

Product Information Luran® S

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ASA



Product description

Injection moulding grade with enhanced toughness and resistance to heat distortion. Especially suitable for exterior automotive components (eg radiator grills, rear end applique panels and mirror housings).

Physical form and storage

Luran® S 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. Values may differ for special grades. Standard Packaging unit: 25 kg PE-bag on palette, shrunk or wrapped with PE film. 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, Luran® S 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, Luran® S 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 butyl acrylate the maximum allowable workplace concentrations must be observed according to the pertaining national regulations. In Germany, the following limit values are valid TRGS 900 (Aug.2004): styrene, MAK-value: 20 ml/m³; alpha-methylstyrene, MAK-value: 100 ml/m³; acrylonitrile, TRK-value: 3 ml/m³, and butyl acrylate, MAK-value: 2 ml/m³ (1.7.2004).

According to EU directive 67/548/EEC, Annex I (2001), acrylonitrile is classified as carcinogenic, category 2 ('substances which should be regarded as if they are carcinogenic to man').

Experience has shown that when Luran® S 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 Luran® S safety data sheets give further information.

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.

Product Information

Typical values for uncoloured product at 23 °C ¹⁾	Test method ²⁾	Unit	Values ³⁾
Properties			
Polymer abbreviation	-	-	ASA
Density	ISO 1183	kg/m ³	1070
Water absorption, equilibrium in water at 23°C	similar to ISO 62	%	1.65
Water absorption, 24 h at 23°C	ISO 62	%	0.45
Moisture absorption, equilibrium 23°C/50% r.h.	similar to ISO 62	%	0.35
Processing			
Processing: Injection moulding (M), Extrusion (E), Blow moulding (B)	-	-	M
Melt volume-flow rate MVR 220 °C/10 kg	ISO 1133	cm ³ /10min	5
Pre-drying: Temperature	-	°C	80
Pre-drying: Time	-	h	2 - 4
Melt temperature, injection moulding	-	°C	240 - 280
Mould temperature, injection moulding	-	°C	40 - 80
Moulding shrinkage, free, longitudinal	-	%	0.4 - 0.7
Flammability			
UL94 rating at 1.6 mm thickness	IEC 60695-11-10	class	HB
Flammability by electrical sources of ignition, Method BH, d = 4 mm	IEC 60707	class	HB
Automotive materials (thickness d >=1mm)	FMVSS 302	-	+
Mechanical properties			
Tensile modulus	ISO 527-1/-2	MPa	2500
Yield stress, 50 mm/min	ISO 527-1/-2	MPa	54
Yield strain, 50 mm/min	ISO 527-1/-2	%	3.4
Nominal strain at break, 50 mm/min	ISO 527-1/-2	%	8
Tensile creep modulus, 1000 h, strain <= 0.5%, 23°C	ISO 899-1	MPa	1250
Flexural strength	ISO 178	MPa	80
Shear modulus	ISO 6721-2	MPa	900
Charpy unnotched impact strength (23°C)	ISO 179/1eU	kJ/m ²	250
Charpy unnotched impact strength (-30°C)	ISO 179/1eU	kJ/m ²	90
Charpy notched impact strength (23°C)	ISO 179/1eA	kJ/m ²	15
Charpy notched impact strength (-30°C)	ISO 179/1eA	kJ/m ²	4
Izod notched impact strength, method A (23°C)	ASTM D 256	J/m	250
Ball indentation hardness at 358 N/30 s	ISO 2039-1	MPa	85
Thermal properties			
HDT A (1.80 MPa), measured using dried specimens	ISO 75-1/-2	°C	103
HDT B (0.45 MPa), measured using dried specimens	ISO 75-1/-2	°C	106
Vicat softening temperature VST/A/50	ISO 306	°C	113
Vicat softening temperature VST/B/50	ISO 306	°C	104
Max. service temperature (short cycle operation)	-	°C	90
Coefficient of linear thermal expansion, longitudinal (23-80)°C	ISO 11359-1/-2	E-6/K	80 - 110
Thermal conductivity	DIN 52612-1	W/(m K)	0.17
Electrical properties			
Relative permittivity (100Hz)	IEC 60250	-	3.9
Relative permittivity (1 MHz)	IEC 60250	-	3.5
Dissipation factor (100 Hz)	IEC 60250	E-4	90
Dissipation factor (1 MHz)	IEC 60250	E-4	330
Volume resistivity	IEC 60093	Ohm*m	1E12
Surface resistivity	IEC 60093	Ohm	1E13
Electric strength K20/K20	IEC 60243-1	kV/mm	35
Comparative tracking index, CTI, test liquid A	IEC 60112	-	600

Footnotes

1) If product name or properties don't state otherwise.

2) Specimens according to CAMPUS.

3) The asterisk symbol "*" signifies inapplicable properties.

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