

Product Information

12/2004

Terluran[®] HI-10

ABS

 **BASF**
The Chemical Company

Product description

High impact grade, suitable for injection moulding and extrusion.

Physical form and storage

Terluran is delivered in the form of cylindrical or 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. 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, alpha-methylstyrene, 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; alpha-methylstyrene, MAK-value: 100 ml/m³ = 480 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. These can be requested from the Styrenics Infopoint, phone +49 621 60-4 14 46, fax: +49 621 60 46006 or by e-mail: styrenics.infopoint@basf-ag.de

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.

Typical values ¹⁾ at 23°C

	Test method ²⁾	Unit	Values
Properties			
Polymer abbreviation	-	-	ABS
Density	ISO 1183	kg/m ³	1030
Filler content: Glass fiber (GF)	-	%	-
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	ISO 1133	cm ³ /10min	5.5
Temperature	ISO 1133	°C	220
Load	ISO 1133	kg	10
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	-	°C	200 - 230
Extrusion, Plates, Melt temperature	-	°C	210 - 240
Flammability			
UL94 rating at 1.6 mm thickness	UL 94	class	HB
Automotive materials (thickness d >= 1mm)	-	-	+
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 180/1A	kJ/m ²	36
Izod notched impact strength (-30°C)	ISO 180/1A	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	ISO 2039-1	MPa	74
Force	ISO 2039-1	N	358
Duration	ISO 2039-1	s	30
Thermal properties			
HDT A (1.80 MPa)	ISO 75-1/-2	°C	96
HDT B (0.45 MPa)	ISO 75-1/-2	°C	101
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-4/°C	0.8 - 1.1
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 the product definition doesn't state otherwise.
2) Specimens according to CAMPUS.