Terluran® HI-10

INEOS Styrolution - Acrylonitrile Butadiene Styrene

Sunday, November 3, 2019

General Information

Product 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

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Toughness • High Rigidity	• High Strength • Low Temperature Impact Resistance	• Medium Flow • Ultra High Impact Resistance
Uses	• Appliances • Compounding	• Housings • Lawn and Garden Equipment	
Forms	• Pellets		
Processing Method	• Compounding	• Extrusion	• Injection Molding

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.03		ASTM D792
Density	1.03	g/cm³	ISO 1183
Melt Mass-Flow Rate			ASTM D1238
200°C/5.0 kg	0.10	g/10 min	
220°C/10.0 kg	8.0	g/10 min	
Melt Volume-Flow Rate (MVR) (230°C/3.8 kg)	1.70	cm³/10min	ASTM D1238
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	5.50	cm³/10min	ISO 1133
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3	in/in	ASTM D955
Molding Shrinkage	0.40 to 0.70	%	ISO 294-4
Water Absorption (Saturation, 73°F)	1.0	%	ASTM D570
Water Absorption (Saturation, 73°F)	1.0	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.21	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	290000	psi	ASTM D638
Tensile Modulus	276000	psi	ISO 527-2

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield, 73°F)	6240	psi	ASTM D638
Tensile Stress (Yield, 73°F)	5510	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	2.8	%	ISO 527-2
Tensile Elongation (Break)	3.5	%	ASTM D638
Nominal Tensile Strain at Break (73°F)	9.0	%	ISO 527-2
Flexural Modulus (73°F)	297000	psi	ASTM D790
Flexural Strength (73°F)	9570	psi	ASTM D790
Flexural Stress	8120	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179
-22°F	6.2	ft·lb/in²	
73°F	17	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179
-22°F	67	ft·lb/in²	
73°F	No Break		
Notched Izod Impact			ASTM D256
-22°F	2.2	ft·lb/in	
0°F	3.4	ft·lb/in	
73°F	8.4	ft·lb/in	
Notched Izod Impact Strength			ISO 180/A
-22°F	6.7	ft·lb/in²	
73°F	17	ft·lb/in²	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	95		ASTM D785
Ball Indentation Hardness	10700	psi	ISO 2039-1
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	201	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	215	°F	ASTM D648
Heat Deflection Temperature [2] (66 psi, Annealed)	207	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	186	°F	
Deflection Temperature Under Load (264 psi, Annealed)	208	°F	ASTM D648
Heat Deflection Temperature [2] (264 psi, Annealed)	199	°F	ISO 75-2/A
Vicat Softening Temperature			
--	217	°F	ISO 306/A50
--	194	°F	ISO 306/B50
CLTE - Flow	4.4E-5 to 6.1E-5	in/in/°F	ISO 11359-2
Thermal Conductivity	1.2	Btu·in/hr/ft²/°F	DIN 52612
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	> 1.0E+15	ohms·cm	ASTM D257
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Dielectric Constant (0.0394 in, 1 MHz)	2.80		ASTM D150
Relative Permittivity			IEC 60250
100 Hz	2.90		
1 MHz	2.80		
Dissipation Factor			IEC 60250
100 Hz	5.4E-3		
1 MHz	8.2E-3		

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Optical	Nominal Value	Unit	Test Method
Yellowness Index	15	YI	DIN 6167

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	176	°F
Drying Time	2.0 to 4.0	hr
Processing (Melt) Temp	446 to 500	°F
Mold Temperature	86 to 176	°F
Injection Velocity	472	in/min

Notes

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

[2] 4h/80°C