



Americas Styrenics EA3400

Americas Styrenics LLC - General Purpose Polystyrene

Tuesday, November 5, 2019

General Information

General

Material Status	• Commercial: Active		
Availability	• North America		
Features	• Crystal • Food Contact Acceptable • Good Colorability	• Good Toughness • High Clarity • Low Odor Transfer	• Low Residuals • Low Taste Transfer
Uses	• Blending • Caps	• Medical/Healthcare Applications • Thick-walled Parts	
Agency Ratings	• FDA 21 CFR 177.1640		
UL File Number	• E326906		
Forms	• Pellets		
Processing Method	• Coextrusion	• 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)	9.0	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)	465000	psi	ASTM D638
Tensile Strength (Injection Molded)	6670	psi	ASTM D638
Tensile Strength (Break, Injection Molded)	6670	psi	ASTM D638
Tensile Elongation (Break, Injection Molded)	3.0	%	ASTM D638
Flexural Modulus (Injection Molded)	470000	psi	ASTM D790
Flexural Strength (Injection Molded)	8560	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F, Injection Molded)	0.39	ft-lb/in	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (L-Scale)	108		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	192	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed	180	°F	ASTM D648
Vicat Softening Temperature	210	°F	ASTM D1525
CLTE - Flow	5.0E-5	in/in/°F	ASTM D696

Processing Information

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

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Injection	Nominal Value	Unit
Injection Rate	Fast	
Back Pressure	29.0 to 174	psi
Cushion	0.250	in
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

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

Notes

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