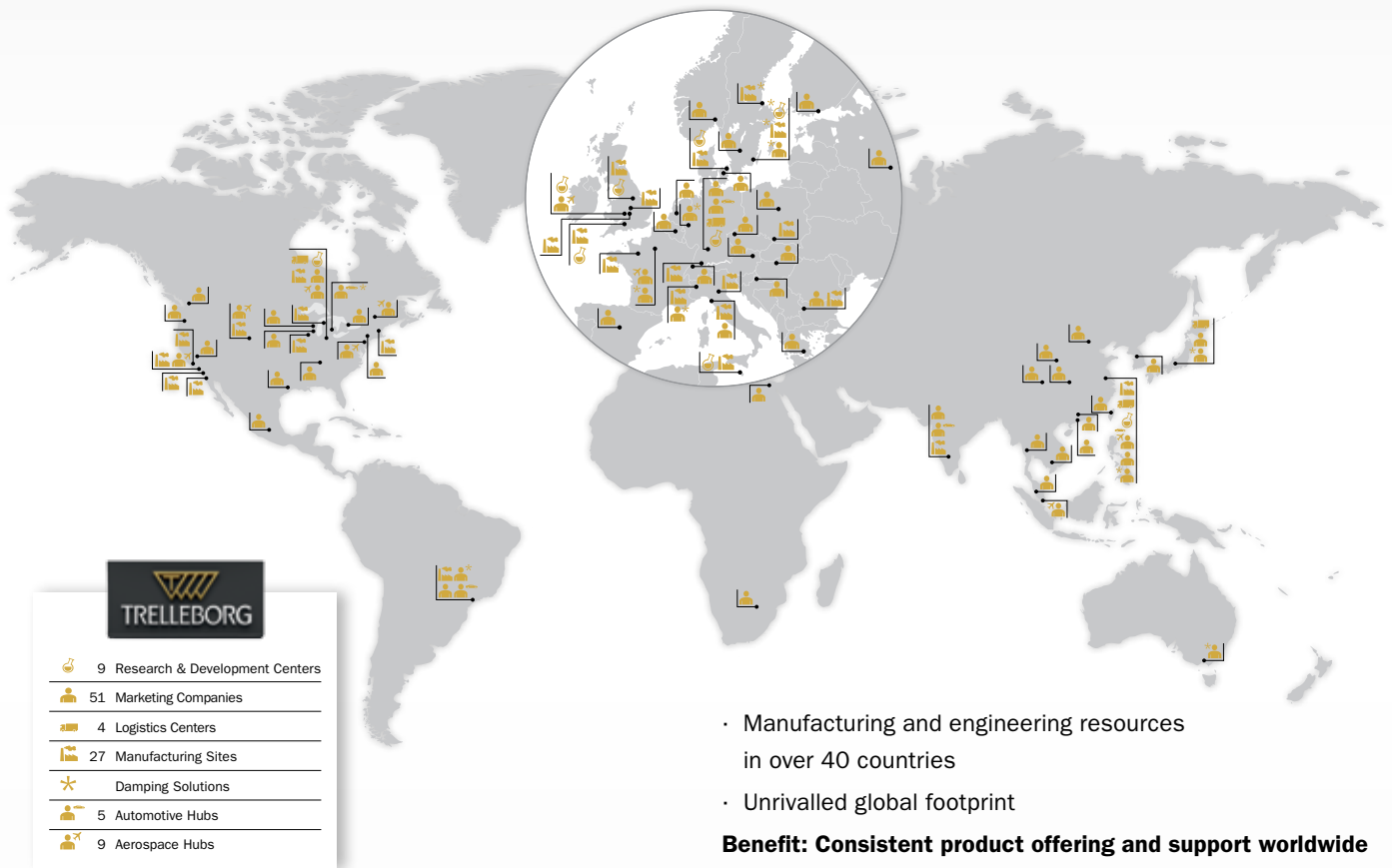
ENGINEERING EXPERTISE

- Shoulder-to-shoulder engineering; enhancing products with Trelleborg's design expertise
- Present at all stages of development, from prototype to bringing equipment to market

MANUFACTURING CAPABILITIES

- Coiling, stamping, wire forming
- Any configurations or volume
- Round or shaped wire
- Stamping presses up to 400 tons
- Secondary processes and finishes
- Cleanroom services

LOCAL PRESENCE, GLOBAL REACH



ADVANCED DELIVERY PROGRAMS

Through our Advanced Delivery Programs, we strive to understand our customers' unique supply chain requirements and develop delivery programs designed to streamline their procurement, inventory and replenishment processes.

Key Benefits

- Simplified Internal Processes
- Improved Part Availability
- Reduced Costs

VALUE-ADDED HANDLING & PACKAGING SERVICES

Trelleborg Sealing Solutions Value-added Handling & Packaging Services are designed to customize part handling, logistics and aftermarket services to our customers' needs.

Key Benefits

- Save money
- Prevent part damage
- Eliminate manufacturing operations

Product Range

Our product portfolio includes a wide range of coiled, stamped and wire-formed spring types produced in a variety of materials and finishes.

Materials That Meet International Standards

- Copper and alloys
- Steel, carbon and all grades of stainless
- Nickel and alloys, including MP35N®
- Titanium
- Music wire
- Elgiloy®, Hastelloy®, Inconel®
- Other specialty materials

Material Size Capacity

Coiled diameters	Cold Wound	from .13mm to 16mm / .004" to .630"
	Hot Wound	from 10.3mm to 50mm / .405" to 2.00"
	Extension	from .25mm to 16mm / .010" to .630"
	Torsion	from .25mm to 16mm / .010" to .630"
	Double Torsion	from .25mm to 16mm / .010" to .630"
Stamped thickness	From 0.05mm to 6mm / 0.002" to .24"	
Wire formed diameter	Volumes under 500 pcs – up to 12mm / 0.47"	
	Volumes greater than 500 pcs – up to 5mm / 0.20"	

TORSION SPRINGS

Used to apply torque or store rotational energy and are typically found in single coil or double coil forms.

Applications:

- Ratchets
- Swing-down tailgates
- Garage doors
- Window shades
- Counterbalance mechanisms
- Coupling between concentric shafts
- Door closures



COMPRESSION SPRINGS

The most common spring type specified in the marketplace today and one of most efficient energy storage devices available. The most common form of compression spring is straight cylindrical from round wire. Other forms include conical, hourglass, barrel, square, ovate, rectangular or reduced ends, produced from round or flat wire.

Applications:

- Electrical switches
- Measuring devices
- Pumps
- Valves
- Prosthetics
- Brake systems



EXTENSION SPRINGS

Designed to store energy and exert a required pull force when extended to a specific length. Extension springs require a method of attachment as part of an assembly. Customized end configurations and orientations such as hooks, loops, and threaded inserts are a few of the options available.

Applications:

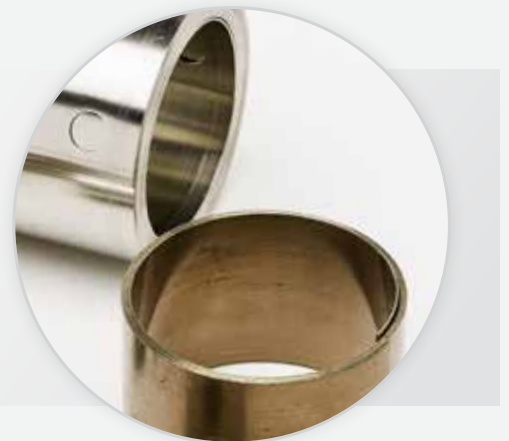
- Automotive interiors
- Garage doors
- Carburetors
- Washing machines
- Farm machinery

CONSTANT FORCE SPRINGS

Springs which exert a constant force over its full range of motion, constant force springs are produced as either motor type (drum take up) or extension type (strip end connection).

Applications:

- Feeding systems
- Raise/lower mechanisms
- Surgical instruments
- Bed lift mechanisms
- MRI and X-ray machines
- Industrial staplers/guns
- HVAC fire dampers
- Retractable reels



POWER SPRINGS

Power springs store and release large amounts of rotational energy in the form of torque.

Applications:

- Clocks
- Cameras
- Timers
- Retractor mechanisms for electrical cords
- Starter pull cords
- Seat belts



SNAP SPRINGS

Internal and external snap rings are offered to retain or locate components on shafts or in bores.

Applications:

- Actuators
- Bearings
- Gearboxes
- Transmissions
- Electric motors

BELLEVILLE WASHER & DISC SPRINGS

A Belleville washer is a type of non-flat washer with a slight conical shape or curvature which gives the washer a spring characteristic.

Applications:

- Actuation devices
- Bearing assemblies
- Clutch and brake mechanisms
- Transmissions
- Oil and gas drilling equipment



WAVE SPRINGS

Specified in place of conventional round wire compression springs. Generally, wave springs occupy 30-50% of the compressed height space of comparable round wire springs offering more deflection with the same load specifications.

Applications:

- Valves
- Rotary unions
- Electrical connectors
- Drug delivery devices

SPRING WASHERS

Application specific internally or externally slotted disc ring.

Applications:

- Couplings
- Gearboxes
- Transmissions
- Elevators
- Safety brakes/valves
- Machine tool clamping
- Vibration isolation



SPRING CLIPS & PINS

Selection of common locking pins and custom designed stamped spring shapes.

Applications:

- Tractor attachments
- Brake pads
- Sports bikes
- Lawn and garden equipment

FINGER & COILED SPRINGS

Unique spring designs with loading across the major length. Many designs are welded in rings with deflection occurring by compressing the spring radially between two portions of hardware.

Applications:

- Mechanical locking
- Latching
- Connecting
- Work holding and centering devices
- Electrical contacts



STAMPED & WIRE FORMED SPRINGS

Custom designed stamped or wire-formed shaped components which perform a spring function.

Applications:

- Appliances
- Electronic components
- Lighting
- Latches
- Automotive and aerospace connectors

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Details available at www.tss.trelleborg.com



Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Its innovative engineered solutions accelerate performance for customers in a sustainable way. The Trelleborg Group has local presence in over 40 countries around the world.

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