

# Terluran HI-10

Acrylonitrile Butadiene Styrene (ABS)

## TECHNICAL DATASHEET

### DESCRIPTION

Terluran® HI-10 is an medium flow, injection molding grade with very high resistance to impact with excellent heat distortion and suitable for injection molding and extrusion.

### FEATURES

- High toughness
- Very high impact
- Medium flow
- Great mechanical strength and rigidity
- High impact at sub-zero temperatures

### APPLICATIONS

- Injection molding
- Compounding
- Appliance housings
- Lawn & garden components requiring superior toughness

Property, Test Condition	Standard	Unit	Values
<b>Rheological Properties</b>			
Melt Flow Rate, 200 °C/5 kg	ASTM D 1238	g/10 min	0.1
Melt Flow Rate, 220 °C/10 kg	ASTM D 1238	g/10 min	8
Melt Volume Rate 230 °C/3.8 kg	ASTM D 1238	cm³/10 min	1.7
<b>Mechanical Properties</b>			
Izod Notched Impact Strength, 23°C (73°F)	ASTM D 256	ft-lb/in	8.4
Izod Notched Impact Strength, -18°C (0°F)	ASTM D 256	ft-lb/in	3.4
Izod Notched Impact Strength, -30°C (-22°F)	ASTM D 256	ft-lb/in	2.2
Tensile Stress at Yield, 23° C	ASTM D 638	psi	6240
Tensile Modulus	ASTM D 638	psi x 10 <sup>3</sup>	290
Elongation, Failure	ASTM D 638	%	3.5
Flexural Strength	ASTM D 790	psi	9570
Flexural Modulus	ASTM D 790	psi x 10 <sup>3</sup>	297
Hardness, Rockwell	ASTM D 785	R scale	95
<b>Thermal Properties</b>			
Vicat Softening Temperature, VST/A/50 (10N, 50°C/h)	ISO 306	°F	201
DTUL @ 264 psi - Unannealed	ASTM D 648	°F	186

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Property, Test Condition	Standard	Unit	Values
DTUL @ 66 psi - Unannealed	ASTM D 648	°F	201
DTUL @ 264 psi - Annealed	ASTM D 648	°F	208
DTUL @ 66 psi - Annealed	ASTM D 648	°F	215
<b>Electrical Properties</b>			
Dielectric Constant at 106 CPS (1000000 Hz, 0,0394 in)	ASTM D 150	-	2.8
Volume Resistivity	ASTM D 257	-	>1E13
<b>Other Properties</b>			
Density	ASTM D 792	-	1.03
Water Absorption, Saturated at 23°C	ASTM D 570	%	1.03
<b>Processing</b>			
Linear Mold Shrinkage	ASTM D 955	in/in	0.004 - 0.007
Melt Temperature Range		°F	425 - 500
Mold Temperature Range		°F	85 - 140
Injection Velocity		in/s	8
Drying Temperature		°F	175
Drying Time		h	2 to 4

Typical values for uncolored products

## SUPPLY FORM

Terluran® is delivered as spherical pellets. The bulk density of the pellets is from 0.55 to 0.65 g/cm<sup>3</sup>. 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.

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**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:  $20 \text{ ml/m}^3 = 86 \text{ mg/m}^3$ ; acrylonitrile, TRK-value:  $3 \text{ ml/m}^3 = 7 \text{ mg/m}^3$  and 1,3-butadiene, TRK-value:  $5 \text{ ml/m}^3 = 11 \text{ mg/m}^3$ . 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.

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