

Datasheet

RS PRO Peek ID blue

RS Stock No: 144-9742

Chemical Designation

PEEK (Polyetheretherketone)

Colour

blue grey opaque

Density

1.49 g/cm³

Fillers

detectable filler

Main features

- * detectable via metal detector
- * good chemical resistance
- * high creep resistance
- * inherent flame retardant
- * good heat deflection temperature
- * hydrolysis and superheated steam resistant
- * good machinability

Target

- * Industries food technology
- * mechanical engineering

Mechanical properties

parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	MPa	DIN EN ISO 527-2	1) (1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen.
Tensile strength	50mm/min	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Tensile strength at yield	50mm/min	111	MPa	(5) For Charpy test: support span 64mm, norm specimen.
Elongation at yield	50mm/min	111	MPa	(6) Specimen in 4mm thickness
Elongation at break	50mm/min	4	%	
Flexural strength	2mm/min, 10 N	8	%	
Modulus of elasticity (flexural test)	2mm/min, 10 N	186	MPa	
Compression strength	1% / 2% 5mm/min, 10 N	8700	MPa	EN ISO 604 3)
Compression modulus	5mm/min, 10 N	25746	MPa	EN ISO 604 4)
Impact strength (Charpy)	max. 7.5J	4800	MPa	DIN EN ISO 179-1eU 5)
Ball indentation hardness	72	kJ/m ²	ISO 2039-1	6)

Thermal properties

parameter	value	unit	norm	comment
Glass transition temperature			DIN 53765	1) (1) Found in public sources. (2) Found in public sources.
Melting temperature	150	°C	DIN 53765	Individual testing regarding application conditions is mandatory.
Service temperature short term	341	°C		2)
Service temperature long term	300	°C		
Thermal expansion (CLTE)	23-60°C, long.	280	°C	DIN EN ISO 11359-1;2
Thermal expansion (CLTE)	23-100°C, long.	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2
Thermal expansion (CLTE)	100-150°C, long.	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2
Specific heat	7	10 ⁻⁵ K ⁻¹	ISO 22007-4:2008	
Thermal conductivity	1.1	J/(g*K)	ISO 22007-4:2008	

Electrical properties

parameter	value	unit	norm	comment
Specific surface resistance			DIN IEC 60093	
Specific volume resistance	10 ¹⁴	Ω	DIN IEC 60093	

Other properties

parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	value 0.02 / %	DIN EN ISO 62	1) (1) Ø ca. 50mm, h=13mm (2) + good resistance (3) - poor resistance
Resistance to hot water/ bases	0.03	-		2) (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 weathering	+	-		3)
Flammability (UL94)	corresponding to	-	DIN IEC 60695-11-10;	4)