

STYRON™ 686E

General Purpose Polystyrene Resin

Overview

STYRON™ 686E is a general purpose polystyrene resin designed for both moulding and extrusion applications. The balance between heat resistance, toughness and flow is exceptional. It also has good dimensional stability and excellent clarity.

Applications:

- Foamed PS sheets used for packaging, e.g. egg trays
- Thin-wall food packages
- Medium and heavy section applications in the injection moulding field

Complies with:

- Europe REGULATION (EC) 10/2011
- U.S. FDA 21 CFR 177.1640
- Consult regulations for details.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.04 g/cm ³	1.04 g/cm ³	ISO 1183
Apparent (Bulk) Density	0.60 g/cm ³	0.60 g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	2.5 g/10 min	2.5 g/10 min	ISO 1133
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Stress (Yield)	7980 psi	55.0 MPa	ISO 527-2/5
Tensile Strain (Break)	2.0 %	2.0 %	ISO 527-2/5
Flexural Modulus	508000 psi	3500 MPa	ISO 178
Flexural Stress	13800 psi	95.0 MPa	ISO 178
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Ball Indentation Hardness	21800 psi	150 MPa	ISO 2039-1
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load 264 psi (1.8 MPa), Annealed	208 °F	98.0 °C	ISO 75-2/A
Vicat Softening Temperature	225 °F	107 °C	ISO 306/A120
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ¹ (0.06 in (1.5 mm))	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.