INEOS STYROLUTION

TERLURAN GP-22

Acrylonitrile Butadiene Styrene (ABS)

TECHNICAL DATASHEET

DESCRIPTION

Terluran® GP-22 is an easy-flow, general purpose injection molding grade with high resistance to impact and heat distortion; intended for a wide range of applications, particularly in the housings sector.

FEATURES

- Excellent colorability
- Medium flow
- Good impact resistance
- Good heat distortion resistance
- High quality surface finish and gloss
- Great mechanical strength and rigidity

APPLICATIONS

- Injection molding
- Appliance housings
- Household and sanitary appliances
- Toys
- Automotive components
- Consumer products

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Volume Rate 220 °C/10 kg	ISO 1133	cm³/10 min	19
Mechanical Properties			
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m²	26
Izod Notched Impact Strength, -30 °C	ISO 180/A	kJ/m²	8
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m²	22
Charpy Notched Impact Strength, -30 °C	ISO 179/1eA	kJ/m²	8
Charpy Unnotched, 23 °C	ISO 179/1eU	kJ/m²	180
Charpy Unnotched, -30 °C	ISO 179/1eU	kJ/m²	100
Tensile Stress at Yield, 23 °C	ISO 527	MPa	45
Tensile Strain at Yield, 23 °C	ISO 527	%	2.6
Tensile Modulus	ISO 527	MPa	2300
Nominal Strain at Break, 23 °C	ISO 527	%	10
Flexural Strength, 23 °C	ISO 178	MPa	65
Hardness, Ball Indentation	ISO 2039-1	MPa	97
Thermal Properties			

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Property, Test Condition	Standard	Unit	Values
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	96
Vicat Softening Temperature, VST/A/50 (10N, 50 °C/h)	ISO 306	°C	105
Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa)	ISO 75	°C	94
Heat Deflection Temperature B; (annealed 4 h/80 °C; 0.45 MPa)	ISO 75	°C	99
Coefficient of Linear Thermal Expansion	ISO 11359	10^{-6}/°C	80 - 110
Thermal Conductivity	DIN 52612-1	W/(m K)	0.17
Electrical Properties			
Dissipation Factor (100 Hz)	IEC 62631-2-1	10^{-4}	48
Dissipation Factor (1 MHz)	IEC 62631-2-1	10^{-4}	79
Relative Permittivity (100 Hz)	IEC 62631-2-1	-	2.9
Relative Permittivity (1 MHz)	IEC 62631-2-1	-	2.8
Volume Resistivity	IEC 62631-3-1	Ohm*m	$>10^{13}$
Surface Resistivity	IEC 62631-3-1	Ohm	$>10^{13}$
Other Properties			
Density	ISO 1183	kg/m³	1040
Water Absorption, Saturated at 23 °C	ISO 62	%	1
Moisture Absorption, Equilibrium 23 °C/50% RH	ISO 62	%	0.22
Yellowness Index	DIN 6167	-	13
Processing			
Linear Mold Shrinkage	ISO 294-4	%	0.4 - 0.7
Melt Temperature Range	ISO 294	°C	220 - 260
Mold Temperature Range	ISO 294	°C	30 - 80
Injection Velocity	ISO 294	mm/s	200
Drying Temperature	-	°C	80
Drying Time	-	h	2 - 4

Typical values for uncolored products
Please note that all processing data stated are only indicative and may vary depending on the individual processing complexities.
Please consult our local sales or technical representatives for details.

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SUPPLY FORM

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.

DISCLAIMER

The above mentioned data are accurate to the best of our knowledge. They are based upon reputable labs and industry standard testing methods. These are only typical values and actual product specification may deviate at industrial range. Therefore, no data in this technical data sheet shall constitute a warranty or representation regarding product features, fitness of the product for a specific purpose or application or its processability. INEOS Styrolution disclaims all liability in connection therewith. The customer himself is required to verify whether or not the product is suitable for the further processing or application intended and whether or not the product complies with the relevant statutory requirements. Unless explicitly and individually otherwise agreed in writing, INEOS Styrolution's sole and exclusive liability with respect to its products is set forth in INEOS Styrolution's General Terms and Conditions for Sale.