

# Ultraform<sup>®</sup> N 2320 003 UNC Q600

## Polyoxymethylene

### 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	ISO Test Method	Property Value
Density, g/cm <sup>3</sup>	1183	1.40
Mold Shrinkage, parallel, %	294-4	2.1
Mold Shrinkage, normal, %	294-4	2.1
Moisture, %	62	
(50% RH)		0.2
(Saturation)		0.8
RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (190 °C/2.16 Kg), cc/10min.	1133	7.5
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23°C		2,700
Tensile stress at yield, MPa	527	
-40°C		93
23°C		65
80°C		33
Tensile strain at yield, %	527	
23°C		9.4
Nominal strain at break, %	527	
23°C		27
Tensile Creep Modulus (1000h), MPa	899	1,400
Tensile Creep Modulus (1h), MPa	899	1,800
IMPACT	ISO Test Method	Property Value
Charpy Notched, kJ/m <sup>2</sup>	179	
-30°C		5.5
23°C		6
Charpy Unnotched, kJ/m <sup>2</sup>	179	
-30°C		190
23°C		210
THERMAL	ISO Test Method	Property Value
Melting Point, °C	3146	167
HDT A, °C	75	100
HDT B, °C	75	156
Coef. of Linear Thermal Expansion, Parallel, mm/mm °C		1.1 X10 <sup>-4</sup>
ELECTRICAL	ISO Test Method	Property Value
Comparative Tracking Index	IEC 60112	600
Volume Resistivity (Ohm)	IEC 60093	1E13
Surface Resistivity (Ohm-m)	IEC 60093	1E13
Dielectric Constant (100 Hz)	IEC 60250	3.8
Dielectric Constant (1 MHz)	IEC 60250	3.8
Dissipation Factor (100 Hz)	IEC 60250	10
Dissipation Factor (1 MHz)	IEC 60250	50
Dielectric Strength, KV/mm	IEC 60243-1	40
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
Processing Guidelines		
<b>Material Handling</b>		
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**

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required.

BASF Corporation  
Engineering Plastics  
1609 Biddle Avenue  
Wyandotte, MI 48192

General Information: 800-BC-RESIN  
Technical Assistance: 800-527-TECH (734-324-5150)  
Web address: <http://www.plasticsportal.com/usa>

 **BASF**  
We create chemistry