

SOLEF® 1015 / 1001

PVDF Homopolymer from Solvay

Very High Viscosity - Membranes
Exclusively available as powder.

Physical properties	Standards	Units	
Density	ISO 1183	g/cm ³	1.78
Water absorption (24 h at 23°C)	ISO 62 (method 1)	%	< 0.04
Melt Flow Index	ASTM D 1238		
	230°C, 10 kg	g/10 min	0.7
	230°C, 5 kg	g/10 min	0.2
	230°C, 2.16 kg	g/10 min	-

Mechanical properties

Traction	ASTM D 638		
Tensile stress at yield	23 °C, 50 mm/min	MPa	53 - 57
Tensile stress at break		MPa	35 - 50
Elongation at yield		%	5 - 10
Elongation at break		%	20 - 50
Modulus	23 °C, 1 mm/min	MPa	2200
Flexion	ASTM D 790		
Maximum load	23 °C 2 mm/min	MPa	70
Modulus		MPa	2000
IZOD impact (notched V 10 mm - at 23 °C - 4 mm thick)	ASTM D 256	J/m	385⁽¹⁾
Shore D Hardness (2 mm thick)	ASTM D 2240	-	78
Abrasion resistance	TABER CS 10/1 kg	mg/1000 rev	5 - 10
Friction coefficient:	ASTM D 1894	static	0.2 - 0.4
		dynamic	0.2 - 0.3

Thermal properties

Crystallinity by DSC	ASTM D 3418		
Melting point		°C	173
Heat of fusion (80 °C to end of melting)		J/g	60
Crystallizing point		°C	140
Crystallization heat		J/g	53
VICAT point (4 mm thick)	ISO 306		
load 1 kg		°C	170
Deflection temperature (4 mm thick)	ASTM D 648		
load 0.46 MPa	after annealing	°C	143
load 1.82 MPa		°C	110
Glass transition (T _g)	DMTA	°C	- 30
Brittleness temperature (on 2 mm pressed sheet)	ASTM D 746 A	°C	-10 to 0

SOLEF® 1015 / 1001

PVDF Homopolymer from Solvay

Thermal properties (continuation)	Standards	Units	
Molding shrinkage		%	2 - 3
Thermal stability	TGA beginning- and at 1% weight loss in air	°C	375 - 400
Linear thermal expansion coefficient	ASTM D 696	10 ⁻⁶ K ⁻¹	120 - 140
Thermal conductance at 23°C	ASTM C 177	W/m.K	0.2
Specific heat	23 °C & 100 °C	J/g.K	1.2 - 1.6

Electrical properties

Surface resistivity Voltage < 1V, after 2 min - 500 V at 23 °C	[ASTM D 257 DIN 53483	ohm/square	≥ 1.10 ¹⁴
Volume resistivity Intensity = 10 mA, after 2 min at 23 °C	[ASTM D 257 DIN 53483	ohm.cm	≥ 1.10 ¹⁴

Fire resistance

UL-94 Flammability test	UL-94	Class	-
Limiting Oxygen Index (sheet 3 mm thick)	ASTM D 2863	%	44

(1) Partial break.

The data and numerical results contained in this document are provided for the sake of general information and are given in good faith. They reflect the state of our knowledge at the time of publication. Because the possibilities and application conditions of our product are many and varied, and lie beyond our control, we can in no event be held responsible if all the necessary information on planned applications have not been formally brought to our attention. The information presented here cannot be considered as a suggestion to use our products without taking into account existing patents, or legal provisions or regulations, whether national or local. The purchaser is obliged to verify whether the possession, use or marketing of our products is subject within his territory to particular rules, especially with respect to public health, hygiene and worker and/or consumer safety. The purchaser alone assumes the duties of information and advice for the ultimate user. Solvay can in no event be held responsible for a possible failure on the part of the purchaser to respect these regulations, provisions and duties.

December, 2000

© 2000, SOLVAY S.A. Rue du Prince Albert, 33 - B 1050 Brussels (Belgium)
Tel.: 32 2 / 509 61 11 - Fax: 32 2 / 509 69 18