KYNAR® 740 PVDF natural - Stock Shapes (rods, plates, tubes)

Chemical Designation
PVDF (Polyvinylidene fluoride)

Colour
white translucent

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

Mechanical properties	condition	value	unit	test method		comment
Modulus of elasticity (tensile test)	@ 73 °F	300,000	psi	ASTM D 638		(1) Data obtained from public source
Tensile strength at yield	@ 73 °F	8,000	psi	ASTM D 638	1)	
Tensile strength at break	@ 73 °F	8,000	psi	ASTM D 638		
Elongation at break (tensile test)	@ 73 °F	35	%	ASTM D 638		
Flexural strength	@ 73 °F	13,000	psi	ASTM D 790		
Modulus of elasticity (flexural test)	@ 73 °F	400,000	psi	ASTM D 790		
Compression strength	@ 73 °F, 10% strain	10,500	psi	ASTM D 695		
Compression strength	@ 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	1.9	ft-lbs/in	ASTM D 256		
Rockwell hardness	M Scale	79		ASTM D 785		

Thermal properties	condition	value	unit	test method		comment
Melting temperature		342	°F	-	1)	(1) per ASTM D3418 (2) Injection molded samples (3) Injection molded samples (4) Data obtained from public source (5) injection molded samples (6) Injection molded data (7) injection molded data
Deflection temperature	@264 psi	221-239	°F	ASTM D 648	2)	
Deflection temperature	@ 66 psi	257-284	°F	ASTM D 648	3)	
Service temperature	Long Term	300	°F	-	4)	
Thermal expansion (CLTE)		$7.3*10^{-5}$	in/in/°F	ASTM D 696	5)	
Specific heat		0.28-0.36	BTU/lb-F°	*** new ***	6)	
Thermal conductivity		1.18-1.32	BTU-in/hr-ft^2-°F	ASTM C 177	7)	

Electrical properties	condition	value	unit	test method		comment
volume resistance	@ 73 °F, 65% RH	$2*10^{14}$	Ω*cm	ASTM D 257	1)	(1) Injection molded data (2) Injection molded samples (3) injection molded data (4) injection molded data
Dielectric strength		1700	V/mil	ASTM D 149	2)	
Dissipation factor	@ 100 Hz, 73 °F	0.01--0.21		ASTM D 150	3)	
Dielectric constant	@ 100 MHz, 73 °F	4.5		ASTM D 150	4)	

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

- Resin specification:
  ASTM D3222-05 (Reapproved 2015) Type I Grade 2
  Shapes specification:
  ASTM D6713-24 S-PVDF0111

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