

Product Information

12/2006

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 1 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 downloaded from the Plastics Portal, www.plasticsportal.net.

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.

Pipe Variances

-40°C + 70°C

Typical values at 23°C¹⁾

Properties

Polymer abbreviation
Density
Water absorption, equilibrium in water at 23°C
Moisture absorption, equilibrium 23°C/50% r.h.

Processing

Processing: Injection moulding (M), Extrusion (E), Blow moulding (B)
Melt volume-flow rate MVR
Temperature
Load
Pre-drying: Temperature
Pre-drying: Time
Melt temperature, injection moulding
Mould temperature, injection moulding
Moulding shrinkage, free, longitudinal
Melt temperature
Extrusion, Plates, Melt temperature

Flammability

UL94 rating at 1.6 mm thickness
Automotive materials (thickness $d \geq 1$ mm)

Mechanical Properties

Tensile modulus
Yield stress, 50 mm/min
Yield strain, 50 mm/min
Nominal strain at break, 50 mm/min
Flexural strength
Charpy impact strength (23°C)
Charpy impact strength (-30°C)
Izod notched impact strength (23°C)
Izod notched impact strength (-30°C)
Charpy notched impact strength (23°C)
Charpy notched impact strength (-30°C)
Izod notched impact strength, method A (23°C)
Ball indentation hardness
Force
Duration

Thermal properties

HDT A (1.80 MPa), measured using dried specimens
HDT B (0.45 MPa), measured using dried specimens
Vicat softening temperature VST/A/50
Vicat softening temperature VST/B/50
Max. service temperature (short cycle operation)
Coefficient of linear thermal expansion, longitudinal (23-80)°C
Thermal conductivity

Electrical properties

Relative permittivity (100Hz)
Relative permittivity (1 MHz)
Dissipation factor (100 Hz)
Dissipation factor (1 MHz)
Volume resistivity
Electric strength K20/P50, $d = 0.6 - 0.8$ mm
Comparative tracking index, CTI, test liquid A

Test method ²⁾	Unit	Values ³⁾
-	-	ABS
ISO 1183	kg/m ³	1030
similar to ISO 62	%	1.03
similar to ISO 62	%	0.21
-	-	M.E
ISO 1133	cm ³ /10min	5.5
ISO 1133	°C	220
ISO 1133	kg	10
-	°C	80
-	h	2 - 4
-	°C	230 - 260
-	°C	30 - 60
-	%	0.4 - 0.7
-	°C	200 - 230
-	°C	210 - 240
UL-94	class	HB
-	-	+
ISO 527-1/-2	MPa	1900
ISO 527-1/-2	MPa	38
ISO 527-1/-2	%	2.8
ISO 527-1/-2	%	9
ISO 178	MPa	56
ISO 179/1eU	kJ/m ²	N
ISO 179/1eU	kJ/m ²	140
ISO 180/A	kJ/m ²	36
ISO 180/A	kJ/m ²	14
ISO 179/1eA	kJ/m ²	35
ISO 179/1eA	kJ/m ²	13
ASTM D 256	J/m	410
ISO 2039-1	MPa	74
ISO 2039-1	N	358
ISO 2039-1	s	30
ISO 75-1/-2	°C	96
ISO 75-1/-2	°C	101
ISO 306	°C	103
ISO 306	°C	90
-	°C	80
ISO 11359-1/-2	E-4/°C	0.8 - 1.1
DIN 52612-1	W/(m K)	0.17
IEC 60250	-	2.9
IEC 60250	-	2.8
IEC 60250	E-4	54
IEC 60250	E-4	82
IEC 60093	Ohm*m	1E13
IEC 60243-1	kV/mm	40
IEC 60112	-	600

Footnotes

- 1) If the product definition doesn't state otherwise.
2) Specimens according to CAMPUS.
3) The asterisk symbol * signifies inapplicable properties.

BASF Aktiengesellschaft

67056 Ludwigshafen, Germany



The Chemical Company

Date : 11 January 2007

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The data indicated above are the results of our investigations and correspond to the state-of-the-art. The data refer to the state of the laws at the date of issue. New certificates are published in the internet portal in case of alterations; the former certificates automatically become void. Therefore we urgently ask you to your own interest to regularly check the confirmations issued in the internet portal with respect to modifications or changes. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.



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BASF Aktiengesellschaft
KS/KS Product Safety and Regulatory Affairs

A. Klatt

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Absence declaration

BASOTECT[®]	STYROFLEX[®]
ECOFLEX	STYROPOR[®]
LURAN[®]	TERBLEND[®] N
LURAN[®] S	TERLURAN[®]
NEOPOLEN[®]	TERLUX[®]
NEOPOR[®]	ULTRADUR[®]
POLYSTYROL	ULTRAFORM[®]
STYROBLEND[®]	ULTRAMID[®]
STYROLUX[®]	ULTRASON[®]

RoHS Directive 2002/95/EC

Please be advised that based on the information available to us from our raw material suppliers, the current products offered in the product lines listed above do not contain as intentional additives, any of the below referenced materials as referenced in the subject EU directives. To the best of our knowledge, none of these materials are generated during production.

Therefore the requirements of EU Directive **2002/95/EC** are fulfilled.

Hexavalent chromium compounds
Cadmium and its compounds
Mercury and its compounds
Lead and its compounds
Polybrominated diphenyl ethers (PBDEs)
Polybrominated biphenyls (PBBs)

WEEE Directive (2002/96/EC)

The EU Directive 2002/96/EC ("WEEE directive") defines the recovery of waste electrical and electronic equipment. Therefore we as raw material supplier cannot provide a statement of compliance, because this is dependent on the final article.

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Absence declaration

BASOTECT®	STYROLUX®
CAPRON	STYROFLEX®
ECOFLEX	STYROPOR®
LURAN®	TERBLEND® N
LURAN® S	TERLURAN®
NEOPOLEN®	TERLUX®
NEOPOR®	ULTRADUR®
POLYSTYROL	ULTRAFORM®
STYROBLEND®	ULTRAMID®
	ULTRASON®

We confirm that our current plastic products with trade names listed above comply with the requirements of the regulation **2037/2000/EC** (29th September 2000), the Council Directive **2002/215/EC** (14th March 2002) and the US labelling requirements of Section 611 of the **Clean Air Act Amendments of 1990** (CAA), §602 and §611.

The following ozon depleting substances are not intentionally used as additives or ingredients:

Group I until VII (Class I in USA)

Group I	Chlorofluorocarbons (CFC's)
Group II	Other fully halogenated Chlorofluorocarbons
Group III	Halons
Group IV	Carbontetrachloride
Group V	1,1,1-Trichloroethane
Group VI	Methylbromide
Group VII	Hydrobromofluorocarbons
Group VIII (Class II in USA)	Hydrochlorofluorocarbons (HCFC's)

Therefore the requirements of the above listed regulations are fulfilled.

BASF - Aktiengesellschaft
KS/KS Product Safety and Regulatory Affairs

M. A. Klatt