Ultraform® H2320 006 AT

POM BASF

High-molecular-weight grade with somewhat increased flowability for injection molding of relatively thick-walled moldings.

Abbreviated designation according to ISO 1043-1: POM
Designation according to ISO 29988-POM-K,,M-GNR,1-2

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	2.9	cm³/10min	ISO 1133
Temperature	190	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	2.1	%	ISO 294-4, 2577
Molding shrinkage, normal	2.1	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2600	MPa	ISO 527
Yield stress	62	MPa	ISO 527
Yield strain	11	%	ISO 527
Nominal strain at break	30	%	ISO 527
Tensile Creep Modulus, 1h	1800	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	1300	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	270	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	260	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	6.5	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	5.5	kJ/m²	ISO 179/1eA

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	165	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	95	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	156	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	150	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	120	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB	class	UL 94
Thickness tested	1.6	mm	-
UL recognition	yes	-	-
Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	0.8	mm	-
UL recognition	yes	-	-
Oxygen index	15	%	ISO 4589-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3.8	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.8	-	IEC 62631-2-1
Dissipation Factor, 100Hz	10	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	50	E-4	IEC 62631-2-1
Volume Resistivity	1E11	Ohm*m	IEC 62631-3-1
Surface Resistivity	1E13	Ohm	IEC 62631-3-2
Electric Strength	40	kV/mm	IEC 60243-1
Comparative tracking index	600	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.9	%	Sim. to ISO 62
Humidity absorption	0.2	%	Sim. to ISO 62
Density	1410	kg/m³	ISO 1183

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Thermal Conductivity of Melt	0.14	W/(m K)	-

Spec. heat capacity of melt	2800	J/(kg K)	-
Ejection temperature	110	°C	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	200	°C	ISO 294
Injection Molding, mold temperature	90	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	100	°C	-
Pre-drying - Time	3	h	-
Processing humidity	≤0.2	%	-
Melt temperature	190 - 230	°C	-
Mold temperature	60 - 120	°C	-

Characteristics

Processing
Injection Molding, Film Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion

Delivery form
Pellets

Additives
Release agent

Features
Copolymer

Injection Molding
PREPROCESSING
Pre/Post-processing, max. allowed water content: .2 %
Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 3 h

PROCESSING
injection molding, Melt temperature, range: 190 - 230 °C
injection molding, Melt temperature, recommended: 200 °C
injection molding, Mold temperature, range: 60 - 120 °C
injection molding, Mold temperature, recommended: 90 °C
injection molding, Dwell time, thermoplastics: 10 min

Film Extrusion
PREPROCESSING
Pre/Post-processing, max. allowed water content: .2 %
Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 3 h

PROCESSING
Extrusion, Blown film, Melt temperature: 175 - 180 °C
Extrusion, Flat film, Melt temperature: 175 - 180 °C

Processing

Ultraform can be processed to particular advantage using three-section screws having a total length L of 20 - 25 D and a constant pitch of about 1 D. However short-compression zone screws may also be used.

Pretreatment

Granules or pellets in original packaging can be processed without any special pretreatment. Granules or pellets which have become moist due to prolonged or incorrect storage (e.g. by formation of condensed water) must be dried in dehumidifying or recirculating air dryers for approx. 3 hours at about 100 - 110 °C. The moisture content should not exceed 0.2 %.

Postprocessing

Due to the different solidification and cooling of the melt which varies according to time and place stresses may arise, especially in the case of large wall thicknesses. These stresses can be removed by subsequent heat treatment. Tempering is essential when high demands are placed on dimensional stability. It can be carried out in air, liquid wax or oil at temperatures of 130 - 150, usually 140 - 145 °C. Lower temperatures are not effective. Duration: 10 minutes per 1 mm wall thickness.

Other Extrusion

PREPROCESSING
Pre/Post-processing, max. allowed water content: .2 %
Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 3 h

PROCESSING
Extrusion, Prepreg, Melt temperature: 175 - 180 °C
Extrusion, Pipes, Melt temperature: 175 - 180 °C
Extrusion, cable sheathing, Melt temperature: 175 - 180 °C

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Profile extrusion

PREPROCESSING
Pre/Post-processing, max. allowed water content: .2 %
Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 3 h

PROCESSING
Extrusion, Profiles, Melt temperature: 175 - 180 °C

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Sheet Extrusion

PREPROCESSING

Pre/Post-processing, max. allowed water content: .2 %
Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 3 h

PROCESSING
Extrusion, Plates, Melt temperature: 175 - 180 °C

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