TRINSEO™

STYRON™ 685D

General Purpose Polystyrene Resin

Overview

STYRON™ 685D is a high heat resistance, high tensile strength and high stiffness, general purpose polystyrene. It is recommended for applications where tensile and melt strength as well as heat resistance properties are important.

Characteristics

- High heat

Applications

- Media enclosures
- Refrigerator accessories
- Oriented polystyrene sheets

Complies with

- U.S. FDA 21 CFR 177.1640
- Europe REGULATION (EC) 10/2011
- CAN. HPB NO OBJECTION (WITH LIMITATIONS)
- CSA (Canada Standards Association)
- Consult Regulations for details.

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.04	g/cm³	1.04	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	1.5	g/10 min	1.5	g/10 min	ASTM D1238
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Strength [1] (Yield, Injection Molded)	7980	psi	55.0	MPa	ASTM D638
Tensile Elongation [1] (Break, Injection Molded)	4.0	%	4.0	%	ASTM D638
Flexural Modulus (Injection Molded)	470000	psi	3240	MPa	ASTM D790
Flexural Strength (Injection Molded)	16700	psi	115	MPa	ASTM D790
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Notched Izod Impact (73°F (23°C))	0.60	ft·lb/in	32	J/m	ASTM D256
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					ASTM D648
264 psi (1.8 MPa), Unannealed	181	°F	83.0	°C	
264 psi (1.8 MPa), Annealed	210	°F	99.0	°C	
Vicat Softening Temperature	226	°F	108	°C	ASTM D1525 [2]
Flammability	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Flame Rating [3] (0.06 in (1.5 mm), ALL)	HB		HB		UL 94

Additional Information

Mass balance versions (bio-based (BIO) or chemically recycled (CR)) of this product are chemically and physically indistinguishable to the standard fossil grade. This technical data sheet applies to all versions. Letters of sameness are available upon request.