

STYRON™ 637

General Purpose Polystyrene Resin

Trinseo

Message:

STYRON™ 637 is a general purpose polystyrene designed for use in extrusion blending with impact polystyrene where its high strength can be used to maximum advantage. It is a high molecular weight material designed for extrusion blending. Its high strength makes it ideally suited for packaging applications.

Applications:

Injection molded packages

Packaging foam extrusion

Injection molded containers

Complies with:

Europe REGULATION (EC)10/2011

U.S. FDA 21 CFR 177.1640

Consult the regulations for complete details.

General Information			
UL YellowCard	E162447-238288		
Features	High Strength		
Uses	Blending		
	Containers		
	General Purpose		
	Packaging		
Agency Ratings	EU No 10/2011		
Appearance	Clear/Transparent		
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)	2.5	g/10 min	ISO 1133
Melt volume-flow rate (200°C/5.0 kg)	2.50	cm ³ /10min	ISO 1133 ²
Water Absorption (Saturation)	0.0	%	ISO 62 ³
Viscosity number	116	cm ³ /g	ISO 307, 1157, 1628 ⁴
Hardness	Nominal Value	Unit	Test Method

Rockwell Hardness (R-Scale)	105		ISO 2039-2
Ball Indentation Hardness	150	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile modulus	3300	MPa	ISO 527-2 ⁵
Tensile Stress			
Yield	55.0	MPa	ISO 527-2/5
Yield	48.0	MPa	ISO 527-2 ⁶
Tensile Strain			
Yield	2.0	%	ISO 527-2 ⁷
Break	2.0	%	ISO 527-2/5
Nominal strain at break	3.0	%	ISO 527-2 ⁸
Flexural Modulus	3500	MPa	ISO 178
Flexural Stress	80.0	MPa	ISO 178
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Annealed	93.0	°C	ISO 75-2/B
0.45 MPa	93.0	°C	ISO 75-2 ⁹
1.8 MPa, Annealed	90.0	°C	ISO 75-2/A
1.8 MPa	75.0	°C	ISO 75-2 ¹⁰
Vicat Softening Temperature			
--	97.0	°C	ISO 306/A120
--	92.0	°C	ISO 306/B50
50°C/h, B (50N)	92.0	°C	ISO 306 ¹¹
CLTE			ISO 11359-2 ¹²
Flow	8.0E-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 ¹³
Volume resistivity	> 1.0E+15	ohms·m	IEC 60093 ¹⁴
Electric strength	140	kV/mm	IEC 60243-1 ¹⁵
Dielectric Constant			
1 MHz	2.50		ASTM D150, IEC 60250 ¹⁶
100 Hz	2.50		IEC 60250 ¹⁷
Dissipation Factor			
1 MHz	6.0E-5		ASTM D150, IEC 60250 ¹⁸
100 Hz	9.0E-5		IEC 60250 ¹⁹
Flammability	Nominal Value	Unit	Test Method
Flame Rating ²⁰ (1.60 mm)	HB		UL 94
Burning Behav. at 1.6mm nom. thickn. (1.60 mm, UL)	HB		ISO 1210 ²¹
NOTE			

1.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
2.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
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12.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
13.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
14.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
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.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.
21.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

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