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***Stock Shapes***

*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:

- 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](mailto: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          | TECAFON 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                |

\* 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"
- 0.13mm / 0.05" for outside diameters up to 50mm / 2" diameter
- 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](http://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.

