TECAFLON PVDF RP natural - Stock Shapes (rods, plates, tubes)

Chemical Designation
PVDF (Polyvinylidene fluoride)

Colour
white opaque

Density
1.78 g/cm^3

Main features
- from reprocessed by-products/ production residues with optimized PCF
- very good chemical resistance
- good slide and wear properties
- very good weldable
- very good UV and weather resistance
- inherent flame retardant
- very good electrical insulation
- continuous service temperature up to 150 °C

Target Industries
- chemical technology
- electronics
- energy industry
- food technology
- mechanical engineering

Mechanical properties	condition	value	unit	test method		comment
Tensile strength	50mm/min	62	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	2200	MPa	DIN EN ISO 527-2	1)	
Tensile strength at yield	50mm/min	62	MPa	DIN EN ISO 527-2		
Elongation at yield (tensile test)	50mm/min	8	%	DIN EN ISO 527-2		
Elongation at break (tensile test)	50mm/min	17	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	77	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	2100	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	16/28/59	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	1900	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	150	kJ/m^2	DIN EN ISO 179-1eU	5)	
Shore hardness	D	80		DIN EN ISO 868		

Thermal properties	condition	value	unit	test method		comment
Glass transition temperature		-40	°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		171	°C	DIN EN ISO 11357		
Service temperature	short term	150	°C		2)	
Service temperature	long term	140	°C	-		
Thermal expansion (CLTE)	23-60°C, long.	16	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	23-100°C, long.	18	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.25	W/(K*m)	ISO 22007-4:2008		

Electrical properties	condition	value	unit	test method	comment
surface resistivity		10^{14}	Ω	-	

Other properties	condition	value	unit	test method		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) 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		+		-		
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	3)	

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