

TENMAT

ADVANCED MATERIALS



METAL BACKED SELF LUBRICATING BEARINGS

EXCEPTIONAL

PEOPLE

At **TENMAT**, we strongly believe that it takes exceptional people to invent, design and create the outstanding products necessary to constantly exceed industry standards and meet the demands of our customers' challenging applications.

Our highly skilled workforce is essential to **TENMAT**'s success, and through significant investment in recruitment, training, and personal development we continue to strengthen our position as one of the leading developers and manufacturers of advanced materials and components.

PRODUCTS

TENMAT's diversified range of exceptional materials and components includes composite wear parts and bearing materials, high temperature resistant materials, engineering ceramics, hard metals, and passive fire protection solutions.



PERFORMANCE

As a result of **TENMAT**'s engineering expertise and strong tradition of innovation, many of our products are market leaders in terms of wear performance and extreme temperature resistance.

TENMAT's advanced materials combine high strength with excellent wear characteristics and durability, delivering exceptional performance in even the most demanding applications.

FEROGLIDE

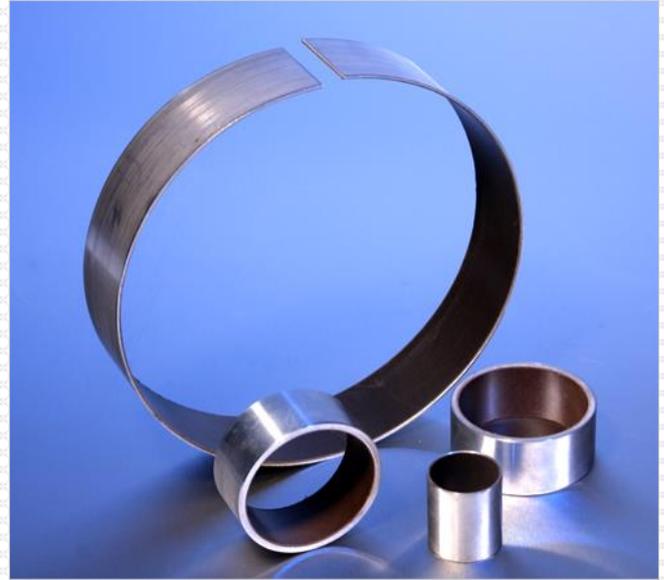
TENMAT FEROGLIDE is a proprietary self-lubricating bearing material of woven polytetrafluoroethylene (PTFE) fibers applied to a rigid backing. Also available is our innovative fabric-free backing with special low friction coating.

FEROGLIDE bearings are completely self-lubricating, maintenance free and normally run dry. However, they can also be used where lubricating or other fluids are present. Operating dry, FEROGLIDE bearings are recommended where low surface speeds are combined with high loads.

FEROGLIDE bearings and glide strips offer high compressive strength, high temperature resistance, and have excellent chemical resistance.

FEROGLIDE bearings are available with different metal backings in a wide variety of standard configurations, as well as an almost unlimited range of special sizes and configurations.

FEROGLIDE bearings are typically used in high load applications, including valves, hydro power equipment, lifting equipment, hydraulic pumps and have a long proven history of providing outstanding performance in extreme applications from Ariane rockets to deep sea valves.



APPLICATIONS

FEROGLIDE bearings are used extensively by manufacturers due to the material's ability to maintain low friction under heavy loads. FEROGLIDE bearings have a metal backing and a composite self lubricating liner, which gives the combination of high strength, excellent chemical resistance and a low coefficient of friction.

Valves

FEROGLIDE bearings are used for trunnion bearings, stem guide bearings and thrust washers.



Hydraulic Pumps

FEROGLIDE swashplate bearings provide low friction at start up and freedom from stick slip in fast reversing pumps.



Hydro Power Plants

FEROGLIDE bearings are ideally suited for turbine guide vane assemblies and their actuators accommodating the high surface pressures involved.



Crane and Lifting Equipment

FEROGLIDE bearings to handle very high loads in boomfoot pivots, and hinge and brace points in the mast pendant assembly which are inaccessible for grease lubrication.



Agricultural Machinery

In farm tractor kingpin, rocker shaft and hitch assemblies.



APPLICATIONS

Ski Lifts

FEROGLIDE bearings are found in traditional ski lifts, and in chair-lift connection systems.



Offshore Bearings

Specialised FEROGLIDE high performance moulded bearings are used in offshore and marine applications to reduce friction and allow complete movement of components.

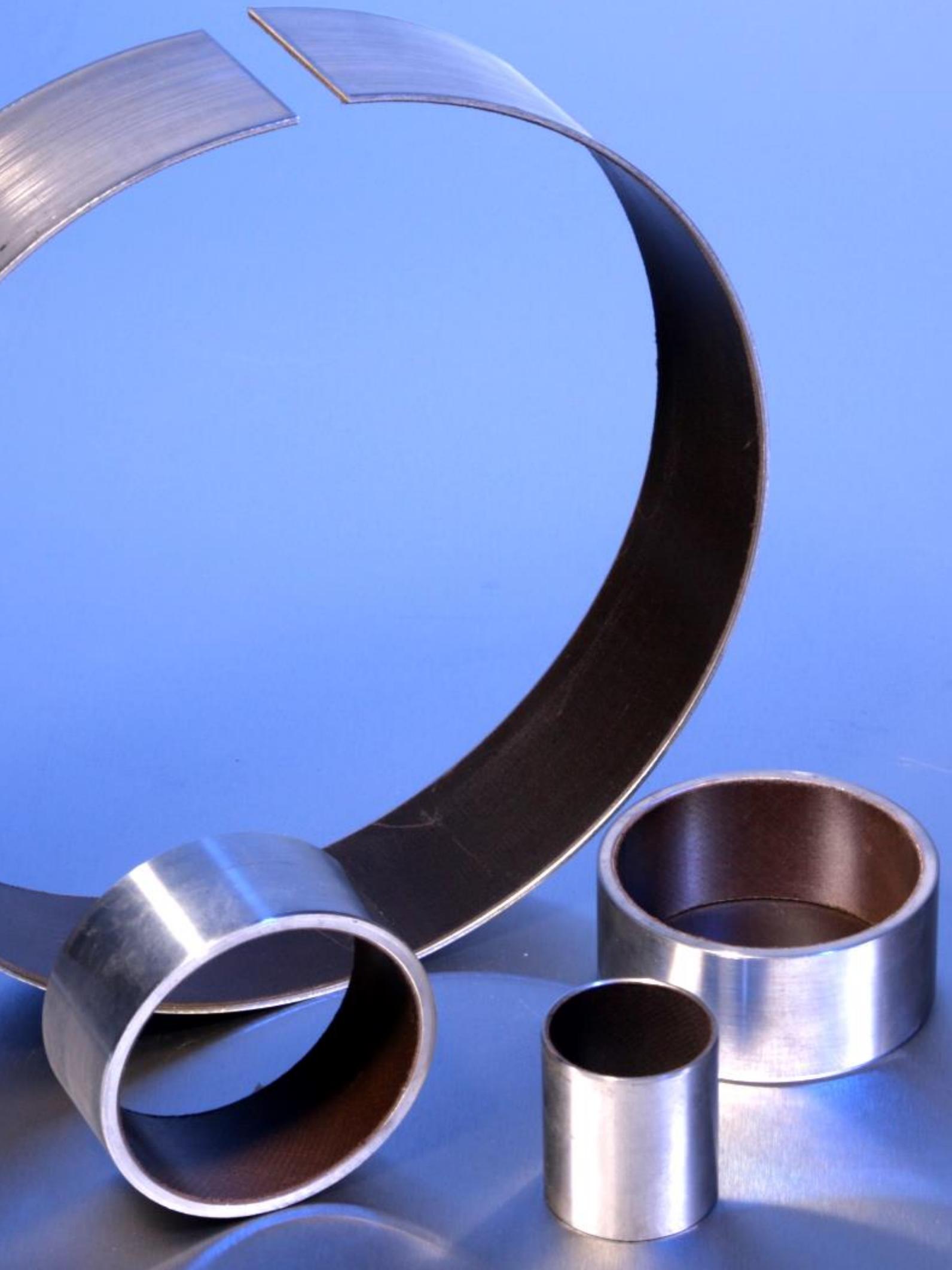


Key Features:

- Self lubricating & operate without external lubrication.
- Free from stick slip, giving easy movement & operation.
- High wear resistance giving long life.
- Large operating temperature range -200°C to +300°C.
- Corrosion resistant & can be used with aggressive liquids such as **Sea Water, Gasoline, Acids, Detergent Solutions, Hydraulic Oils, Ammonium Hydroxide, Oils.**
- High strength, capable of carrying high loads.
- Good dimensional stability & capacity to be formed to close tolerances

Key Benefits:

- Increased Bearing Life
- Large Application Range
- Reduced Maintenance
- Significantly Reduced Downtime
- Improved Performance
- Customized Innovative Solutions
- Proven Performance Over Decades
- Excellent Chemical Resistance
- Worldwide Distribution



PRODUCT RANGE

Standard FERROGLIDE has a woven PTFE low friction liner bonded to the metal support to carry high loads. It is used up to temperatures of 120°C.

There are a number of FERROGLIDE liners available. These are selected to best suit the application. The different FERROGLIDE liners range in thicknesses, applications, lubrications, temperature and load resistances and adhesive properties. This allows **TENMAT** to offer the product to best suit the customer's needs.

FERROGLIDE T401 operates in temperatures ranging from -50°C to 300°C and exhibits outstanding chemical compatibility including acids, alkali, bleaches, and the H₂S concentrations in sour gas.

FERROGLIDE T445 is fabric free and has a low friction layer bonded directly to the metal support. It is free from copper and bronze that cause bearing failure in aggressive environments. It is chemically resistant and used to 200°C. It is especially applicable in oil and gas valves where its chemical and temperature resistance, and ability to withstand assembly damage find great benefit.

FERROGLIDE bearings are supplied as coiled, solid, swash plate, half shell, and cylindrical bearings, thrust washers, and slide pads.

The metal backing is typically chosen from bronze, stainless steel, such as SS316, and Inconel 625.

FERROGLIDE bearings are available in standard sizes and can also be produced according to customer specifications.

	FERROGLIDE	FERROGLIDE T401	FERROGLIDE T445
Self Lubricating	✓	✓	✓
Maintenance Free	✓	✓	✓
High Loads	✓	✓	✓
Temperature	120°C	300°C	200°C
Chemical Resistance	Good	Excellent	Excellent
Fabric Free			✓

FORMS OF SUPPLY

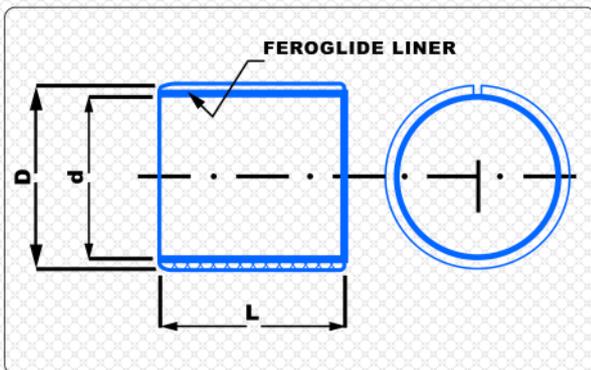
FEROGLIDE bearings are available with backing materials in a wide variety of standard configurations. In addition, **TENMAT** offers special bearings with an almost unlimited range of configuration and metal backings.

FEROGLIDE bearings are supplied as full cylindrical bearings, coiled bearings, flanged bearings, thrust washers, swash plate bearings, half shells, and slide pads.

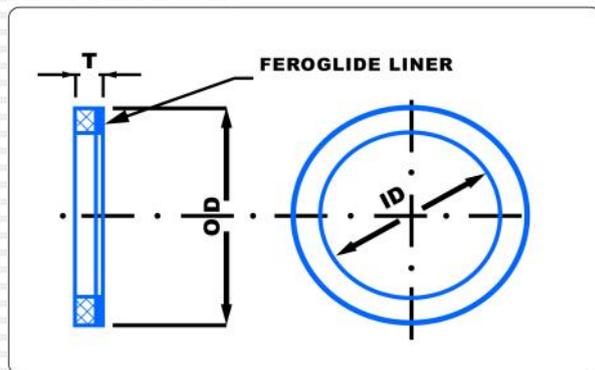
Standard FEROGLIDE bearings are made of stainless steel but can also be supplied in mild steel, bronze and Inconel 625.

In addition to fully machined bearings, **TENMAT** apply a FEROGLIDE liner to free-issue metalwork supplied to our manufacturing site in Manchester, UK.

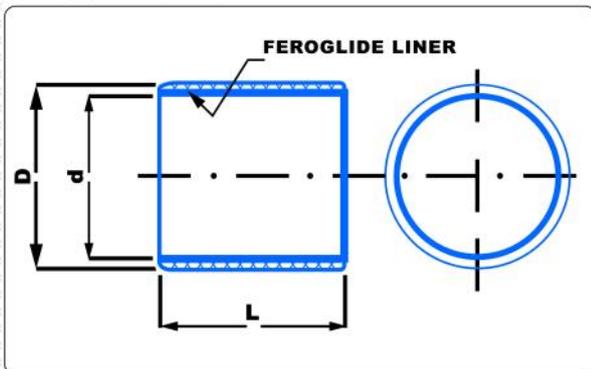
FEROGLIDE PA1



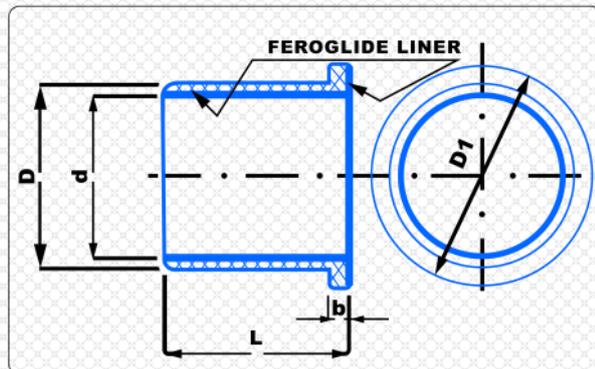
FEROGLIDE PA3



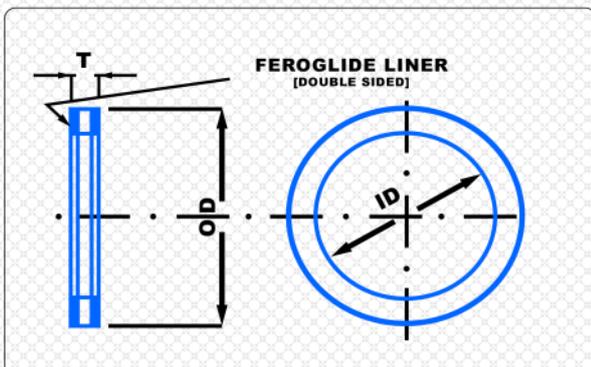
FEROGLIDE PA7



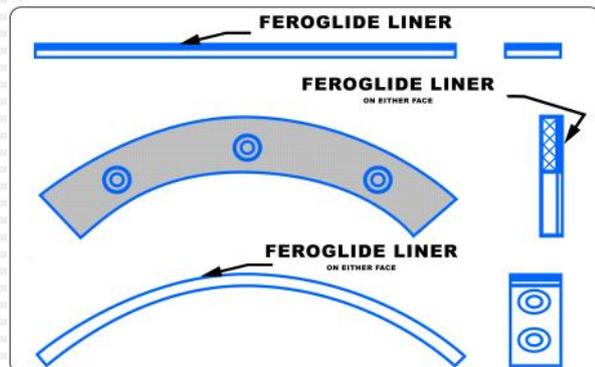
FEROGLIDE PA8



FEROGLIDE PC3



GLIDE STRIPS



AVAILABILITY

TENMAT FEROGLIDE bearings are manufactured to the highest industry standards at **TENMAT's** own world leading manufacturing facility in Manchester, UK.

TENMAT FEROGLIDE bearings are available in many standard sizes and custom shapes. Our Technical Services department is available to provide guidance on material selection, part design and technical solutions for individual enquiries.

TENMAT FEROGLIDE bearings are also available worldwide through a trusted distribution network.

Standard sizes for FEROGLIDE bearings and strips are available in the our standard sizes manual, available upon request. In addition to our portfolio of standard bearings, washers and wear strips, **TENMAT** can manufacture custom made components of various sizes and shapes. Please contact our technical sales department for specific enquiries.



QUALITY



TENMAT operates an ISO 9001:2008 Quality Management System for the design, development and manufacture of specialised high performance engineering materials and components.

Here at **TENMAT**, we have always made the quality and consistency of our products a top priority and are working continuously on exceeding our customers' expectations.

TENMAT's product quality is consistently monitored by our in-house quality control engineers and regularly tested and qualified by independent third party testing facilities and classification authorities.

In 2012 and 2013 **TENMAT's** commitment to the development of high quality products and materials was awarded with the prestigious Queen's Awards.



LEADERS IN INNOVATION

TENMAT is committed to the ongoing development of new products and solutions in the field of composite and engineering materials. This dedication has been recognised in 2012 and 2013 by receiving the highest official award in Great Britain, the prestigious Queen's Award for Enterprise in the categories Innovation and International Trade.

Custom Component Manufacture

TENMAT materials can be supplied as semi-finished products or, if required by the customer, our ISO 9001-2008 certified machine shop can produce fully machined items to specification.

Materials Expertise

With over 100 years of experience in Composite Engineering Materials, **TENMAT** offers customers information on material developments, characteristics, suitability and applications.

Technical Ingenuity

TENMAT has been proven to consistently produce industry leading advanced composites, developed in our in-house R&D Technical Laboratories.

Problem Solvers

The diverse range of high performance composite materials manufactured by **TENMAT** offers the engineer a wide array of solutions to improve wear resistance, withstand extreme temperatures, resist high impacts and survive in harsh, corrosive environments.

Component Design

If design services, drawings and fitting instructions are required, **TENMAT** works with customers in developing the most suitable solution to their particular problem.





FEROFORM **RAILKO** *FEROGLIDE* *FEROBIDE*

REFRAVER **REFEL** **ARCLEX**

FIREFLY **NITRASIL** **SINDANYO**

TENMAT is committed to the highest standards in customer service and our international staff is looking forward to assist you.

CORPORATE HQ

TENMAT Ltd.

Ashburton Rd West
Trafford Park
Manchester M17 1TD
England
Tel.: +44(0)161 872 2181
Fax: +44(0)161 872 7596
Email: info@tenmat.com
Web: www.tenmat.com

NORTH AMERICA

TENMAT Inc.

23 Copper Drive
Newport, DE 19804
USA
Tel.: +1 302-633-6600
Fax: +1 302-633-6838
Email: info@tenmatus.com
Web: www.tenmatus.com

SCANDINAVIA

TENMAT

Stureplan 13
111 45 Stockholm
Sweden
Tel: +46 (0) 8 612 68 50
Fax: +44 (0) 161 872 7596
Email: info@tenmat.com
Web: www.tenmat.com

Visit us on the web at www.TENMAT.com

ITALY

TENMAT

Via Dante, 2/48
16121 Genova
Italy
Tel.: +39 010 5451343
Fax: +39 010 5760553
Email: info@tenmat.it
Web: www.tenmat.it

FRANCE

TENMAT

56 Avenue Foch
77370 Nangis
France
Tel.: +33 (0) 1 60 585656
Fax: +33 (0) 1 64 083617
Email: info@tenmat.fr
Web: www.tenmat.fr

GERMANY

TENMAT

Tel.: +49 (0) 7151 1338468
Fax: +44 (0) 161 872 7596
Email: info@tenmat.de
Web: www.tenmat.de