Technical Specification Sheets

T: +44 (0) 116 289 3343 E: info@facadecreations.co.uk W: www.facadecreations.co.uk
Registered Office Address: 124 City Road, London, England, EC1V 2NX. Registered in England, Company Number: 16267073

Chemical Designation
PPS (Polyphenylensulfide)

Colour
black opaque

Density
1.5 g/cm^3

Fillers
carbon fibres, PTFE, graphite

Main features
- very good chemical resistance
- good heat deflection temperature
- very good slide and wear properties
- inherent flame retardant
- high dimensional stability
- high stiffness
- high creep resistance

Target Industries
- mechanical engineering
- oil and gas industry
- vacuum technology
- automotive industry
- aircraft and aerospace technology

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength	50mm/min	53	MPa	DIN EN ISO 527-2		(1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. (5) For Charpy test: support span 64mm, norm specimen.
Modulus of elasticity (tensile test)	1mm/min	4600	MPa	DIN EN ISO 527-2	1)	
Tensile strength at yield	50mm/min	53	MPa	DIN EN ISO 527-2		
Elongation at yield (tensile test)	50mm/min	2	%	DIN EN ISO 527-2		
Elongation at break (tensile test)	50mm/min	2	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	91	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	4800	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	19/36/89	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	3300	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	14	kJ/m^2	DIN EN ISO 179-1eU	5)	
Shore hardness	D	85		DIN EN ISO 868		

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		94	°C	DIN EN ISO 11357	1)	(1) Found in public sources. (2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		281	°C	DIN EN ISO 11357		
Service temperature	short term	260	°C		2)	
Service temperature	long term	230	°C			
Thermal expansion (CLTE)	23-60°C, long.	5	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	23-100°C, long.	6	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	100-150°C, long.	13	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Specific heat		0.9	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.58	W/(K*m)	ISO 22007-4:2008		

Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10^4 -10^{10}	Ω	DIN EN 61340-2-3	
volume resistivity		10^7-10^{12}	Ω*cm	DIN EN 61340-2-3	

Other properties	parameter	value	unit	norm		comment
Water absorption	24h / 96h (23°C)	<0.01 / <0.01	%	DIN EN ISO 62	1)	(1) Ø ca. 50mm, h=13mm (2) + good resistance (3) (+) limited resistance (4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/ bases		+		-	2)	
Resistance to weathering		(+)		-	3)	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)	