

# Ultraform® H 4320 UNC Q600

## Polyoxymethylene (POM)



### Product Description

Ultraform H 4320 UNC Q600 is an extrusion POM high molecular weight grade. This grade enables high extrusion rates with thick-walled product. It also exhibits high thermal stability and a low tendency to discolor.

### Applications

Typical applications include pipe and semi-finished parts for gear wheels, bearings and other mechanical elements.

PHYSICAL	ASTM Test Method	Property Value
Specific Gravity	D-792	1.39
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	
23C (73F)		63 (9,130)
Elongation, Yield, %	D-638	
23C (73F)		10
Flexural Modulus, MPa (psi)	D-790	
23C (73F)		2,410 (349,000)
IMPACT	ASTM Test Method	Property Value
Notched Izod Impact, J/M (ft-lbs/in)	D-256	
-40C (-40F)		69.4 (1.3)
23C (73F)		80.1 (1.5)
THERMAL	ASTM Test Method	Property Value
Melting Point, C(F)	D-3418	166 (330)
Heat Deflection @ 264 psi (1.8 MPa) C(F)	D-648	96 (204)
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
ELECTRICAL	ASTM Test Method	Property Value
Volume Resistivity (Ohm-m)	D-257	1E13
Surface Resistivity (Ohm)	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 - 110C (176 - 230F) 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 175-200C (347-392F)

Typical Barrel Profile (C):

Rear 170C (338F)  
Middle 180C (356F)  
Front 200C (392F)

Adaptor 175C (347F)  
Die 175C (347F)

#### Screw Parameters

Metering Section	40%
Transition Section	3 to 5 flights
Feed Section	balance of screw length
Compression Ratio	3:1
L/D Ratio	20:1 to 25:1

#### Tooling & Sizing

Die to Finished Tube dia. 2.0-4.0:1

Selection of pin and die size will be dependent on the material viscosity. In general, the ratio of die size to finished tube diameter is about 2.0-4.0:1. The mandrel (pin) size is determined the same way in relation to the inner tube diameter.

#### Note

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