Engineered Solutions for Life Sciences
BENEFIT FROM OUR EXPERTISE.
ENGINEERED SOLUTIONS FOR LIFE SCIENCES.

Trelleborg Sealing Solutions develops, manufactures and supplies innovative engineered solutions for demanding medical, biotech and pharmaceutical applications in thermoplastics, silicone and other elastomers.

From a single global source, backed by the expertise of our worldwide engineering and manufacturing network, we provide you with unrivalled local product development support to optimize solutions for your life sciences sealing and fluid handling challenges.

Trelleborg Sealing Solutions in General
Trelleborg Sealing Solutions offers an outstandingly comprehensive sealing portfolio – a one-stop-shop providing the best in elastomer, thermoplastic, PTFE and composite technologies. Our solutions are featured in virtually every application conceivable within the aerospace, automotive and industrial industries.

- Over 80 facilities worldwide
- Internationally linked design and application centers
- Seven strategically positioned materials and development laboratories
- More than 20 manufacturing sites
Medical Industry
The life sciences industry is closely associated with innovation, technological advancements and economic growth, leading to new challenges for equipment suppliers.

Medical devices frequently have a number of approvals and lengthy testing requirements, making for long development cycles. The market is globalizing, and suppliers are looking to move their operations into different countries, on different continents.

Global Supplier
Trelleborg Sealing Solutions is a leading global supplier of high quality sealing solutions.

With over 60 years of experience providing seals to a variety of industries, we are a leading supplier of advanced sealing solutions to diagnostic, biotech, medical device and pharmaceutical equipment manufacturers.

With a network of local marketing companies and manufacturing facilities, Trelleborg Sealing Solutions offers:

- Worldwide logistics network that ensures products are delivered on time, wherever you are in the world, or wherever you’re going
- One-stop-shop to consolidate supplier bases, reducing costs and simplifying business
- Product innovations that improve service life and reduce total cost of ownership

Developed Together
Leading life sciences manufacturers rely on Trelleborg Sealing Solutions for innovative design support, world-class manufacturing technology and quality-assured components.

Decades of material expertise in conjunction with design engineering and dedicated research and development teams work with you to develop solutions that optimize product performance.

- World leading engineering and design of custom components
- Extensive manufacturing and support capabilities, such as automated, flashless liquid silicone rubber production, cleanroom facilities and advanced delivery options
- Rapid prototyping, computer modeling and in-house qualification testing to shorten time to market

Innovation and Reliability
Our innovation is a key to your success.

Solving sealing and bearing challenges using pioneering techniques, we deliver better performance and overall profitability for our customers. Operations run 24 hours a day, 365 days a year, and our international logistics network can meet your scheduling requirements.

Innovative Online Tools

Read the Book. See the Movie.

Now that you have the brochure, why not check out our life sciences film on YouTube!
www.tss.trelleborg.com/films

Apps at the Slide of a Finger

Check out our latest engineering tools for smart phones.
www.tss.trelleborg.com/apps

- Life Sciences Material Compatibility
- Tubing & Hose Selector
- ISO Fits & Tolerances

Online Services and Tools at the Click of a Mouse

Trelleborg Sealing Solutions offers a range of cutting-edge online services and tools on our website.
www.tss.trelleborg.com/tools

- Full range of Catalogs and Brochures
- Sealing Solutions Configurator
- CAD Service
- O-Ring Calculator
Life Sciences Solutions

LABORATORY

The heart of diagnostic procedures, the laboratory requires high levels of accuracy and performance. Trelleborg Sealing Solutions focuses on minimizing downtime and improving performance.

Tubing and Hose
Trelleborg Sealing Solutions manufactures a complete line of medical grade tubing for all types of peristaltic pump applications.

The highest grades of laboratory-tested silicone materials, combined with decades of application experience, make Trelleborg Sealing Solutions uniquely suited to create custom engineered tubing and hose solutions for the life sciences industry.

All of our tubing is manufactured in a controlled environment in an FDA registered facility to class 100,000 conditions, with ambient temperature, humidity and particulate counts regularly monitored as standard.

Extra Features
Locking collars can be assembled onto or overmolded using Liquid Injection Molding to reduce secondary operation costs and increase hygiene.

Added value options are also available, such as the addition of springs, custom product labeling and identification, and a variety of color options.

Blood Gas Analyzer

Solution:
- Custom Silicone Peristaltic Pump Tubing with LIM overmolded collars

By overmolding the collars directly to the pump tubing, Trelleborg Sealing Solutions prevented tubing slippage during rotation of the pump cam.

Trelleborg product:
Custom Peristaltic Pump Tubing
- Designed to meet your specifications
- Manufactured from flexible and chemically resistant silicone tubing
- Customized bonded or overmolded additions, such as stops

Peristaltic Pump Tubing is perfectly suited for use in laboratory equipment, IV pumps, enteral feeding tubes, diagnostic equipment, bio-processing fluid transfer and more.

Manufactured from special grades of high performance silicone, the tubing helps the pump achieve consistent flow rates while reducing the effects of hysteresis and spallation.

For additional information on tubing and hose solutions, see page 22.
Life Sciences Solutions

IMAGING SUITE

Hospital imaging suites host sensitive equipment, requiring solutions not to interfere with processes. The tables involved often rotate a full 360-degree range of motion while offering comfort for the patient.

Bearing Solutions
Our leading edge thermoplastic bearing solutions for the life sciences industry include a broad range of custom and standard bearing options based on various materials such as Nylon, Turcite®, HiMod®, and Orkot®.

Available in both standard designs or customized to your application, bearings and bushings offer improved friction characteristics, minimized wear and longer service life.

For additional information on bearing solutions, see page 22
MRI Table

Solution:
  • Custom non-metallic Durobal® bearing design

In addition to low friction, self-lubrication and zero maintenance, the bearings also provided extra comfort and security for the patient.

Trelleborg product:
Durobal® Bearings

  • Ideal as a guide, mainly for rotating applications
  • Prevent metal-to-metal contact
  • Low friction
  • Self-lubricating for cleaner operating environments

Durobal® bearings are used in a variety of life sciences devices and equipment. The inner and outer rings provide support against the mating hardware, while the cage maintains ball separation. Seals and/or shields may be added to isolate the bearing from the external environment.
Hygiene, performance and downtime reduction lead to a safer and more effective operating room. Trelleborg solutions help improve the safety-critical and often delicate procedures within the operating room.

Sealed for Success

Our leading edge sealing solutions for the life sciences industry include a broad range of custom and standard seal options based on elastomers including silicone, engineered plastics and metal technologies.

Trelleborg Sealing Solutions products extend component life, minimizing planned maintenance and prevent the ingress of fluid during sterilization regimes.

Variety of Turcon® Variseal® Products

**Standard**
Design for dynamic leakage control and long term wear resistance. Fitted with a medium spring-load, it gives good flexibility. The Standard Variseal® is available in a Hi-Clean option.

**Roto**
This low friction, no stick-slip seal is designed to minimize break out force and high wear resistance. Its constrained flange eliminates potential seal rotation and is resistant to most liquids and chemicals.

**Helical**
With a rounded surface and high spring-force, this design is ideal for sealing gases at zero or low pressure and for low viscosity fluids. Suitable for static sealing and demanding low speed applications.

**Slantcoil®**
This seal’s low spring-force makes it ideal for low-friction and low-pressure applications. The Slantcoil® design gives almost constant load over the life of the seal.

**Face Seal**
Similar to the Helical seal but with an axial design, this is the best choice for vacuum, gas and low temperature flange applications.

**Hi-Clean**
In this seal, the spring-groove is filled with high temperature silicone. Preventing any trapping of contaminants within the seal, the filling ensures that it is easily cleaned.

**Ultra-Clean™**
In this unique design, the spring is fully enclosed within a Turcon® case. This prevents contamination from media trapped in dead space around the spring. Additionally, the seal can be thoroughly cleaned and sterilized in all directions using any CIP media.

For additional information on sealing solutions, see page 20
Bone Drill Oiler Cartridge Seal

Solution:
- Variseal® M in Turcon® T17 seal material and medium load V-Spring

The previous seals had excessive wear and leakage. Trelleborg Sealing Solutions engineers proposed a Turcon® Variseal® M which extended seal life and improved application performance.

Trelleborg product:
Turcon® Variseal®

- Good dynamic and static sealing
- Very low coefficient of friction and dry running properties
- Excellent thermal resistance
- High wear resistance and chemical compatibility

Turcon® Variseal® is an extremely important product within bioprocessing, food, beverage and pharmaceutical production. Commonly installed in filling plants, where demands are high on cleanability, sterilization and hygienic design, it is field proven in such demanding operating conditions.
Life Sciences Solutions

Ventilator

Solution:
- Insert-molded homogeneous neoprene diaphragm

Molded around two metal inserts with an incorporated sealing bead, this design allows the diaphragm to sustain thousands of cycles with minimal leakage. With stringent internal quality and pressure testing, precision and reduced assembly line downtime are ensured.

Trelleborg product:
Diaphragms

- Extend product life
- Reduce deformation
- Thinner sections improve sensitivity of control

All diaphragms are custom-designed to suit the requirements of an application and can either be manufactured from fabric-reinforced or thin membrane rubber-only material. Higher pressures can be accommodated, by increasing the burst resistance, with synthetic fabric reinforcement.

For additional information on Diaphragms, see page 21
PATIENT ROOM

Dialysis machines, ventilators and other equipment, used to help a patient’s recovery. These can be improved by incorporating Trelleborg’s cutting-edge solutions. Our custom expertise provides components that reduce downtime, maintenance requirements and improve performance.

Engineered for Success

When standard parts don’t suit your application, Trelleborg Sealing Solutions dedicated engineering and research departments offer their services in designing new products to increase product lifetime and withstand challenging operating environments.

Working with us, we can take our knowledge and expertise, and apply it to your application. Then, using state-of-the-art manufacturing technologies with Liquid Silicone Rubber and two-shot molding proficiency, we can produce unique components, optimized for your specific requirements.

Custom Molded Mask

Manufactured from Liquid Silicone Rubber, the mask ensures effective delivery of anaesthetic and oxygen.
EVERYDAY LIFE

Trelleborg Sealing Solutions components help make a patient’s everyday life easier upon release from the hospital. Our solutions improve the performance of artificial limbs and metered dose inhalers, to name a few.

Liquid Silicone Rubber
Our Liquid Silicone Rubber (LSR) centers of excellence have been designed with the intent of offering intrinsically hygienic products with minute tolerances, offering the ultimate in performance and cleanliness.

Flashless, wasteless tool design concepts create parts from 0.002 grams to several hundred grams in weight in Class 7 and 8 cleanroom conditions, with ‘0’ defect quality level checks through in-process controls, guaranteeing a quality product for use in your application. Production expertise permits microseal manufacturing and fully automated cleanroom production.

For additional information on silicone solutions, see page 23.
Inhaler

Solution:
- Precision micro-sized silicone O-Rings produced in a cleanroom

The O-Rings provided are manufactured to extremely tight tolerances, with a mold join burr <0.05 mm/.002 inch, that remain tight against pump pressures.

Trelleborg product:
Liquid Silicone Rubber Components
- Offer advantages in part consolidation
- Custom-designed based on application
- Available in variety of silicone materials, including FDA, USP and 3-A compliant compounds
**One-stop-shop**
While some manufacturers have to rely on many individual smaller suppliers for a single device, Trelleborg Sealing Solutions extensive range of solutions can reduce your supplier base, simplifying business and reducing total cost of ownership. This benefit, in conjunction with our global supply and logistics network, reduces lead times and ensures products are delivered on time, every time.

**Applications Expertise**
Our dedicated and experienced engineers have spent decades supporting customers with innovative solutions that not only fulfill the requirements of an application, but can provide additional benefits such as:

- Optimized application performance
- Part consolidation – saving costs and space
- Increased hygiene and reduced contamination risk
- Reduction or elimination of installation costs and secondary assembly risks
- Reduction of long-term supply costs and total cost of ownership
- Lowered inventories
- Automated production without human contact

**Research & Development**
Seven global centers of excellence work constantly to develop new compounds and products, continuously pushing the limits of polymer technology and seal engineering.

Rigorous testing and validation procedures help to improve performance in existing applications or create new products to meet the demands of the latest life sciences equipment manufacturer’s technologies.

Ongoing material and product development also means that Trelleborg Sealing Solutions is abreast of the latest changes in standards and regulations and the developing trends within the life sciences market. This can improve time to market of new developments.

---

**Our global logistics and supply chain offers:**

- The same level of service and support wherever you are in the world
- KANBAN and Vendor Managed Inventory programs
- SealScan™ automated replenishment
- Vendor consolidation / “C” class management
- Forward stocking locations
- Value-added handling and packaging services, including bag and tag, kitting and surface treatments
SealScan™ Overview

1. Scan Bins
2. Upload Scans
3. Receive and Pick Orders
4. Ship Orders
5. Deliver Parts
Life Sciences Solutions

Advanced Manufacturing Capabilities

Pure Molding

Trelleborg Sealing Solutions has decades of experience using injection molding technology with many proprietary and specialized elastomer materials. It is at the forefront of the latest developments and innovation in silicone and two-component injection molding, as well as overmolding, pushing tool design and process engineering to new heights.

Key Benefits

- **Pure** – Silicone is one of the most extensively tested biomaterials with a long history of safe use
- **Precise** – Flashless, wasteless tool design concepts for parts from 0.002 grams to several hundred grams in weight
- **Reliable** – Using latest technology in machinery, tooling and automation
- **Quality** – ‘0’ Defect Quality Level through in-process controls
- **Fast** – Able to produce quantities from several thousand to millions
- **Clean** – Utilizing state-of-the-art processing techniques and production in Class 7 and 8 cleanrooms
- **Cost Effectiveness** – Lowest Total Cost of Ownership (TCO)

Advanced Automation

At Trelleborg Sealing Solutions, Liquid Silicone Rubber and LIM processing is fully automated. This provides all the advantages needed for success in the life sciences industry, today and in the future:

- A closed loop system ensures that no external impurities can be introduced through either the process or human contact
- In-process quality control avoids extra control steps
- Automation guarantees repeatability and reliability of process across millions of parts produced every year
- Closed loop manufacturing set-ups in Class 7 and 8 cleanrooms guarantee the highest level of cleanliness

Precision Micro-molding

Tiny precision tooling can produce big results in the life sciences industry and Trelleborg Sealing Solutions has the capability of producing miniature components through micro-molding. The smallest piece manufactured is a septum, the membrane in the cap of a medicine bottle through which one can insert and withdraw a syringe. This weighs just 0.003 grams and standard molding burrs are bigger than the object itself.

Manufacturing micro-components is achieved by:

- Extreme accuracy in tool construction
- Control of shot weight and the molding process
- Automatic handling of the product after molding is done by a unique, specially developed robot gripper arm
- Accuracy maintained reliably for millions of shots
DIGITAL TOOLS AND SERVICES
Trelleborg Sealing Solutions offers an innovative range of digital tools and apps that simplify the working life of an engineer, either at the desktop or on the go.

Material Compatibility App
Compare the performance of different materials against a wide variety of commonly used process and cleaning chemicals.

Tubing & Hose Selector
Easily find tubing and hose solutions for your application and contact Trelleborg Sealing Solutions directly from the app.

For more information, and to download our full range of mobile tools, visit www.tss.trelleborg.com

Available on the APP STORE
Android App on Google Play

MANY MORE GENERAL ENGINEERING APPS available
Life Sciences Solutions

With years of experience designing components for the life sciences industry, Trelleborg Sealing Solutions possesses an extensive portfolio of products ready-for-use in applications.

Available in a variety of materials and sizes, our solutions offer cost savings, lower friction and minimized downtime.

**Zurcon® Variseal® Scraper**
Excludes external contaminants from computer controlled damper

**Zurcon® Variseal®**
Provides smoother movement for patients and reduces friction

---

Product Spotlight

Prosthetic Knee Application using a variety of seals
**PRODUCT SPOTLIGHT**

**Custom FKM Bladder**
Separates pressurized air from the hydraulic fluid

**Turcon® Slydring®**
Provides smoother movement for patients and reduces friction

**Dedicated Website**
Our life sciences website was developed with you in mind, providing information on our products, capabilities, materials and applications to help solve your critical life sciences sealing applications.

Enjoy a tour of our applications—view the film, peruse the case study library, explore our strategically placed manufacturing locations, request a quote or sample and discover local contact resources.

www.trelleborg-lifesciences.com
Highlighted here are a few of the most commonly used sealing solutions for life sciences applications.

**Turcon® Variseal®**

Turcon® Variseal® is comprised of two components: a jacket and energizer. The jacket seals against the mating surface and is generally made of a plastic and is usually energized by a spring.

- For static, dynamic and rotary applications
- Used as a rod / piston seal or wiper to minimize contamination
- Low friction operation
- Operating temperatures range from -254 °C to +23 °C / -425 °F to +75 °F
- Chemically inert and self lubricating for cleaner operation
- Three spring designs to customize load deflection characteristics

**O-Rings**

O-Rings are available in a range of elastomeric materials that allow sealing of practically all liquid and gaseous media, while standing up to even the most rigorous sterilization processes.

- Static and slow dynamic application
- Flexible usage - easily designed into many applications
- Cost-effective solution
- Available in materials specifically developed for life sciences applications
- Compliant with approvals and standards
- Available in any size, including silicone microseals and giant O-Rings manufactured with our unique Fleximold™ process

---

Trelleborg Sealing Solutions
Diaphragms
Diaphragms are used in a variety of life sciences applications, particularly in low pressure valves.

- Manufactured in a variety of elastomers or PTFE based materials
- Available in homogenous or fabric-reinforced materials for higher pressures
- Barrier materials such as PTFE can be applied for chemically aggressive environments
- Plastic or metal-to-rubber bonding to inserts simplifies assemblies
- Materials compliant with relevant life sciences approvals and standards

More Solutions
Slydring®
Absorbs side load forces in the rod or piston areas and helps guide the rod or piston, preventing metal-to-metal contact. They operate with low friction, no stick-slip and shock resistant capabilities.

Glyd Ring®
Recommended for applications requiring long service life where the part is exposed to high pressures and side loads. Simple installation and wear resistant materials provide an optimal solution for many reciprocating cylinder applications.

For more information on our complete range of seals go to www.tss.trelleborg.com
When a standard solution doesn’t satisfy operating requirements, our dedicated engineering, design and research teams work with you to create new components that will. Trelleborg Sealing Solutions has a history of developing long-term partnerships with its customers to develop unique and innovative solutions for demanding applications. Our manufacturing processes can involve complex geometries and special requirements like waste-free production, in-process quality checks and batch-by-cavity.

Tubing and Hose
A wide variety of tubing & hose including anti-microbial, custom peristaltic pump, and polyester braid varieties.

- Custom overmolded or bonded stops and fittings increase cleanliness and reduce installation costs
- Customized to application – resists process media, cleaning regimes and other aggressive chemicals
- Biocompatible, inert and flexible
- Cleanroom production as standard and in accordance with Good Manufacturing Practices (GMP) principles with governmental approvals

Bearings and Bushings
Our leading edge thermoplastic bearing solutions include a broad range of custom and standard bearing options based on various materials such as Nylon, Turcite®, HiMod®, and Orkot®:

- Part consolidation, reducing secondary operation costs, increasing integrity and enhancing hygiene
- Prevent metal-to-metal contact with low friction and no stick-slip to increase product life
- Self-lubricating for cleaner operating environments
INDUSTRY SPOTLIGHT

Biotech

Manifold Systems
Trelleborg Sealing Solutions manifold systems are produced with injection molded medical grade silicone and configured to the customer’s design requirements. The design configuration can be a singular connector or a multiple string of “T”s and elbows. The manifold system combines the flexibility of traditional plastic push on connectors with the advanced performance of liquid injection molding of silicone over-molding.

Liquid Silicone Rubber
Our Liquid Silicone Rubber (LSR) facilities are the pinnacle of advanced manufacturing technology and live the innovation that defines the life sciences industry.

- Designed to meet your specifications, reducing total cost of ownership
- Can be overmolded to plastics and metals
- Lower inventories
- Cost-effective solutions, reducing installation costs and total cost of ownership
- Available in materials specifically developed for life sciences applications
- Suitable for both low and high volume applications
- Automated and flashless production possible
Life Sciences Solutions

Material Spotlight

Engineered for Performance

Based on decades of experience working with leading equipment manufacturers and end users around the globe, Trelleborg Sealing Solutions has developed a tailor-made portfolio of materials to meet the demanding requirements of the life sciences industry.

Industry Leading Plastics

Turcon® PTFE

Turcon® premium-grade PTFE compounds have excellent low-friction performance, giving long life and superior chemical resistance.

- Compatible with virtually all media
- Excellent friction, slide properties and no stick-slip
- Long service life, high sealing efficiency
- Individual grades specialized to applications

PEEK

Polyether Ether Ketone (PEEK) is a good choice for applications where fluid compatibility is a concern. It is virtually inert and has good mechanical properties, providing low friction and wear.

- High strength, toughness and biocompatibility
- Excellent chemical resistance
- Can be extruded or injection molded

<table>
<thead>
<tr>
<th>Material</th>
<th>FDA CFR177.1550, 3-A, USP Class VI, 2002/72/EC and sanitary standards</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Min Temp.</th>
<th>Max Temp.</th>
<th>Hardness</th>
<th>Material Compliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>-253 °C / -423 °F</td>
<td>+260 °C / +500 °F</td>
<td>60 Shore D</td>
<td>FDA CFR177.1550, 3-A, USP Class VI, 2002/72/EC and sanitary standards</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Min Temp.</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Max Temp.</th>
<th>Hardness</th>
<th>Material Compliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>+249 °C / +480 °F</td>
<td>124 Rockwell R</td>
<td>FDA CFR177.1550, 3-A, USP Class VI, 2002/72/EC and sanitary standards</td>
</tr>
</tbody>
</table>
Silicone
The ultimate in medical performance

Silicone is used across a wide array of applications in the life sciences industry. Offering a unique combination of chemical and mechanical properties, its inherent purity, inertness and biocompatibility make silicone the preferred choice of elastomer in the biomedical, pharmaceutical and healthcare industries.

- Fully sterilizable and resistant to a broad range of process and cleaning chemicals
- Biocompatible, non-allergenic, no toxic combustion products and neutral in taste and odor
- Excellent heat resistance, dielectric strength and cold flexibility
- Cleanroom manufacturing for the highest levels of hygiene

Advanced Elastomer Materials
Isolast® FFKM
The widest range of high specification compounds on the market, combining the advantages of an elastomer with the chemical resistance of PTFE.

- Nearly universal chemical resistance
- Exceptional hysteresis properties
- High purity and complete traceability
- Reduced downtime and increased production efficiency

| Min Temp. | -25 °C / -13 °F |
| Max Temp. | +325 °C / +617 °F |
| Hardness  | 70 Shore A |
| Material  | FDA 21 CFR.2400 (d), 3-A, USP Class VI, Cytotoxicity (USP 87) |

Silicone shows minimal deterioration of tensile strength after sterilization

EPDM
Cost-effective materials engineered to achieve enhanced chemical and thermal stability along with compliance to a variety of standards and approvals.

- Superior compatibility with polar fluids and solvents at elevated temperatures
- Resistant to cleaning regimes involving polar chemicals, steam and alkaline fluids

| Min Temp. | -45 °C / -49 °F |
| Max Temp. | +160 °C / +320 °F |
| Hardness  | 70 Shore A |
| Material  | FDA CFR177.2600, 3-A, USP Class VI, Cytotoxicity (USP 87) |

Local presence, global reach

49 Marketing companies on six continents provide local support and understand local markets, communicating in your language. Our 23 manufacturing facilities can move with your expansion and provide the same quality and standards of products wherever you are and wherever you’re going.
# LOCAL CONTACTS

## EUROPE

<table>
<thead>
<tr>
<th>Country</th>
<th>City</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria – Vienna</td>
<td></td>
<td>+43 (0) 1 406 47 33</td>
</tr>
<tr>
<td>Belgium - Dion-Valmont</td>
<td></td>
<td>+32 (0) 10 22 57 50</td>
</tr>
<tr>
<td>Bulgaria – Sofia</td>
<td></td>
<td>+359 (0) 2 969 95 99</td>
</tr>
<tr>
<td>Croatia – Zagreb</td>
<td></td>
<td>+385 (0) 1 24 56 387</td>
</tr>
<tr>
<td>Czech Republic - Rakovnik</td>
<td></td>
<td>+420 313 529 111</td>
</tr>
<tr>
<td>Denmark – Copenhagen</td>
<td></td>
<td>+45 48 22 80 80</td>
</tr>
<tr>
<td>Finland – Vantaa</td>
<td></td>
<td>+358 (0) 207 12 13 50</td>
</tr>
<tr>
<td>France - Maisons-Laffitte</td>
<td></td>
<td>+33 (0) 1 30 86 56 00</td>
</tr>
<tr>
<td>Germany - Stuttgart</td>
<td></td>
<td>+49 (0) 711 7864 0</td>
</tr>
<tr>
<td>Hungary – Budapes</td>
<td></td>
<td>+36 (06) 23 50 21 21</td>
</tr>
<tr>
<td>Italy – Livorno</td>
<td></td>
<td>+39 0586 22 6111</td>
</tr>
<tr>
<td>The Netherlands - Rotterdam</td>
<td></td>
<td>+31 (0) 10 29 22 111</td>
</tr>
<tr>
<td>Norway – Oslo</td>
<td></td>
<td>+47 22 64 60 80</td>
</tr>
<tr>
<td>Poland – Warsaw</td>
<td></td>
<td>+48 (0) 22 863 30 11</td>
</tr>
<tr>
<td>Russia – Moscow</td>
<td></td>
<td>+7 495 627 57 22</td>
</tr>
<tr>
<td>Spain – Madrid</td>
<td></td>
<td>+34 (0) 91 71057 30</td>
</tr>
<tr>
<td>Sweden – Jönköping</td>
<td></td>
<td>+46 (0) 36 34 15 00</td>
</tr>
</tbody>
</table>

## AMERICAS

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas Regional</td>
<td></td>
<td>+1 260 749 9631</td>
</tr>
<tr>
<td>Brazil – São José dos Campos</td>
<td></td>
<td>+55 12 3932 7600</td>
</tr>
<tr>
<td>Canada Central – Etobicoke, ON</td>
<td></td>
<td>+1 416 213 9444</td>
</tr>
<tr>
<td>Canada East – Montreal, QC</td>
<td></td>
<td>+1 514 284 1114</td>
</tr>
<tr>
<td>Canada West – Langley, BC</td>
<td></td>
<td>+1 604 539 0098</td>
</tr>
<tr>
<td>Mexico - Mexico City</td>
<td></td>
<td>+52 55 57 19 50 05</td>
</tr>
</tbody>
</table>

## ASIA PACIFIC

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia Pacific Regional</td>
<td></td>
<td>+65 6 577 1778</td>
</tr>
<tr>
<td>China – Hong Kong</td>
<td></td>
<td>+852 2366 9165</td>
</tr>
<tr>
<td>China – Shanghai</td>
<td></td>
<td>+86 (0) 21 6145 1830</td>
</tr>
<tr>
<td>India – Bangalore</td>
<td></td>
<td>+91 (0) 80 3372 9000</td>
</tr>
<tr>
<td>Japan – Tokyo</td>
<td></td>
<td>+81 (0) 3 5633 8008</td>
</tr>
<tr>
<td>Korea – Seoul</td>
<td></td>
<td>+82 (0) 2 761 3471</td>
</tr>
</tbody>
</table>

## AFRICA, CENTRAL ASIA AND MIDDLE EAST

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia – Kuala Lumpur</td>
<td></td>
<td>+60 (0) 3 90549266</td>
</tr>
<tr>
<td>Taiwan – Taichung</td>
<td></td>
<td>+886 4 2382 8886</td>
</tr>
<tr>
<td>Vietnam – Ho Chi Minh City</td>
<td></td>
<td>+84 8 6288 6407</td>
</tr>
<tr>
<td>Singapore and all other countries in South and East Asia, Australasia</td>
<td></td>
<td>+65 6 577 1778</td>
</tr>
</tbody>
</table>

## Switzerland – Crissier

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland – Crissier</td>
<td></td>
<td>+41 (0) 21 631 41 11</td>
</tr>
</tbody>
</table>

## United Kingdom – Solihull

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom – Solihull</td>
<td></td>
<td>+44 (0) 121 744 1221</td>
</tr>
</tbody>
</table>

## Aerospace Hub Europe, North

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Hub Europe, North</td>
<td></td>
<td>+44 (0) 121 744 1221</td>
</tr>
</tbody>
</table>

## Aerospace Hub Europe, South & West

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Hub Europe, South &amp; West</td>
<td></td>
<td>+33 (0) 1 30 86 56 00</td>
</tr>
</tbody>
</table>

## Automotive Hub Europe

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Hub Europe</td>
<td></td>
<td>+49 (0) 711 7864 0</td>
</tr>
</tbody>
</table>

## AEROSPACE HUB AIRFRAME

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Hub Airframe</td>
<td></td>
<td>+1 303 469 1357</td>
</tr>
</tbody>
</table>

## Aerospace Hub Distribution & Engineering

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Hub Distribution &amp; Engineering</td>
<td></td>
<td>+1 260 749 9631</td>
</tr>
</tbody>
</table>

## Aerospace Hub East

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Hub East</td>
<td></td>
<td>+1 610 828 3209</td>
</tr>
</tbody>
</table>

## Aerospace Hub West

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Hub West</td>
<td></td>
<td>+1 310 371 1025</td>
</tr>
</tbody>
</table>

## Automotive Hub North America

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Hub North America</td>
<td></td>
<td>+1 734 354 1250</td>
</tr>
</tbody>
</table>

## Automotive Hub South America

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Hub South America</td>
<td></td>
<td>+55 12 3932 7600</td>
</tr>
</tbody>
</table>

## AEROSPACE HUB CHINA

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Hub China</td>
<td></td>
<td>+86 (0) 21 6145 1830</td>
</tr>
</tbody>
</table>

## Aerospace Hub Singapore

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Hub Singapore</td>
<td></td>
<td>+65 6 577 1778</td>
</tr>
</tbody>
</table>

## Automotive Hub China

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Hub China</td>
<td></td>
<td>+86 (0) 21 6145 1830</td>
</tr>
</tbody>
</table>

## Automotive Hub India

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Phone Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Hub India</td>
<td></td>
<td>+91 (0) 80 3372 9200</td>
</tr>
</tbody>
</table>
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.