STYRON™ 610

Americas Styrenics LLC - General Purpose Polystyrene

Tuesday, November 5, 2019

General Information

General			
Material Status	• Commercial: Active		
Availability	• North America		
Features	• Food Contact Acceptable	• High Heat Resistance	
Uses	• Blending	• Film	• Foam
Agency Ratings	• FDA 21 CFR 177.1640		
UL File Number	• E326906		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.04		ASTM D792
Melt Mass-Flow Rate (200°C/5.0 kg)	10	g/10 min	ASTM D1238
Molding Shrinkage - Flow	4.0E-3 to 8.0E-3	in/in	ASTM D955
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (Injection Molded)	450000	psi	ASTM D638
Tensile Strength (Yield, Injection Molded)	6380	psi	ASTM D638
Tensile Strength (Break, Injection Molded)	6380	psi	ASTM D638
Tensile Elongation (Break, Injection Molded)	3.0	%	ASTM D638
Flexural Modulus (Injection Molded)	450000	psi	ASTM D790
Flexural Strength (Injection Molded)	9000	psi	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (73°F, Injection Molded)	0.40	ft·lb/in	ASTM D256
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (L-Scale)	110		ASTM D785
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	206	°F	ASTM D648
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	191	°F	
Vicat Softening Temperature	225	°F	ASTM D1525
CLTE - Flow	5.0E-5	in/in/°F	ASTM D696

Processing Information

Injection	Nominal Value	Unit
Rear Temperature	415 to 469	°F
Middle Temperature	424 to 480	°F
Front Temperature	424 to 480	°F
Nozzle Temperature	390 to 415	°F
Mold Temperature	60 to 150	°F
Injection Rate	Fast	
Back Pressure	29.0 to 174	psi

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Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	351 to 379	°F
Cylinder Zone 2 Temp.	360 to 399	°F
Cylinder Zone 3 Temp.	370 to 410	°F
Cylinder Zone 4 Temp.	390 to 421	°F
Cylinder Zone 5 Temp.	399 to 430	°F
Adapter Temperature	379 to 450	°F
Melt Temperature	379 to 450	°F
Die Temperature	390 to 450	°F

Extrusion Notes

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

Notes

[1] Typical properties: these are not to be construed as specifications.