

PVDF natural - Stock Shapes

Chemical Designation

PVDF (Polyvinylidene fluoride)

Colour

white opaque

Density

1.78 g/cm³

Main features

- very good chemical resistance
- inherent flame retardant
- continuous service temperature up to 150 °C
- good slide and wear properties
- very good weldable
- very good electrical insulation
- very good UV and weather resistance

Target Industries

- chemical plant engineering
- conveyor technology
- medical technology
- food engineering
- mechanical engineering
- electrical engineering
- solar systems

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	2200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	62	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	62	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	8	%	DIN EN ISO 527-2	
Elongation at break	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% 5mm/min, 10 N	16 / 28	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)
Ball indentation hardness		129	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-40	°C	DIN 53765	1)
Melting temperature		171	°C	DIN 53765	
Service temperature	short term	150	°C		2)
Service temperature	long term	150	°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	parameter	value	unit	norm	comment
Specific surface resistance		10 ¹⁴	Ω	DIN IEC 60093	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	<0.01 / <0.01	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		-	2)
Resistance to weathering		+			
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	3)