

STYRON™ 693

General Purpose Polystyrene

Americas Styrenics LLC

Message:

STYRON™693 is a general-purpose polystyrene material. This product is available in North America and is processed by extrusion or injection molding.

STYRON™The main features of the 693 are:

- flame retardant/rated flame
- High stiffness
- high strength
- accessible food
- Heat resistance

Typical application areas include:

- packing
- Electrical/electronic applications
- Foam
- food contact applications

General Information	
UL YellowCard	E326906-100171520
Features	Rigidity, high
	High tensile strength
	Heat resistance, high
	Compliance of Food Exposure
Uses	Packaging
	Electrical/Electronic Applications
	Foam
Agency Ratings	FDA 21 CFR 177.1640
UL File Number	E326906
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)	3.5	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.40 - 0.80	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (L-Scale)	109		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (Injection Molded)	3100	MPa	ASTM D638
Tensile Strength			ASTM D638
Fracture, injection molding	47.0	MPa	ASTM D638

Injection Molding	47.0	MPa	ASTM D638
Tensile Elongation (Break, Injection Molded)	3.0	%	ASTM D638
Flexural Modulus (Injection Molded)	3340	MPa	ASTM D790
Flexural Strength (Injection Molded)	59.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, Injection Molded)	21	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	87.0	°C	ASTM D648
1.8 MPa, not annealed	81.0	°C	ASTM D648
Vicat Softening Temperature	98.0	°C	ASTM D1525
CLTE - Flow	9.0E-5	cm/cm/°C	ASTM D696
Flammability	Nominal Value		Test Method
Flame Rating	HB		UL 94
Injection	Nominal Value	Unit	
Rear Temperature	230 - 245	°C	
Middle Temperature	215 - 230	°C	
Front Temperature	200 - 215	°C	
Nozzle Temperature	230 - 245	°C	
Mold Temperature	15.6 - 65.6	°C	
Injection Rate	Fast		
Back Pressure	0.200 - 1.50	MPa	
Cushion	6.35	mm	
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			
Zone 6 Temperature: 204 to 221°C Melt Pump, Pipes, Screen Changer Temperature: 193 to 232°C Polish Rolls Temperature: 66 to 104°C Head Pressure: 10 to 21 MPa			

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