

Product description

High impact grade, suitable for injection moulding and extrusion.

Physical form and storage

Terluran® is delivered as spherical pellets. The bulk density of the pellets is from 0.55 to 0.65 g/cm³.
Standard Packaging unit: 25 kg PE-bag on palette, shrunk or wrapped with PE film or delivery in silo trucks.
PE bags should not be stored outside.
In dry areas with normal temperature control, Terluran® pellets can be stored for relatively long periods of time without any change in mechanical properties. Under poor storage conditions, Terluran® absorbs moisture, but this can be removed by drying.

Product safety

No adverse effects on the health of processing personnel have been observed if the products are correctly processed and the production areas are suitably ventilated.
For styrene, acrylonitrile and 1,3-butadiene the maximum allowable workplace concentrations must be observed according to the pertaining national regulations. In Germany, the following limit values are valid (Oct. 2002): styrene, MAK-value: 20 ml/m³ = 86 mg/m³; acrylonitrile, TRK-value: 3 ml/m³ = 7 mg/m³ and 1,3-butadiene, TRK-value: 5 ml/m³ = 11 mg/m³.
According to EU directive 67/548/EWG, Annex I and TRGS 905 (Oct. 2002), acrylonitrile and 1,3-butadiene are classified as carcinogenic, category 2 ('substances which should be regarded as if they are carcinogenic to man') and 1 (substances known to be carcinogenic to man), respectively.
Experience has shown that during appropriate processing of Terluran® with suitable ventilation the values obtained are well below the limits mentioned above. TRGS 402 (Germany) can be used for determining and assessing the concentrations of hazardous substances in the air within working areas.
Inhalation of gaseous degradation products, such as those which may arise on severe overheating of the material or during pumped evacuation, must be avoided. Further information can be found in our Terluran® safety data sheets.

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.

Product Information

| Typical values for uncoloured product at 23 °C ¹⁾ | Test method ²⁾ | Unit | Values ³⁾ |
|--|---------------------------|------------------------|----------------------|
| Properties | | | |
| Polymer abbreviation | - | - | ABS |
| Density | ISO 1183 | kg/m ³ | 1030 |
| Water absorption, equilibrium in water at 23°C | similar to ISO 62 | % | 1.03 |
| Moisture absorption, equilibrium 23°C/50% r.h. | similar to ISO 62 | % | 0.21 |
| Processing | | | |
| Processing: Injection moulding (M), Extrusion (E), Blow moulding (B) | - | - | M.E |
| Melt volume-flow rate MVR 220 °C/10 kg | ISO 1133 | cm ³ /10min | 5.5 |
| Pre-drying: Temperature | - | °C | 80 |
| Pre-drying: Time | - | h | 2 - 4 |
| Melt temperature, injection moulding | - | °C | 230 - 260 |
| Mould temperature, injection moulding | - | °C | 30 - 60 |
| Moulding shrinkage, free, longitudinal | - | % | 0.4 - 0.7 |
| Melt temperature, extrusion pipes | - | °C | 200 - 230 |
| Melt temperature, extrusion sheets | - | °C | 210 - 240 |
| Flammability | | | |
| UL94 rating at 1.6 mm thickness | IEC 60695-11-10 | class | HB |
| Automotive materials (thickness d >= 1mm) | FMVSS 302 | - | + |
| Mechanical Properties | | | |
| Tensile modulus | ISO 527-1/-2 | MPa | 1900 |
| Yield stress, 50 mm/min | ISO 527-1/-2 | MPa | 38 |
| Yield strain, 50 mm/min | ISO 527-1/-2 | % | 2.8 |
| Nominal strain at break, 50 mm/min | ISO 527-1/-2 | % | 9 |
| Flexural strength | ISO 178 | MPa | 56 |
| Charpy impact strength (23°C) | ISO 179/1eU | kJ/m ² | N |
| Charpy impact strength (-30°C) | ISO 179/1eU | kJ/m ² | 140 |
| Izod notched impact strength (23°C) | ISO 180/A | kJ/m ² | 36 |
| Izod notched impact strength (-30°C) | ISO 180/A | kJ/m ² | 14 |
| Charpy notched impact strength (23°C) | ISO 179/1eA | kJ/m ² | 35 |
| Charpy notched impact strength (-30°C) | ISO 179/1eA | kJ/m ² | 13 |
| Izod notched impact strength, method A (23°C) | ASTM D 256 | J/m | 410 |
| Ball indentation hardness at 358 N/30 s | ISO 2039-1 | MPa | 74 |
| Thermal properties | | | |
| HDT A (1.80 MPa) | ISO 75-1/-2 | °C | 76 |
| HDT B (0.45 MPa) | ISO 75-1/-2 | °C | 89 |
| Vicat softening temperature VST/A/50 | ISO 306 | °C | 103 |
| Vicat softening temperature VST/B/50 | ISO 306 | °C | 90 |
| Max. service temperature (short cycle operation) | - | °C | 80 |
| Coefficient of linear thermal expansion, longitudinal (23-80)°C | ISO 11359-1/-2 | E-6/K | 80 - 110 |
| Thermal conductivity | DIN 52612-1 | W/(m K) | 0.17 |
| Electrical properties | | | |
| Relative permittivity (100Hz) | IEC 60250 | - | 2.9 |
| Relative permittivity (1 MHz) | IEC 60250 | - | 2.8 |
| Dissipation factor (100 Hz) | IEC 60250 | E-4 | 54 |
| Dissipation factor (1 MHz) | IEC 60250 | E-4 | 82 |
| Volume resistivity | IEC 60093 | Ohm*m | 1E13 |
| Electric strength K20/P50, d = 0.6 - 0.8 mm | IEC 60243-1 | kV/mm | 40 |
| Comparative tracking index, CTI, test liquid A | IEC 60112 | - | 600 |

Footnotes

1) If product name or properties don't state otherwise.

2) Specimens according to CAMPUS.

3) The asterisk symbol "*" signifies inapplicable properties.

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