Americas Styrenics MC3650

Americas Styrenics LLC - General Purpose Polystyrene

Tuesday, November 5, 2019

General Information

General			
Material Status	• Commercial: Active		
Availability	• North America		
Additive	• Mold Release		
Features	• Crystal • Fast Molding Cycle	• Food Contact Acceptable • High Clarity	
Uses	• Containers • Cups	• Disposable Tableware • Household Goods	• Vials
Agency Ratings	• FDA 21 CFR 177.1640	• USP Class VI	
UL File Number	• E326906		
Appearance	• Clear - Blue Tint		
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)	13	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)	460000	psi	ASTM D638
Tensile Strength (Injection Molded)	6530	psi	ASTM D638
Tensile Strength (Break, Injection Molded)	6530	psi	ASTM D638
Tensile Elongation (Break, Injection Molded)	3.0	%	ASTM D638
Flexural Modulus (Injection Molded)	480000	psi	ASTM D790
Flexural Strength (Injection Molded)	7980	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)	107		ASTM D785
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	189	°F	ASTM D648
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	178	°F	
Vicat Softening Temperature	208	°F	ASTM D1525
CLTE - Flow	5.0E-5	in/in/°F	ASTM D696
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	HB		UL 94

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Injection	Nominal Value	Unit
Rear Temperature	425 to 480	°F
Middle Temperature	425 to 480	°F
Front Temperature	390 to 415	°F
Nozzle Temperature	415 to 470	°F
Mold Temperature	60 to 150	°F
Injection Rate	Fast	
Back Pressure	25.0 to 175	psi
Cushion	0.250	in

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	350 to 380	°F
Cylinder Zone 2 Temp.	360 to 400	°F
Cylinder Zone 3 Temp.	370 to 410	°F
Cylinder Zone 4 Temp.	390 to 420	°F
Cylinder Zone 5 Temp.	400 to 430	°F
Adapter Temperature	380 to 450	°F
Melt Temperature	380 to 450	°F
Die Temperature	390 to 450	°F
Back Pressure	1500 to 3000	psi

Extrusion Notes

Zone #6: 400 to 430°F
Polish Rolls: 150 to 220°F
Compression Ratio: 4:1
Extruder Die: 110 - 150% of the required sheet thickness

Notes

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