



High-Temperature Engineering Polymers





High-Performance / High-Temperature Engineering Polymers

High-performance engineering polymers are generally considered to be those which have a long term service temperature of 150 degrees C or higher and are thus also often simply called high-temperature polymers.

Apart from their high service temperatures these high-performance engineering polymers exhibit enhanced physical and mechanical properties such as:-

- Light in weight, compared with the metals that they often replace
- Dimensional stability with reduced creep under load

- Resistance to abrasion / reduced friction
- Resistance to fire and oxidation
- Excellent stiffness and hardness
- UV stability
- · Resistance to chemicals
- Resistance to moisture
- Superior surface finish

These properties mean that these polymers offer a light, simple to manufacture, versatile alternative to metals and ceramics.

High-temperature engineering polymers are used in the most demanding environments and can regularly be found in:-

- The automotive industry, eg fuel inlets, carburetor components, camshafts, ignition plates, fuel injectors, brake systems, turbo parts, pumps, bearings, lighting.
- **Electronics / Electrical,** eg film capacitors, connectors & sockets, relays/switches/circuit breakers.
- Domestic appliances, eg oven controls & light housings, hair dryers, toasters & irons.

- Oil & Gas, eg pump components, fluid transport tubing, electrical connectors, filters.
- The aerospace industry, eg cable conduits, fuel delivery systems, fasteners, connectors & clamps.
- Electricity generation and distribution including in renewable energy, eg bearings, breakers, connectors, switches.
- Industrial plant & machinery, eg pump housings, impellors & shafts, valves, diverters & seals, compressor components.



Colloids has developed the **T-TEC®** range of high-temperature engineering polymers in black and also in a range of colours such as red, blue, green, brown and grey. Colloids

R&D team are working to continually extend the **T-TEC**® standard range in a variety of other high-temperature polymers.

Colloids Range of Standard



T-TEC* Products

Colloids standard T-TEC® range of high-temperature polymers includes:-

Continuous use service temps

PEEK - Polyether ether ketone
PPS - Polyphenylene sulfide
PPSU - Polyphenylsulfone
PPA - Polyphthalamide
Up to 230 C
Up to 210 C
Up to 205 C

In addition Colloids offer a bespoke service to develop grades not only for PEEK, PPS, PPSU and PPA but also for a range of other high temperature polymers including, but not limited to:-

- PEKK Polyetherketoneketone
- PSU Polysulfone
- PTFE Polytetrafluoroethylene
- PESU Polyethersulfone
- PVDF Polyvinylidene fluoride
- PEI Polyethylenimine

Colloids highly experience R&D team are on hand, ready to discuss and develop **T-TEC**® bespoke products to meet our customers specific requirements.



Engineering Polymers

Colloids **T-TEC**® range of high-temperature engineering polymers complements our comprehensive **PACE**® range of engineering polymers which includes, but is not limited to the following:-

- PA-6
- PA-11
- PC/ASA
- PETASA
- PC

- PA-66
- PPO
- POM

SAN

- PA-12
- PC/ABS
- PBT

Colloids are certified to **IATF 16949:2016**. This is based on ISO 9001 with additional requirements for the Automotive sector.



A MEMBER OF THE **TOSAF**GROUP



Colloids Limited, Kirkby Bank Road Knowsley Industrial Park North Merseyside, L33 7SY, UK Colloids Plastic (Suzhou) Co. Ltd, No.39 Wanhe Road, Bixi New District, Changshu Economic & Technological Development Zone, Changshu 215513, P.R. China

Tel: +44 (0)151 546 9222 Fax: +44 (0)151 545 4741 Email: sales@colloids.com Tel: +86 512 52069222 Email: sales.china@colloids.com

Every effort has been made to provide accurate information in this leaflet. However, customers must satisfy themselves of the suitability of these masterbatches in their application. Colloids Limited does not offer or imply any responsibility in this respect.

www.colloids.com