

## Product Information

Oct. 2011

# Terluran® GP-22 natural



Driving Success. Together.

### Product description

"WORLD GRADE"

Easy flow, general purpose injection moulding grade with high resistance to impact and heat distortion; intended for a wide range of applications, particularly in the housings sector.

### Applications

Household : washing machine, vacuum cleaners; refrigerator parts;  
Office equipment ; monitor, printer housings, computers, copier parts ; toys

### 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/cm<sup>3</sup>. Values may differ for special grades. Standard Packaging unit: 25 kg paper bag. In addition, delivery in larger units of up to 1000 kg (IBC = Intermediate Bulk Container) or silo trucks can be arranged.

In dry areas with normal temperature control, Terluran pellets can be stored for relatively long periods of time without any change in mechanical properties. With unstable colours, however, storage over a number of years can give rise to some change in colour. 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 where 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 (Nov 1999): styrene, MAK-value: 20 ml/m<sup>3</sup> = 85 mg/m<sup>3</sup>; alpha-methylstyrene, MAK-value: 100 ml/m<sup>3</sup> = 480 mg/m<sup>3</sup>; acrylonitrile, TRK-value: 3 ml/m<sup>3</sup> = 7 mg/m<sup>3</sup> and 1,3-butadiene, TRK-value: 5 ml/m<sup>3</sup> = 11 mg/m<sup>3</sup>. According to EU directive 67/548/EEC, Annex I (Nov 1999), acrylonitrile and 1,3-butadiene are classified as carcinogenic, category 2 ('substances which should be regarded as if they are carcinogenic to man'). Experience has shown that when Terluran is processed correctly with appropriate ventilation, the levels are far below the limits mentioned above. Inhalation of the vapours of degradation products which can arise on severe overheating of the materials or during purging out should be avoided. Our Terluran safety data sheets give further information.

### Note

The information submitted in this publication is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose. 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. In order to check the availability of products please contact us or our sales agency.

**Styrolution Korea Ltd.**  
KCCI Bldg 3F  
Namdajeonro 4 ga, Jung-gu  
Seoul Korea 100-743

Internet: [www.styrolution.com](http://www.styrolution.com)

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Typical values at 23°C for uncoloured products	Test method		Unit	Value	
	ISO	ASTM		ISO	ASTM
<b>Mechanical properties</b>					
Tensile stress at yield / at break*	527	D 638	MPa	45	
Strain at yield	527	D 638	%	2.6	
Strain at break	527	D 638	%		
Young's modulus	527	D 638	MPa	2300	
Flexural strength	178		MPa	65	
Flexural modulus	178	D 790-1	MPa		
Shear modulus	6721-2		MPa		
Charpy impact strength 23°C / -30°C	179/1eU		KJ/m <sup>2</sup>	180/145	
Charpy notched impact strength 23°C / -30°C	179/1eA		KJ/m <sup>2</sup>	28/8	
Izod notched impact strength 23°C / -30°C	180/1A		Kg cm/cm	26/8	
Izod notched impact strength 23°C / -30°C		D 256-A	Kg cm/cm		25
Ball indentation hardness, H 358/30*	2039-1		MPa	97	
Rockwell hardness, scale	2039-2		-		
<b>Thermal properties</b>					
Vicat softening temperature, VST/A/50 / VST/B/50	306		°C	105 / 97	
Deflection temp., 1.8Mpa(HDT A)/0.45Mpa(HDT B)	75-2		°C	99 / 103	
Max. service temperature	-		°C	80	
Thermal coefficient of linear expansion	DIN53752		10 <sup>-4</sup> /K	0.8 – 1.1	
Thermal conductivity	DIN 52612		W/(m·K)	0.17	
<b>Processing</b>					
Melt volume rate MVR 220/10	1133		ml/10 min	20	
Melt temperature range			°C	220-260	
Mold temperature			°C	30 - 60	
Mold shrinkage			%	0.4-0.7	
<b>Electrical properties</b>					
Dielectric constant at 100 Hz / 1MHz	IEC 250		-	2.9 / 2.8	
Dissipation factor at 100 Hz / 1 MHz	IEC 250		10 <sup>-4</sup>	48 / 79	
Volume resistivity	IEC 93		Ω cm	>10 <sup>13</sup>	
Surface resistivity	IEC 93		Ω	>10 <sup>13</sup>	
CTI, solution A	IEC 112		-	600	
<b>Flammability</b>					
UL 94 (1.6 mm)			Class	94HB	
UL 94 (3.2 mm)			Class	94HB	
<b>Miscellaneous properties</b>					
Density	1183		g/cm <sup>3</sup>	1.04	
Water absorption	62		%	1.00	
Moisture absorption (23°C/50% r.h.)	62	-	%	0.22	

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