

STYRON™ 478

High Impact Polystyrene

Americas Styrenics LLC

Message:

STYRON™478 is a high impact polystyrene material. This product is available in North America or Latin America and is processed by extrusion or injection molding.

STYRON™The main features of the 478 are:

flame retardant/rated flame

high gloss

accessible food

Good stiffness

Impact resistance

Typical application areas include:

medical/health care

Electrical/electronic applications

electrical appliances

home apps

food contact applications

General Information			
UL YellowCard		E326906-100171510	
Features		Rigid, good	
		Highlight	
		Impact resistance, high	
		Good liquidity	
		Heat resistance, high	
		Compliance of Food Exposure	
Uses		Electrical/Electronic Applications	
		Electrical appliances	
		Household goods	
		Medical/nursing supplies	
Agency Ratings		FDA 21 CFR 177.1640	
		USP Class VI	
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)	6.0	g/10 min	ASTM D1238

Molding Shrinkage - Flow	0.40 - 0.80	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	110		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (Injection Molded)	2000	MPa	ASTM D638
Tensile Strength			ASTM D638
Fracture, injection molding	25.5	MPa	ASTM D638
Injection Molding	30.0	MPa	ASTM D638
Tensile Elongation (Break, Injection Molded)	60	%	ASTM D638
Flexural Modulus (Injection Molded)	2100	MPa	ASTM D790
Flexural Strength (Injection Molded)	39.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
23°C, molded	85	J/m	ASTM D256
23°C, injection molding	110	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	90.0	°C	ASTM D648
1.8 MPa, not annealed	81.0	°C	ASTM D648
Vicat Softening Temperature	102	°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	218 - 249	°C	
Middle Temperature	218 - 249	°C	
Front Temperature	199 - 213	°C	
Nozzle Temperature	213 - 243	°C	
Mold Temperature	15.6 - 65.6	°C	
Injection Rate	Fast		
Back Pressure	0.200 - 1.20	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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