



STYRON™ 404

Americas Styrenics LLC - General Purpose Polystyrene

Tuesday, November 5, 2019

General Information

General

Material Status	• Commercial: Active	
Availability	• Latin America	• North America
Features	• Additive Free	
Uses	• Compounding	• Masterbatch
Agency Ratings	• FDA 21 CFR 177.1640	
UL File Number	• E326906	
Forms	• Pellets	
Processing Method	• Extrusion	• Injection Molding

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.04		ASTM D792
Melt Mass-Flow Rate (200°C/5.0 kg)	2.3	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)	276000	psi	ASTM D638
Tensile Strength (Yield, Injection Molded)	4790	psi	ASTM D638
Tensile Strength (Break, Injection Molded)	4790	psi	ASTM D638
Tensile Elongation (Break, Injection Molded)	60	%	ASTM D638
Flexural Modulus (Injection Molded)	290000	psi	ASTM D790
Flexural Strength (Injection Molded)	6240	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
73°F	1.6	ft·lb/in	
73°F, Compression Molded	1.4	ft·lb/in	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	199	°F	ASTM D648
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	181	°F	
Vicat Softening Temperature	223	°F	ASTM D1525
CLTE - Flow	5.0E-5	in/in/°F	ASTM D696

Processing Information

Injection	Nominal Value	Unit
Rear Temperature	390 to 415	°F
Middle Temperature	478 to 480	°F
Front Temperature	424 to 480	°F
Nozzle Temperature	415 to 469	°F
Mold Temperature	60 to 150	°F
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.