

TUFCOT

COMPOSITE BEARING SOLUTIONS

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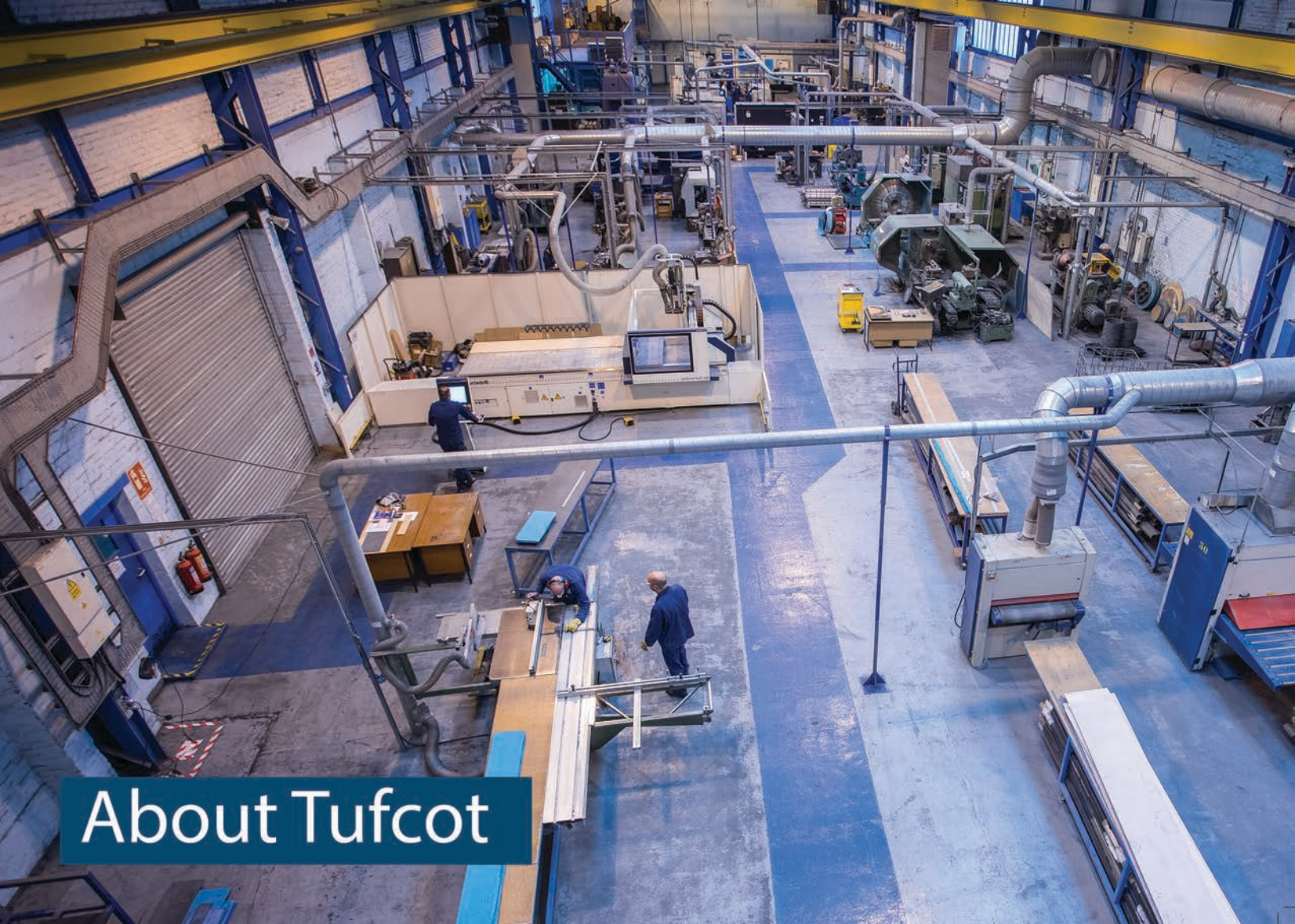




Tufcot

We are a specialist manufacturer of composite materials.

We supply our Tufcot® material as machined products such as spherical bearings, bushes, wear pads, laminates, hydraulic wear rings, semi-finished products and raw materials (tubes, rods, sheets).



About Tufcot

SPECIALISTS IN THE MANUFACTURE AND MACHINING OF
COMPOSITE MATERIALS

www.tufcot.com

The company was founded in 1981 by 3 directors who, at that time, had a combined experience of over 40 years in the plastics and composite bearings field.

The company has expanded and recently moved to significantly larger premises and currently employs over 40 people.

The company's success is down to its ability to :

- Supply a rapid turnaround of products
- Offer a wide range of grades and bespoke bearings
- Guarantee a high quality and high value product
- Extensive machining capabilities to suit all customers' needs

The management believe that in order to continue this success they need to remain focused on supplying the customer with a first-class product, underpinned by a first-class service.



What is Tufcot®?

Tufcot® is a composite engineering material manufactured from synthetic fibres and thermosetting resins.

All grades of Tufcot® are available with solid lubricant incorporated.

The physical and mechanical properties of Tufcot® make it an excellent bearing material.

By varying the fabric reinforcement and the resin used, the physical and chemical properties of the material can be adjusted to suit a wide range of applications.

Tufcot® is highly recommended for use where other forms of lubricant are either not desirable or are erratic, intermittent or non-existent.

What Makes Tufcot® So Efficient?

- Natural low coefficient of friction
- Almost any fluid can be used as a lubricant
- Tufcot® can be chemical, radiation and corrosion resistant
- Hard-wearing
- Excellent bearing material
- Low water swell – less than 0.1% volumetric
- 1/6 weight of steel
- Easily machined to clients' exact specifications
- No harmful toxic materials
- Exceptional dimensional stability, even in wet conditions
- Fire retardant or acid retardant grades available
- High strength/weight ratio

How Can Tufcot® Help Your Engineering Processes?

Tufcot® is highly recommended for use where lubricants are undesirable, erratic, intermittent or non-existent.

Where the maintenance of lubricant films is difficult, Tufcot® has been found to give improved performance.

The grade T100, in particular, has an extremely low rate of moisture absorption and therefore negligible dimensional change, making it ideally suitable for use in submerged water applications.

Tufcot® is only 1/6 the weight of steel, is easily machined, contains no harmful or toxic materials and has exceptional dimensional stability, even in wet conditions.

It offers the design engineer an attractive alternative for bushes, bearings, wear pads and many more applications.









Market Sectors



Marine

Lloyds Approved rudder bearings, capstan bearings, hatch cover pads, stern tube bearings, stabiliser bearings, deck machinery bearings.

Benefits – Rudder Bearings

- Minimal swell in water
- Dry running capability due to self-lubrication
- Protects housings from corrosion
- Non-conductive: it protects against electrolytic corrosion
- Tolerant to misalignment and shaft deflections
- Raw material tubes can be manufactured in a short period
- Easily machined on site without the use of coolant
- Elasticity reduces the effects of hammering



Mining, Oil & Gas

Wear sheaves, coal cutting machinery, cable guide rollers, pulley blocks, anchor sheave bearings, fulcrum bearings, piston rings for hydraulic pit props, conveyor rollers, gears, derrick bushes.

- Fire retardant, self-extinguishing grade of resin
- Minimal wear
- Replace conventional wooden chocks



Railways

Locomotive brake gear pads, door guide strips, couplings and roll bar bushes.

- T200G is the standard material often used for Rail applications
- T200 range is a higher temperature resin
- These grades are ideal for extreme cold conditions. There are many examples of Tufcot® in use on rail systems operating in extreme temperatures.



Hydraulics

Hydraulic cylinder wear rings, front cover bushes, neck bushes, gland bushes, split piston bushes.

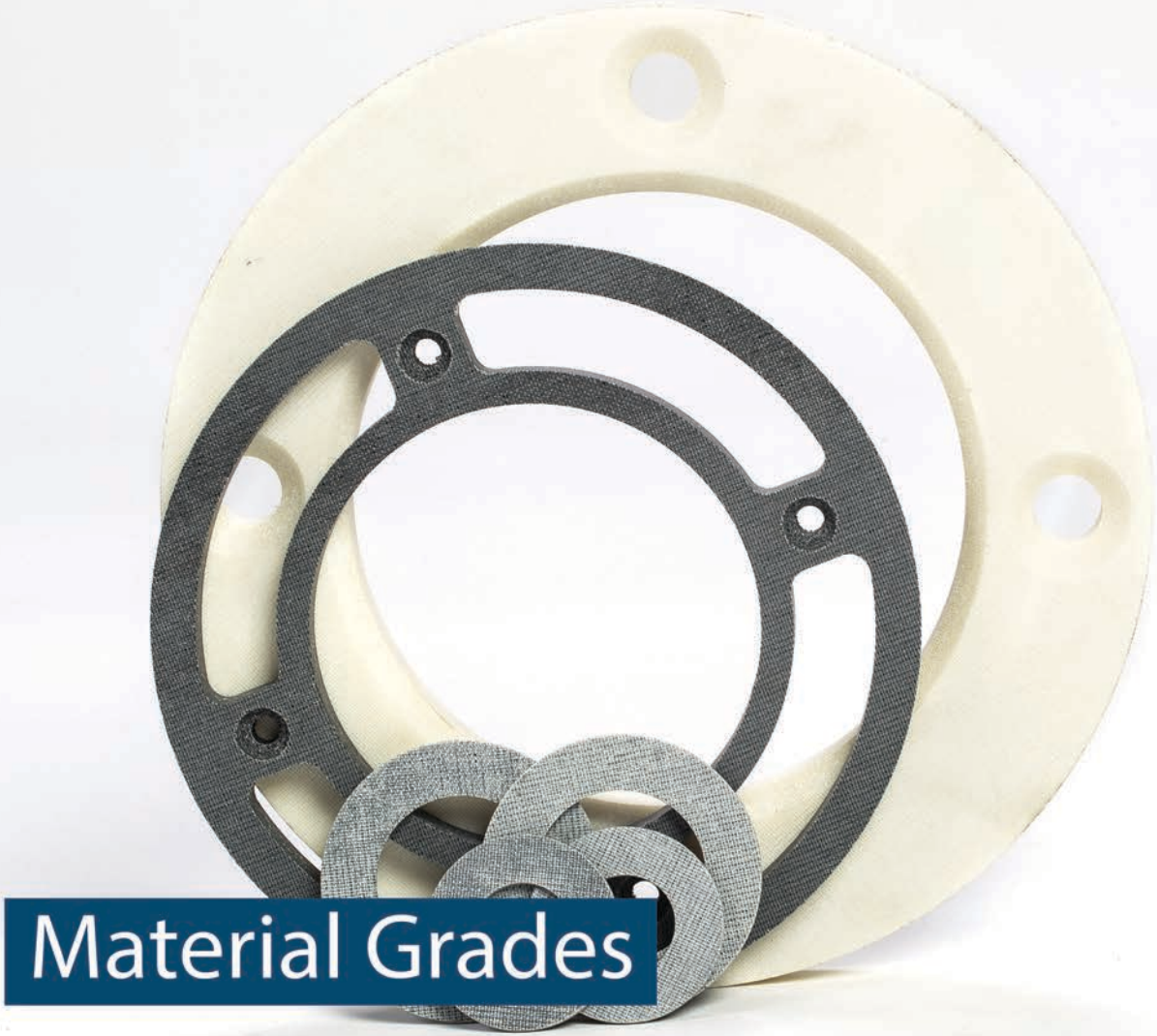
Benefits – Hydraulic Cylinder Wear Rings

- Prevents metal-to-metal contact between piston/rod and bore/gland, absorbing high transverse loads.
- It is capable of withstanding high side loads, damping vibrations and embedded foreign particles.
- Higher static loads are permissible. Special materials are available with operating temperatures up to +120°C.



Other Market Sectors

Agriculture
Automotive Car
Chemical Industries
Civil Engineering
Contractor Plant
Fluid Handling
Food Industry
Hydropower
Mechanical Handling
Steel Rolling Mills
Textiles Printing & Paper
Tobacco



Material Grades

GRADE	COLOUR	APPLICATION	PROPERTIES
T100	White	Water, Oil	Dimensionally stable bearing material for use primarily in harmless fluids.
T100G	Dark Grey	Replace existing metallic or non-metallic bearing materials.	Self lubricating version of T100. An inexpensive general purpose hard-wearing material.
T100M	Light Grey	Replace existing metallic or non-metallic bearing materials.	Self lubricating high performance bearing material.
T100P	Off-White	High slip properties means it is suitable for Wear Pad or Press Slide arm applications.	High slip properties.
T100MP	Light Grey	Replace existing metallic or non-metallic bearing materials.	Self lubricating high performance bearing material.
T100G/XPL	Grey	For use in high slip applications for example Wear Pads.	Special PTFE layer incorporated in wearing surface which creates a very low co-efficient of friction.
T200 RANGE	Off-White / Depends on the lubricant added	Replace existing metallic or non-metallic bearing materials in the marine sector where enhanced temperature is required.	Limited chemical resistance but capable of : * 100 degrees centigrade constant * 120 degrees centigrade intermittent
T400G	Dark Grey	This grade is suitable for underground mining applications with the potential for fire.	Tufcot's 400 range of resin is for fire retardance but is still self lubricating.
T600G	Dark Grey	This grade is suitable for sewage, acid pickling baths and acid vapour environments.	Tufcot's 600 range is a superior chemical resistant grade at lower temperatures than the T200 range.


Products



Machined Products

Tufcot offers a wide range of products including bushes, sphericals, washers, wearstrip, wear pads, wear rings and custom parts.

Contact Us

Contact our offices directly to discuss your requirements.

- info@tufcot.com
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- www.tufcot.com

BUSHES

Tufcot® bushes are fabric composite materials of fine-weave plastic fabrics impregnated with special thermosetting polyester resins.

In order to improve their mechanical properties – in particular the friction coefficient – the resin is mixed with additives.

Due to the wide range of materials with different mechanical and chemical properties they are applicable to a large number of specific applications.





FLANGED BUSHES

Tufcot® flanged bearing bushes are often used, and are ideal for, machined housings which are not set up to accept a regular bearing.

Flanged bushes can be used in automotive, agricultural and industrial applications due to their long lifespan and low maintenance requirements.

Flanged bushes can be impregnated with several lubricants as can be seen on our material grades page.

SPHERICALS

Tufcot® composite spherical bearings can be produced for both inner and outer housings. Inner rings can be split before and after machining.

Sphericals are produced from our maintenance-free materials and are suitable for mounting in the housings. Sphericals can also be drilled and grooved if extra oil lubrication is needed. These are ideal for marine applications as they are saltwater proof.

We can produce these in many sizes from 20mm OD to larger, 400mm OD as standard. Larger sizes may be available on request.





WASHERS

Tufcot® thrust washers are dry-sliding thrust bearings produced from sheet material.

These can be used for axially compact bearing locations where oscillating and rotational movement can occur. They are maintenance free which can prevent lubrication starvation occurring in places where lubrication is difficult to apply.

We can supply in many sizes and thicknesses throughout our whole range of material grades.

WEARSTRIP



Tufcot® standard wear ring or wearstrip can be supplied from 1mm to 5+ mm in thickness and widths up to 50mm.

We can produce strip lengths up to 5 metres in length. Our strips are machined to controlled and accurate tolerances and can be produced in various colours and grades.

Tufcot® strip allows for low slip characteristics and possesses excellent use in non-standard chemical applications with low swell.

Tufcot® stock strip is ideal for breakdown repairs.



WEAR PADS

Tufcot® wear pads are used in slide bearings, conveyor guides, scrapers and friction plates. Wear pads are predominantly used in the Textiles, Food, Rail and Marine Industries.

They can be produced from all of our range of material grades; additionally, they can also be self-lubricating with the incorporation of lubricants such as PTFE, Molybdenum and Graphite.

Wear pads can be drilled and grooved to customers' specific requirements for the benefits of lubrication and fixing.

WEAR RINGS

Tufcot® wear rings of fabric composite materials are used in Hydraulic Cylinders which are subject to high loads such as can occur in mobile hydraulics and press construction.

The high compressive strength, good sliding behaviour and the exceptional wear resistance properties ensure a long service life.

Tufcot® prevents metal-to-metal contact between piston/rod and bore/gland, absorbing high transverse loads.





CUSTOM PARTS

We can produce custom-made components to suit our customers' designs.

These can all be produced from our range of material grades and from whichever product is most efficient or preferable (e.g. tube, rod or sheet).

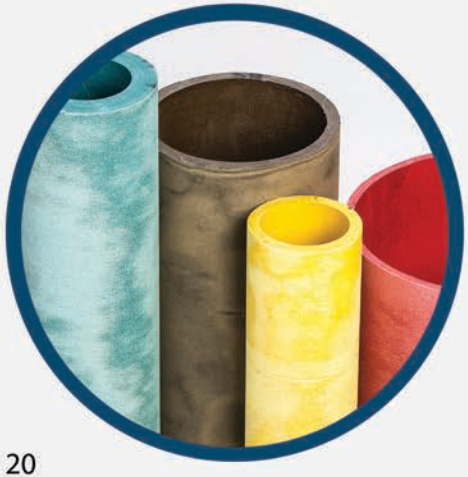
We can do a vast range of dimensions: our largest bearing was over 3.5 metres in diameter which was used for a swing bridge.

SEMI-FINISHED PRODUCT

Semi-finished products are available in a variety of sizes and colours as required by the customer.

Tube can be supplied in either thin wall or thick wall, offering the customer easier and more cost-effective machining, saving both time and money in machine operating costs.





SHEETS, TUBES AND RODS

Tufcot produces raw material tubes, laminates and rods for customers who wish to reduce their delivery times and do the machining either in-house or via an external contractor.

Delivery on tubes, laminates and rods (depending on sizes and quantity) is very short, to allow the customer to keep stock material or give their customer a quick turnaround.

PROPERTIES

The colour of our grades can be altered using dye/pigment to accommodate specific customer needs or desires.

Please enquire about our range of colours and whether this is viable for the grade required with our Technical Department.

GRADE	COLOUR	PROPERTIES & TYPICAL APPLICATIONS
T100	White	Dimensionally stable bearing material for use primarily in harmless fluids, e.g. in water, oils etc.
T100G	Dark Grey	Self-lubricating version of T100. It is an inexpensive general-purpose hard-wearing material to replace most existing metallic or non-metallic bearing materials.
T100M	Light Grey	Self-lubricating high performance bearing material.
T100MP	Light Grey	Low friction marine bearing material.
T100P	Off-White	High slip properties means it is suitable for Wear Pad or Press Slide arm applications.
T200 RANGE	Off-White	Enhanced temperature material incorporating chemical resistant properties.
T400 RANGE	Off-White	Fire retardant, self-lubricating grade.
T600 RANGE	Off-White	Superior chemical resistant grade.

Please note that the colour of the material ordered depends on the lubricant or pigment requested, the above colours are the natural colours of the material grade.

G = Graphite
M = Molybdenum Disulphide
MP = Molybdenum Disulphide & PTFE
P = PTFE

Please contact our offices directly to discuss your requirements.

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Machining Capability

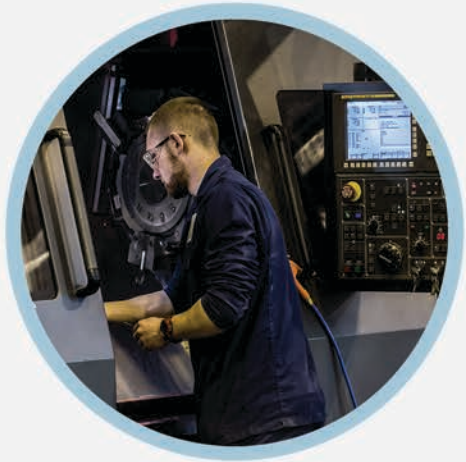
MACHINING CAPABILITY

We have a full range of machining available including milling, turning, boring, drilling and finishing.

This ensures that any size, shape and application can be designed and manufactured to the client's exacting standards.

Most sizes can be handled by our works: for exceptional sizes, contact our sales department.

We also produce sphericals on CNC machinery.





SPECIAL PRODUCTS

Special components can be manufactured to the customer's drawings from all grades of Tufcot®.

In addition to special wear pads, bearings and bushes, plain spherical bearings can be manufactured in Tufcot® to solve misalignment problems.

Spherical bearings with metallic and Tufcot® materials combined can also be produced.

For those applications where a fire risk exists, Tufcot® can be produced with exceptional fire-retardant properties.

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