Ultraform® S2320 003 LEV AT

POM BASF

Emission optimized, easy flowing and rapidly freezing grade for injection molding difficult, thin-walled parts.

Abbreviated designation according to ISO 1043-1: POM
Designation according to ISO 29988-POM-K,,M-GNR,4-2

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	11	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	2700	MPa	ISO 527
Yield stress	64	MPa	ISO 527
Yield strain	10	%	ISO 527
Nominal strain at break	29	%	ISO 527
Tensile Creep Modulus, 1h	1900	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	1300	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	250	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	230	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	6	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)	167	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	100	°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	110	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			
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 - 120	°C	-
Pre-drying - Time	3 - 4	h	-
Processing humidity	≤0.1	%	-
Melt temperature	190 - 220	°C	-
Mold temperature	60 - 120	°C	-

Characteristics

Processing
Injection Molding

Additives
Release agent

Delivery form
Pellets

Features
Low Emission

Injection Molding

PREPROCESSING
Pre/Post-processing, max. allowed water content: .1 %
Pre/Post-processing, Pre-drying, Temperature: 100 - 120 °C
Pre/Post-processing, Pre-drying, Time: 3 - 4 h

PROCESSING
injection molding, Melt temperature, range: 190 - 220 °C
injection molding, Melt temperature, recommended: 195 °C
injection molding, Mold temperature, range: 60 - 120 °C
injection molding, Mold temperature, recommended: 90 °C
injection molding, Dwell time, thermoplastics: 10 min

Processing

Usual single-flighted three-section screws with an effective screw length of at least 15 D, better 20 - 23 D are suitable for the injection molding of Ultraform.

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

If parts were produced at a comparatively low mold temperature (e.g. in order to obtain short cycle times) and must not change their geometry in use thermal postprocessing inducing dimensional changes by postcrystallization may be necessary. In such cases parts should be stored in an oven with recirculated air at temperatures of 100 - 130 °C until dimensions don't change significantly any further. The time needed for this has to be determined experimentally.

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