# Ultraform® E3120 BM

## Acetal (POM) Copolymer

## BASF Corporation

| Product Description |
|---|

Material with high melt strength, -stiffness and high stretchability for producing extrusion blow-molded hollow objects.
Abbreviated designation according to ISO 1043: POM
Designation according to ISO 9988-1: POM-K, B-GNR, 01-002

Ultraform® is supplied in the form of granules having a bulk density of approx. 850 g/l. Standards packs are the 25 kg PE bag and the 1000 kg Oktabin (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.

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. 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.

| General | | |
|---|---|---|
| Material Status | • Commercial: Active | |
| Availability | • Europe | |
| Uses | • Blow Molding Applications | |
| Forms | • Granules | |
| Processing Method | • Blow Molding | • Extrusion |
| Resin ID (ISO 1043) | • POM | |

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density | 1.41 | g/cm³ | ISO 1183 |
| Melt Volume-Flow Rate (MVR) (190°C/2.16 kg) | 0.800 | cm³/10min | ISO 1133 |
| Water Absorption | | | ISO 62 |
| 24 hr, 23°C | 0.80 | % | |
| Equilibrium, 23°C, 50% RH | 0.20 | % | |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus | 2450 | MPa | ISO 527-2 |
| Tensile Stress (Yield) | 63.0 | MPa | ISO 527-2/50 |
| Tensile Strain (Yield) | 9.0 | % | ISO 527-2/50 |
| Nominal Tensile Strain at Break | 25 | % | ISO 527-2/50 |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Charpy Notched Impact Strength | 8.0 | kJ/m² | ISO 179/1eA |
| Charpy Unnotched Impact Strength (23°C) | 230 | kJ/m² | ISO 179/1eU |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Ball Indentation Hardness (H 358/30) | 135 | MPa | ISO 2039-1 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Heat Deflection Temperature | | | ISO 75-2/A |
| 1.8 MPa, Unannealed | 90.0 | °C | |
| Melting Temperature | 164 | °C | ISO 11357-3 |
| CLTE - Flow (23 to 55°C) | 0.00012 | cm/cm/°C | ISO 11359-2 |
| Maximum Dynamic Service Temperature | 100 | °C | |
| **Electrical** | **Nominal Value** | **Unit** | **Test Method** |
| Surface Resistivity | 1.0E+13 | ohms | IEC 60093 |
| Volume Resistivity | 1.0E+15 | ohm·cm | IEC 60093 |
| Relative Permittivity (1 MHz) | 3.80 | | IEC 60250 |
| Dissipation Factor (1 MHz) | 0.0050 | | IEC 60250 |
| Comparative Tracking Index (Solution A) | 600 | V | IEC 60112 |
| **Flammability** | **Nominal Value** | **Unit** | **Test Method** |
| Flame Rating - UL (1.60 mm) | HB | | UL 94 |

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Tuesday, December 15, 2009

**Notes**

[1] Typical properties: these are not to be construed as specifications.