

# Ultraform<sup>®</sup> N 2200 G53 UNC Q600

## Polyoxymethylene

### Product Description

Ultraform N 2200 G53 UNC Q600 is a 25% glass fiber reinforced POM injection molding grade with enhanced stiffness and toughness.

### Applications

Typical applications include chain conveyors and automotive suspension components.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm <sup>3</sup>	1183	1.58
Mold Shrinkage, parallel, %	294-4	0.7
Mold Shrinkage, normal, %	294-4	1.4
Moisture, %	62	
(50% RH)		0.15
(Saturation)		0.9

RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (190 °C/2.16 Kg), cc/10min.	1133	4

MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23°C		8,800
Tensile stress at break, MPa	527	
-40°C		173
23°C		130
80°C		79
Tensile strain at break, %	527	
-40°C		3.2
23°C		3.0
80°C		4.5
Tensile Creep Modulus (1000h), MPa	899	5,800
Tensile Creep Modulus (1h), MPa	899	7,500

IMPACT	ISO Test Method	Property Value
Charpy Notched, kJ/m <sup>2</sup>	179	
-30°C		8.5
23°C		9
Charpy Unnotched, kJ/m <sup>2</sup>	179	
-30°C		60
23°C		55

THERMAL	ISO Test Method	Property Value
Melting Point, °C	3146	168
HDT A, °C	75	163
HDT B, °C	75	165
Coef. of Linear Thermal Expansion, Parallel, mm/mm °C		0.3 X10-4

ELECTRICAL	ISO Test Method	Property Value
Comparative Tracking Index	IEC 60112	600
Volume Resistivity (Ohm)	IEC 60093	1E12
Surface Resistivity (Ohm-m)	IEC 60093	1E12
Dielectric Constant (100 Hz)	IEC 60250	4
Dielectric Constant (1 MHz)	IEC 60250	4
Dissipation Factor (100 Hz)	IEC 60250	20
Dissipation Factor (1 MHz)	IEC 60250	50
Dielectric Strength, KV/mm	IEC 60243-1	43

### 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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