Product Information **Ultraform®**

S1320 003 PRO AT

02/2026 **POM**

Product description

Ultraform® S1320 003 PRO AT is a free-flowing, rapidly solidifying grade for moldings difficult to produce by injection molding and having low wall thickness; increased stiffness and heat distortion resistance.

Ultraform® S1320 003 PRO AT has been introduced for medical applications and offers a comprehensive service package with formulation consistency and a management of change process.

Ultraform® S1320 003 PRO AT is suitable for the production of various functional mechanical components, e.g. valves, springs, gears, snap mechanisms, guide and sliding elements for e.g. injection pens and drug delivery devices.

The following statements are available for Ultraform® S1320 003 PRO AT:

Food contact:
- EU 10/2011, FDA 21 CFR §177.2470
- GMP 2023/2006

Medical applications:
- Pharmacopoeias: Europe, Japan
- Biocompatibility: USP Class VI, ISO 10993-5
- DMF 33419

For questions regarding compliance with additional regulations and certificates, please contact your local BASF representative or Plastics Safety (email: plastics.safety@basf.com).

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

Physical form and Storage

Ultraform® is supplied in the form of granules having a bulk density of approx. 850 g/l. Standard packs are 25 kg PE bag and 800 kg Octabin (octagonal container). Ultraform® is not subject to change when it is stored in dry, ventilated rooms. After relatively long storage (>1 year) or when handling material from previously opened containers, preliminary drying is recommended in order to remove any moisture which has been absorbed.

Product safety

Ultraform® is not a hazardous material as defined in the German Ordinance on Hazardous Materials.

If Ultraform® is processed properly little or no formaldehyde occurs in the region of the processing machine. Measures should be taken to ensure ventilation and venting of the work area, preferably by means of an extraction hood over the barrel unit.

Ultraform® decomposes when subjected to excessive heat. The decomposition products formed in this case consist almost exclusively of formaldehyde, a gas which has a pungent smell even at very low concentrations and irritates the mucous membranes. Decomposition can rapidly result in the build-up of a high gas pressure in the barrel of the processing unit. If the die is sealed there may be a sudden release of pressure via the filling hopper.

Contamination of Ultraform® by thermoplastics that cause decomposition of polyacetals, e.g. PVC or plastics containing halogenated fire protection agents, must be avoided under all circumstances. Even small quantities can cause uncontrolled and rapid decomposition of Ultraform® during processing.

If processing with color masterbatches or functional batches is intended, the compatibility of the components must be established by suitable trials. Processing with incompatible masterbatches may result in decomposition and release of gaseous formaldehyde.

Pellets and finished parts must not be allowed to come into contact with strong acids (especially concentrated hydrochloric acid) since they cause Ultraform® to decompose.

Detailed safety and environmental information is contained in the Ultraform® brochure and the material safety data sheet. Both are available from www.plastics.basf.com.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.
In order to check the availability of products please contact us or our sales agency.

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Product Information

We create chemistry

Typical values for uncoloured product at 23 °C[1)]	Test method	Unit	Values[2)]
Properties			
Polymer abbreviation	-	-	**POM**
Density	ISO 1183	kg/m³	**1410**
Water absorption, equilibrium in water at 23°C	similar to ISO 62	%	**0.9**
Moisture absorption, equilibrium 23°C/50% r.h.	similar to ISO 62	%	**0.2**
Processing			
Processing: Injection moulding (M), Extrusion (E), Blow moulding (B)	-	-	**M**
Melting temperature, DSC	ISO 11357-1/-3	°C	**171**
Melt volume-flow rate MVR at 190 °C and 2.16 kg	ISO 1133	cm³/10min	**11**
Melt temperature, injection moulding	-	°C	**190 - 230**
Mould temperature, injection moulding	-	°C	**60 - 120**
Molding shrinkage (parallel)	ISO 294-4	%	**2.10**
Molding shrinkage (normal)	ISO 294-4	%	**2.10**
Flammability			
UL94 rating at 1.5 mm thickness	IEC 60695-11-10	class	**HB**
Automotive materials (thickness d >= 1mm) [3)]	ISO 3795, FMVSS 302	-	**+**
Testing of materials for automobile interior, Burning rate ≤ 100 mm/min, d < 1 mm	FMVSS 302	-	**+**
Mechanical properties			
Tensile modulus	ISO 527-1/-2	MPa	**3000**
Yield stress, 50 mm/min	ISO 527-1/-2	MPa	**67**
Yield strain, 50 mm/min	ISO 527-1/-2	%	**10.5**
Nominal strain at break, 50 mm/min	ISO 527-1/-2	%	**25**
Tensile creep modulus, 1000 h, strain <= 0,5%, 23°C	ISO 899-1	MPa	**1450**
Charpy unnotched impact strength (23°C)	ISO 179/1eU	kJ/m²	**230**
Charpy unnotched impact strength (-30°C)	ISO 179/1eU	kJ/m²	**210**
Charpy notched impact strength (23°C)	ISO 179/1eA	kJ/m²	**6**
Charpy notched impact strength (-30°C)	ISO 179/1eA	kJ/m²	**5.5**
Izod notched impact strength ISO 180/A (23°C)	ISO 180/A	kJ/m²	**5.5**
Izod notched impact strength ISO 180/A (-30°C)	ISO 180/A	kJ/m²	**5**
Ball indentation hardness at 358 N and 30 s	ISO 2039-1	MPa	**150**
Flexural modulus	ISO 178	MPa	**3000**
Thermal properties			
HDT A (1.80 MPa)	ISO 75-1/-2	°C	**100**
Max. service temperature (short cycle operation)	-	°C	**100**
Coefficient of linear thermal expansion, longitudinal (23-55)°C	ISO 11359-1/-2	E-6/K	**110**
Electrical properties			
Relative permittivity (1 MHz)	IEC 62631-2-1	-	**3.7**
Dissipation factor (1 MHz)	IEC 62631-2-1	E-4	**50**
Volume resistivity	IEC 62631-3-1	Ohm*m	**1E11**
Comparative tracking index, CTI, test liquid A	IEC 60112	-	**600**
Surface resistivity	IEC 62631-3-2	Ohm	**1E15**

Footnotes
1) If product name or properties don't state otherwise.
2) The asterisk symbol '*' signifies inapplicable properties.
3) + = passed

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