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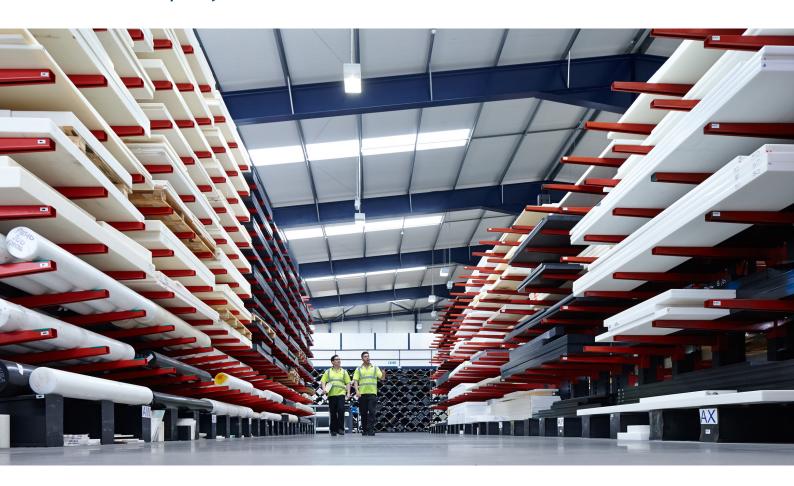






Semi-finished engineering plastics

# The Company



Ensinger is a market leader in the highly demanding world of engineering plastics, manufacturing over one hundred different semi-finished materials using a variety of production processes, including extrusion, casting, compression moulding and sintering.

In the UK, we hold one of the largest stock holdings of high performance and engineering plastic materials which are available in:

- $\rightarrow$  Rod
- → Sheet
- → Tube
- → Square sections
- → Hexagonal rods
- → Blocks cut to your requirements
- → Materials planed to your specifications
- → Billets cut to size
- → Rod and tube precision ground to specification

The techniques and processes developed in other parts of our international organisation, supplying leading companies throughout the world, are all made available from our five UK sites.

We have the expertise to meet our clients demands and commitment to supply our customers' requirements. In many instances that even comes ahead of receiving an order with expert engineers on hand to advise and work with you on the best route forward, developing new solutions if required.



## Customer service is the key to our success

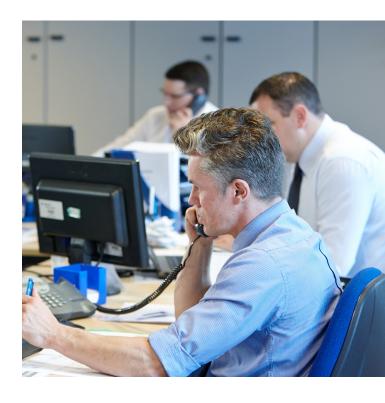
## Technical Application Service

It is only with the correct material that a design can achieve its required functionality, safety and service life.

It is primarily the application conditions that determine the selection of materials. Alongside the planned application, the search for a suitable plastic also takes into account all further development detail requirements.

Our material experts can provide customers with a qualified material recommendation which can be confirmed by practical testing.

Our technical application engineers can be contacted directly if you have any questions and require advice on material selection or machining recommendations. Our experienced material specialists will find the most suitable plastic material and the right process technology to fit your needs.



### Technical Applications: technical.uk@ensingerplastics.com

## Quality

For a company operating successfully on a global scale, only the most stringent quality standards are good enough.

With Ensinger, every individual process is covered with these quality controls and can be traced right back to the raw material if necessary.

Quality in output and service is only possible through highly trained staff, many of whom have specialised tasks to undertake. We keep our staff up to date with market developments and training to make sure that you get the best outcome from our highly educated and knowledgeable workforce.

As industrial demands become ever more stringent, the diversity and complexity of materials increase. Ensinger keeps pace with these advances by continually developing its semi-finished product range. As many of our products can only be ideally deployed if further processed with the right expertise, we also offer our customers training courses in plastics technology with a highly practical approach. The seminars are led by our technical applications engineers.





# Materials for an extensive range of applications

Our portfolio can be split into high performance, engineering and standard categories, with property profiles to suit a large variety of applications.

### **High Performance Plastics**

High performance plastics are used wherever customary plastics reach the limits of their technical properties or typically as a replacement for metals. Even at raised temperature levels, these materials achieve success through a combination of benefits.

Long-term service temperatures in this category range between 160°C to 260°C, with our polyimide materials significantly exceeding these. Other benefits include radiation resistance, excellent fire resistance (self-extinguishing) and good electrical properties. Special additives can also be used to adjust properties for materials to prove even more advantageous.

Generic Name	Trade Name / Filler	Form
Polyimide	TECASINT	Rod / Plate
PAI	Torlon® 4203 / 4301	Rod / Plate
PAI	TECATOR	Rod / Plate
PEEK*	TECAPEEK natural / black	Rod / Plate / Tube
PEEK	TECAPEEK GF30 natural	Rod / Plate
PEEK*	TECAPEEK PVX black	Rod / Plate / Tube
PEEK	TECAPEEK CF30 black	Rod / Plate
PEEK	TECAPEEK MT natural / colours	Rod / Plate
PEEK	TECAPEEK MT CLASSIX™ white	Rod
PEEK	TECAPEEK MT CLASSIX™ XRO white	Rod
PEEK	TECAPEEK HT black	Rod / Plate
PEEK	TECAPEEK ELS nano black	Rod / Plate
PEEK	TECAPEEK TF natural	Rod
PEEK	TECAPEEK CMF white	Rod / Plate
PEEK	TECAPEEK ST black	Rod / Plate
PPS	TECATRON GF40 natural / black	Rod / Plate
PPS	TECATRON natural	Plate
PPS	TECATRON PVX black	Rod / Plate
Polypropylene	TECAPRO MT black / white	Plate
Polysulphone	TECASON S natural / white	Rod / Plate
PPSU	TECASON P white	Plate
PPSU	TECASON P MT black / colours	Rod
PPSU	TECASON P XRO black / colours	Rod
PEI	TECAPEI natural	Rod / Plate
PEI	TECAPEI GF natural / black	Rod / Plate
PTFE	Polytetrafluoroethylene (PTFE) natural	Rod / Plate
PVDF	TECAFLON PVDF natural	Rod / Plate

\* TECAPEEK products are based on Victrex® Peek polymer



### **Engineering Plastics**

Often referred to as technical thermoplastics, these materials are easy to machine and can be used continuously at temperatures between 100°C to 150°C.

These materials demonstrate good mechanical characteristics and a high degree of chemical and wear resistance. Material blends and modifications permit product characteristics to be optimised across a broad range to suit different applications. Engineering plastics consequently cover a wide spectrum of different properties, which enable this range to be used in a variety of industries, from automotive and manufacturing, to food, electronics and even household appliances.

Generic Name	Trade Name / Filler	Form
Nylon 6	TECAMID 6 natural / MO black	Rod / Plate / Tube
Nylon 6	TECAMID 6 GF30 black	Rod / Plate
Nylon 6	TECAMID 6 GF12 VF black	Plate
Nylon 66	TECAMID 66 natural / MO black	Rod / Plate
Nylon 66	TECAMID 66 GF30 black	Rod / Plate
Nylon 66	TECAMID 66 LA natural	Rod
Nylon 66	TECAMID 66 CF20 black	Rod / Plate
Nylon 66	TECAMID 66 HI brown	Rod / Plate
Nylon 12	TECAMID 12 natural / black	Rod / Plate
Trogamid	TECAMID 6/3 TR natural	Rod
Nylon 46	TECAMID 46 natural / red brown	Plate
RIM	TECARIM 1500 yellow / black	Rod / Plate
Cast Nylon	TECAST T natural / MO black	Rod / Plate / Tube
Cast Nylon	TECAGLIDE natural	Plate
Cast Nylon	TECAST GX grey	Plate
Cast Nylon	TECAST L natural / black / green	Rod / Plate
Acetal	TECAFORM AH natural / black	Rod / Plate / Tube
Acetal	TECAFORM AHGF25 natural	Rod
Acetal	TECAFORM AH MT natural / colours	Rod
Acetal	TECAFORM AH LA blue	Rod / Plate
Acetal	TECAFORM AH ID grey	Rod / Plate
Acetal	TECAFORM AH ELS black	Rod / Plate
Acetal	TECAFORM AH SD natural	Rod / Plate
Acetal	TECAFORM AH AM natural	Rod
Delrin®	TECAFORM AD natural / black	Rod / Plate
Delrin®	TECAFORM AD 150 natural / black	Rod / Plate
Delrin®	TECAFORM AD AF natural	Rod / Plate
Polyester	TECAPET white / black	Rod / Plate
Polyester	TECAPET TF grey	Rod / Plate
Polyester	TECADUR PBT natural	Rod / Plate
Polycarbonate	TECANAT natural / black	Rod / Plate / Tube
Polycarbonate	TECANAT GF30 natural / black	Rod / Plate

### **Standard Plastics**

This category includes polyolefins such as PMP, PP, and PE.

These materials offer an ideal characteristic profile for a wide range of standard requirements at temperatures up to 100°C.

Generic Name	Trade Name / Filler	Form
Noryl®	TECANYL	Rod / Plate
Noryl®	TECANYL GF30	Rod / Plate
ABS	TECARAN ABS grey / black	Rod / Plate
Polystyrene*	REXOLITE 1422	Rod / Plate
Polyethylene*	Polyethylene natural	Rod / Plate
Polyethylene*	Polyethylene 1000 grade natural	Rod / Plate
Polypropylene*	Polypropylene natural	Rod / Plate
PVC*	PVC grey	Rod / Plate
PVC*	PVC Foam	Sheet
Polycarbonate*	Glazing	Sheet
PETG*	Glazing	Sheet
Acrylic*	Acrylic	Rod / Sheet / Tube / Block
AL*	Aluminium Composite	Sheet
EL*	Engraving Laminate	Sheet
Tufnol®*	Swan / Whale / Bear / Carp / IP13 / Kite	Rod / Plate
Tufnol®*		

\* Re-sale items stocked in the UK

For materials not listed please contact your nearest branch.

See back cover for branch location and contact details.



# A comprehensive choice of finishing techniques

Depending on your finished component, material choice and tolerance requirements, semi-finished products can be further processed to meet individual requirements with our additional finishing techniques.



### Cutting

Probably one of the largest varieties of cutting equipment enables us to supply billets and blocks cut exactly to size.

Our flexibility means that minimum and maximum quantities are non-existent as we can supply anything from one-off single cut pieces to many thousands.

Billets and blocks are cut at right angles and always exactly to size by numerically controlled machines. Rods and tubes up to 540mm diameter can be billeted to industry standard or customer specific tolerances. Ensinger can produce cut pieces from full size sheet ranging in thickness from 0.25mm to 150mm.

## **Precision Grinding**

Both rod and tube can be ground to specific size to close tolerances:

- → Within 0.05mm / 0.002" for outside diameters up to 25mm / 1"
- $\rightarrow$  0.13mm / 0.05" for outside diameters up to 50mm / 2" diameter
- $\rightarrow$  0.25mm / 0.010" for diameters over 50mm / 2"

Our standard stock sizes range from 1.5mm to 75mm diameter. However, we can also supply custom ground sizes from less than 1mm diameter to 100mm upon request.

## Planing

Parallel planing is performed on two sides, angular planing on four sides.

Using these techniques, close tolerances and precise surface finishes are possible.

### Diamond Polishing

Ensinger can offer sheet material with diamond polished edges as part of our additional services.

With the capacity to polish sheets up to 45mm in thickness and an upper roller device enabling us to polish a large sheet size, this service produces excellent results. Adjustable feed speed allows up to 3 meters per minute, removing just 0.5mm from the material.

### **Fabrication**

At Ensinger, we are keen to help you get the most out of your engineering plastic needs.

With this in mind, our growing fabrication division can fabricate semi-finished products to any drawing, whatever the size, whatever the quantity.

Our most popular fabricated parts can be categorised into Guarding and Point of Sale. However, you can rely on Ensinger to fabricate virtually any part that you may require.



To find out more visit www.ensingerplastics.com or contact your nearest branch.

# Finished Components

We are also able to offer finished components using a range of manufacturing processes, including CNC turning, milling and routing, from one of the largest plastic machining capacities in the UK.

### Delivery

Using our sophisticated electronic operating system, we are able to efficiently plan and deliver your requirements exactly when you need them, either using our own transport or those of our national carrier partners.

Virtually all of our orders are shipped from our extensive stock holding for next day delivery. We can also fulfil individual scheduling requirements just as easily and efficiently.

Our branches are strategically located throughout the UK, so Ensinger's high quality engineering plastic materials are never too far away.

