

Product Information

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Ultraform® N 2320 003 UNC Q600

Polyoxymethylene


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Product Description

Ultraform N 2320 003 UNC Q600 is a rapidly freezing general-purpose injection-molding POM grade. It contains a mold release agent.

Applications

Typical applications include spring elements, clips, gas filler caps, gear wheels, small motor parts, curtain hooks and release buttons for safety belts.

PHYSICAL	ASTM Test Method	Property Value
Specific Gravity	D-792	1.40
Mold Shrinkage (1/8" bar, in/in)		0.02
Moisture, %	D-570	
(50% RH)		0.2
(Saturation)		0.8
MECHANICAL	ASTM Test Method	Property Value
Tensile Strength, Yield, MPa (psi)	D-638	
23°C (73°F)		65 (9,430)
Elongation, Yield, %	D-638	
23°C (73°F)		9.4
Flexural Modulus, MPa (psi)	D-790	
23°C (73°F)		2,470 (358,000)
IMPACT	ASTM Test Method	Property Value
Notched Izod Impact, J/M (ft-lbs/in)	D-256	
-40°C (-40°F)		59.8 (1.1)
23°C (73°F)		69.4 (1.3)
THERMAL	ASTM Test Method	Property Value
Melting Point, °C(°F)	D-3418	167 (332)
Heat Deflection @ 264 psi (1.8 MPa) °C(°F)	D-648	99 (210)
Heat Deflection @ 66 psi (.45 MPa) °C(°F)	D-648	154 (309)
Coef. of Linear Thermal Expansion, mm/mm °C (in/in °F)	E-831	0.6 X10-4
UL RATINGS	UL Test Method	Property Value
Flammability Rating, 1.5mm	UL94	HB
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, °C		90
Mechanical w/ Impact, °C		90
Electrical, °C		105
Flammability Rating, 3.0mm	UL94	HB
Relative Temperature Index, 3.0mm	UL746B	
Mechanical w/o Impact, °C		105
Mechanical w/ Impact, °C		90
Electrical, °C		105
ELECTRICAL	ASTM Test Method	Property Value
Volume Resistivity, 1.5 mm	D-257	1E13
Surface Resistivity, 1.5 mm	D-257	1E13

Processing Guidelines
Material Handling

Max. Water content: 0.15%

Product is supplied in polyethylene bags and drying prior to molding is not required. However, after relatively long storage or when handling material from previously opened containers, preliminary drying is recommended in order to remove any moisture which has been absorbed. If drying is required, a dehumidifying or desiccant dryer operating at 80 - 110°C (176 - 230°F) is recommended. Drying time is dependent on moisture level, however 2-4 hours is generally sufficient. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile

Melt Temperature 190-230°C (375-446°F)

Mold Temperature 60-120°C (140-248°F)

Injection and Packing Pressure 35-70 bar (500-1000psi)

Mold Temperatures

A mold temperature of 80-90°C (176-194°F) is recommended, however temperatures of as low as 45°C (113°F) and as high as 105°C (221°F) can be used where applicable.

Pressures

Injection speed must be optimized. A filling rate which is too high results in anisotropic mechanical properties, while a filling rate which is too low yields parts with poor surface finish. The tool must be vented to avoid burn marks and prevent mold deposits. Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas.

Fill Rate

Injection speed must be optimized. A filling rate which is too high results in anisotropic mechanical properties, while a filling rate which is too low yields parts with poor surface finish. The tool must be vented to avoid burn marks and prevent mold deposits.

Note

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