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

Chemical Designation
PVDF (Polyvinylidene fluoride)

Colour
white

Density
1.78 g/cm^3

Main features
- excellent chemical resistance
- inherent flame resistance
- high gamma radiation resistance
- good UV and weather resistance
- good mechanical properties
- low moisture absorption
- good machinability

Target Industries
- chemical plant engineering
- process engineering
- medical technology
- cleanroom technology
- food processing
- food engineering

Mechanical properties	condition	value		test method		comment
Modulus of elasticity (tensile test)	@ 73 °F	350,000	psi	ASTM D 638		
Tensile strength at yield	@ 73 °F	8,100	psi	ASTM D 638		
Tensile strength at break	@ 73 °F	7,800	psi	ASTM D 638		
Elongation at break (tensile test)	@ 73 °F	35	%	ASTM D 638		
Flexural strength	@ 73 °F	14,700	psi	ASTM D 790		
Modulus of elasticity (flexural test)	@ 73 °F	410,000	psi	ASTM D 790		
Compression strength	@ 73 °F, 10% strain	11,600	psi	ASTM D 695		
Compression	@ 73 °F, 1% strain	1,200	psi	ASTM D 695		
Compression modulus	@ 73 °F	160,000	psi	ASTM D 695		
Impact strength (Izod)	@ 73 °F	1.97	ft-lbs/in	ASTM D 256		
Rockwell hardness	@ 73 °F, M scale	79		ASTM D 785		

Thermal properties	condition	value		test method		comment
Melting temperature		342	°F	-	1)	(1) per ASTM D3418 (2) publicly sourced data (3) Injection molded samples (4) Data obtained from public source (5) Data obtained from public source (6) publicly sourced data (7) publicly sourced data
Deflection temperature	@264 psi	235	°F	ASTM D 648	2)	
Deflection temperature	@ 66 psi	300	°F	ASTM D 648	3)	
Service temperature	short term	300	°F	-	4)	
Service temperature	Long Term	300	°F	-	5)	
Thermal expansion (CLTE)		$7.1*10^{-5}$	in/in/°F	ASTM D 696	6)	
Thermal conductivity		1.32	BTU-in/hr-ft^2-°F	ASTM C 177	7)	

Electrical properties	condition	value		test method		comment
volume resistance	@ 73 °F	$5*10^{14}$	Ω*cm	ASTM D 257	1)	(1) publicly sourced data (2) Injection molded samples (3) publicly sourced data (4) publicly sourced data
Dielectric strength		510	V/mil	ASTM D 149	2)	
Dissipation factor	@ 60 Hz, 73 °F	0.06		ASTM D 150	3)	
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	9		ASTM D 150	4)	

Other properties	condition	value		test method		comment
Moisture absorption	@ 24 hrs, 73 °F	0.02	%	ASTM D 570		(1) Thickness greater than 0.1 mm Injection molded samples
Flammability (UL94)		V0		-	1)	

- Resin specification:
  ASTM D3222-05 (Reapproved 2015) Type II
  Shapes specification:
  ASTM D 6713-14 S-PVDF0111

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