



## Material data sheet PVDF natural

Chemical Designation: Polyvinylidene fluoride  
 DIN-abbreviation: PVDF  
 Colour / Fillers: white opaque  
 Density: 1,78 g/cm<sup>3</sup>

### Main features

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

### Target Industries

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

### Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	2200	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	62	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	62	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	8	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	17	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	77	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	2100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	16/28/59	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	1900	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	150	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU 5)	
Shore hardness	D	80		DIN EN ISO 868	





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thermal properties	parameter	value	unit	norm	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	150	°C		
Thermal expansion (CLTE)	23-60 °C, long	16	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	18	10 <sup>-5</sup> K <sup>-1</sup>	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
surface resistivity		10 <sup>14</sup>	Ω	DIN IEC 60093	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	<0.1 / <0.1	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 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	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/07/19

