

STYRON™ 485

High Impact Polystyrene Resin

Trinseo

Message:

STYRON™ 485 is an easy-flowing, high impact polystyrene, offering high impact strength coupled with good flexibility.

Applications:

Packaging, diluted with general purpose polystyrene

Industrial articles

Complies with:

Europe REGULATION (EC)10/2011

U.S. FDA 21 CFR 177.1640

Consult the regulations for complete details.

General Information	
UL YellowCard	E162447-238280
Features	Good Flexibility
	High Impact Resistance
Uses	General Purpose
	Packaging
Agency Ratings	EU No 10/2011
	FDA 21 CFR 177.1640
Forms	Pellets
Processing Method	Blow Molding
	Extrusion
	Injection Molding
	Sheet Extrusion
	Thermoforming

Physical	Nominal Value	Unit	Test Method
Density			
--	1.05	g/cm ³	ISO 1183
--	1050	kg/m ³	ISO 1183 ¹
Apparent Density	0.60	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	12	g/10 min	ISO 1133
Melt volume-flow rate (200°C/5.0 kg)	12.0	cm ³ /10min	ISO 1133 ²
Viscosity number	59.0	cm ³ /g	ISO 307, 1157, 1628 ³
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	55		ISO 2039-2
Ball Indentation Hardness	70.0	MPa	ISO 2039-1

Mechanical	Nominal Value	Unit	Test Method
Tensile modulus	2000	MPa	ISO 527-2 ⁴
Tensile Stress			
Yield	16.0	MPa	ISO 527-2/5
Yield	20.0	MPa	ISO 527-2 ⁵
Break	16.0	MPa	ISO 527-2/5
Tensile Strain			
Yield	1.5	%	
Break	50	%	
Nominal strain at break	> 50	%	ISO 527-2 ⁶
Flexural Modulus	2000	MPa	ISO 178
Flexural Stress	50.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
Compression Molded	7.0	kJ/m ²	ISO 179/2
-30°C	5.00	kJ/m ²	ISO 179/1eA ⁷
23°C	7.00	kJ/m ²	ISO 179/1eA ⁸
Charpy impact strength			
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
Compression Molded	90	J/m	ASTM D256
Injection Molded	70	J/m	ASTM D256
--	28	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Annealed	88.0	°C	ISO 75-2/B
0.45 MPa	80.0	°C	ISO 75-2 ¹⁰
1.8 MPa, Unannealed	73.0	°C	ISO 75-2/A
1.8 MPa, Annealed	84.0	°C	ISO 75-2/A
1.8 MPa	73.0	°C	ISO 75-2 ¹¹
Vicat Softening Temperature			
--	96.0	°C	ISO 306/A120
--	87.0	°C	ISO 306/B50
50°C/h, B (50N)	87.0	°C	ISO 306 ¹²
CLTE			
Flow	9.0E-5	cm/cm/°C	
Transverse	7.0E-5	cm/cm/°C	
Electrical	Nominal Value	Unit	Test Method
Surface resistivity	1.0E+13	ohms	IEC 60093 ¹⁴
Volume resistivity	> 1.0E+15	ohms · m	IEC 60093 ¹⁵
Electric strength	150	kV/mm	IEC 60243-1 ¹⁶

Dielectric Constant			
1 MHz	2.50		ASTM D150, IEC 60250 ¹⁷
100 Hz	2.50		IEC 60250 ¹⁸
Dissipation Factor			
1 MHz	4.0E-4		ASTM D150
100 Hz	2.0E-5		IEC 60250 ¹⁹
1 MHz	4.0E-5		IEC 60250 ²⁰
Flammability	Nominal Value	Unit	Test Method
Flame Rating ²¹ (1.60 mm)	HB		UL 94
Burning Behav. at 1.6mm nom. thickn. (1.60 mm, UL)	HB		ISO 1210 ²²
Glow Wire Flammability Index			IEC 60695-2-12
1.00 mm	700	°C	
2.00 mm	650	°C	
3.00 mm	650	°C	
NOTE			
1.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
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15.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
16.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
17.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
18.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
19.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
20.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
21.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.
22.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

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