

STYRON™ 686E

General Purpose Polystyrene Resin

Trinseo

Message:

STYRON™686E is a general-purpose polystyrene material. This product is available in Latin America and is processed by extrusion or injection molding.

STYRON™The main features of 686E are:

- accessible food
- Good dimensional stability
- Good toughness
- Heat resistance
- Transparency

Typical application areas include:

- packing
- Foam
- food contact applications

General Information			
Features	Good dimensional stability		
	Good liquidity		
	Heat resistance, high		
	Definition, high		
	Good toughness		
	Compliance of Food Exposure		
Uses	Foam		
	Food packaging		
Agency Ratings	FDA 21 CFR 177.1640		
Forms	Particle		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.04	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	2.4	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.40 - 0.80	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (L-Scale)	107		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3070	MPa	ASTM D638
Tensile Strength (Break)	48.0	MPa	ASTM D638
Tensile Elongation (Break)	3.0	%	ASTM D638
Flexural Modulus	3170	MPa	ASTM D790

Flexural Strength	83.0	MPa	ASTM D790
Tensile Rupture	48.0	MPa	ASTM D638
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	21	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	98.0	°C	ASTM D648
1.8 MPa, not annealed	89.0	°C	ASTM D648
Vicat Softening Temperature	108	°C	ASTM D1525
CLTE - Flow	9.0E-5	cm/cm/°C	ASTM D696
Injection	Nominal Value	Unit	
Rear Temperature	200 - 215	°C	
Middle Temperature	215 - 230	°C	
Front Temperature	230 - 245	°C	
Nozzle Temperature	230 - 245	°C	
Back Pressure	0.200 - 1.50	MPa	
Extrusion	Nominal Value	Unit	
Cylinder Zone 1 Temp.	177 - 193	°C	
Cylinder Zone 2 Temp.	182 - 204	°C	
Cylinder Zone 3 Temp.	188 - 210	°C	
Cylinder Zone 4 Temp.	199 - 216	°C	
Cylinder Zone 5 Temp.	204 - 221	°C	
Adapter Temperature	193 - 232	°C	
Melt Temperature	193 - 232	°C	
Die Temperature	199 - 232	°C	
Extrusion instructions			

Polish Rolls: 66 - 104 °C Head Pressure: 10 - 21 MPA

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