TECHNICAL DATA SHEET

Engineering plastic type LC

General notes:

- **PPS/GF30** polyphenylene sulphide reinforced with 30 wt% glass fiber and carbon fiber
- very hard, rigid, high tensile and flexural strength, creep resistance
- high heat capability (230-260°C), good dimension stability, low thermal linear expansion coefficient
- UL94V-0 self-extinguishing, without halogens or phosphorus; low fume optical density and toxicity
- excellent chemical resistance (organic solvent, oils, grease, fuels, acids and alkalis); not resistant only to hydrochloric acid and oxidizing agents, excellent resistance to thermal ageing, very low moisture absorption
- ESD-safe material, low surface resistivity (10^4_10^5 Ohm)
- microwave transparent
- typical applications include handling of components in soldering and cleaning/chemical processes also at high temperature. Commonly used in clean room environment.

Mechanical properties

Flexural modulus +23°C	**11000 MPa**	*ASTM D 790*
Flexural modulus +60°C	**10500 MPa**	*ASTM D 790*
Flexural modulus +90°C	**8500 MPa**	*ASTM D 790*
Flexural modulus +120°C	**6000 MPa**	*ASTM D 790*
Tensile strenght +23°C	**132 MPa**	*ISO 527*
Tensile strength +60°C	**118 MPa**	*ISO 527*
Tensile strength +90°C	**115 MPa**	*ISO 527*
Tensile strength +120°C	**95 MPa**	*ISO 527*
Rockwell hardness M	**99**	*ASTM D 785*
Izod - Impact strength (notched) +23°C	**75 J/m**	*ASTM D 256*
Charpy-Impact strength (unnotched) +23°C	**16 kJ/m²**	*DIN 53453*

Thermal properties

Temp. of defl. under load (1.80 MPa)	**263 °C**	*ASTM D648*
Temp. of defl. under load (0.45 MPa)	**278 °C**	*ASTM D648*
Vicat softening temperature (50°C/h 50N)	**244 °C**	*ISO 306*
Coef. of lin. therm expansion, normal	**2,80 E-5/°C**	*ASTM D 696*
Continuous Use Temperature	**200°C**	*20'000 h*
Short Time Temperature	**230°C**	

Electrical properties

Surface resistivity	**10^4 - 10^5 Ohm**	
Decay time	**<0.2 sec**	*1000-10 V*

Other properties

Density	**1.55 g/ccm**	*ISO 1183*
Water absorption in water 23° (24h)	**0.01%**	*ISO 62*

Chemical Resistance Guide of PPS

The chemical resistance of PPS is well known to be outstanding, even at elevated temperatures. However, being an organic polymer, it can be affected by some chemicals under certain conditions. Performance will vary depending on particular chemicals used (or combinations thereof), particular conditions of service, and particular PPS compounds used. Temperature and duration of exposure are critical factors that must be considered when determining the degree of chemical resistance required for a particular application. An insignificant effect that occurs over a short time, or at low temperature, may become significant in a few months or at elevated temperatures. It is important to consider which conditions and what properties are critical to an application, and then evaluate chemical resistance data relative not only to the performance requirements, but also relative to the performance of other materials used in the same application. If you require further information, our chemists can provide opinions about the suitability of PPS for particular chemical environments, based on our knowledge of the chemistry of PPS and our compounds. However, testing under conditions as similar as possible to actual service conditions is always recommended as the best way to determine chemical compatibility for a particular application.

Oxidizing Chemicals

Avoid exposure of PPS to these chemicals except at low concentrations or for very brief periods.

Organic Chemicals

Non-oxidizing organic chemicals generally have little effect on PPS.

Automotive Fluids

PPS is very resistant to all common automotive fluids, even at elevated temperatures.

Acids, Bases, and Salt Solutions

Non-oxidizing, water-based acid, base, and salt solutions do not have a significantly different effect on PPS than water alone, except under very acidic conditions.

Hot Water

PPS polymer is not hydrolyzed by hot water.