

Ultraform® S 2320 003 AT

Polyoxymethylene (POM)



Product Description

Ultraform S 2320 003 AT is an easy flowing and rapidly freezing injection molding POM grade. Contains a mold release agent.

Applications

Typical applications include difficult, thin-walled parts.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm ³	1183	1.41
Mold Shrinkage, parallel, %	294-4	2.1
Mold Shrinkage, normal, %	294-4	2.1
Moisture, %	62	
(50% RH)		0.2
(Saturation)		0.9
RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (190 C/2.16 Kg), cc/10min.	1133	11
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23C		2,700
Tensile stress at yield, MPa	527	
23C		64
Tensile strain at yield, %	527	
23C		10
Nominal strain at break, %	527	
23C		29
IMPACT	ISO Test Method	Property Value
Izod Notched Impact, kJ/m ²	180	
-30C		5.5
23C		5.5
Charpy Notched, kJ/m ²	179	
-30C		5.5
23C		6
Charpy Unnotched, kJ/m ²	179	
-30C		230
23C		250
THERMAL	ISO Test Method	Property Value
Melting Point, C	3146	167
HDT A, C	75	100
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		1.1 X10-4
ELECTRICAL	ISO Test Method	Property Value
Comparative Tracking Index	IEC 60112	600
Volume Resistivity (Ohm-m)	IEC 60093	1E11

Surface Resistivity (Ohm)	IEC 60093	1E13
Dielectric Constant (1 MHz)	IEC 60250	3.8
Dissipation Factor (1 MHz), E-4	IEC 60250	50
UL RATINGS		
	UL Test Method	Property Value
Flammability Rating, 0.75mm	UL94	HB
Relative Temperature Index, 0.75mm	UL746B	
Electrical, C		105
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

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 190-230C (375-446F)

Mold Temperature 60-120C (140-248F)

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

Mold Temperatures

A mold temperature of 60-120C (140-248F) is recommended, however temperatures of as low as 45C (113F) 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.