INEOS STYROLUTION

# Luran S 797S

Acrylonitrile Styrene Acrylate (ASA)

TECHNICAL DATASHEET

## DESCRIPTION

Luran® S 797S is suitable for injection molding applications. It provides the highest impact toughness within the product line.

## FEATURES

- Highest impact strength

## APPLICATIONS

- Surf boards
- Truck cabin parts
- Roof tiles

| Property, Test Condition | Standard | Unit | Values |
|---|---|---|---|
| **Rheological Properties** | | | |
| Melt Volume Rate 220 °C/10 kg | ISO 1133 | cm³/10 min | 5.5 |
| **Mechanical Properties** | | | |
| Tensile Modulus | ISO 527 | MPa | 2000 |
| Tensile Stress at Yield, 23 °C | ISO 527 | MPa | 42 |
| Tensile Strain at Yield, 23 °C | ISO 527 | % | 3.5 |
| Nominal Strain at Break, 23 °C | ISO 527 | % | 11 |
| Tensile Creep Modulus (1000h) | ISO 899 | MPa | 1100 |
| Flexural Strength, 23 °C | ISO 178 | MPa | 60 |
| Charpy Notched Impact Strength, 23° C | ISO 179/1eA | kJ/m² | 40 |
| Charpy Notched Impact Strength, -30 °C | ISO 179/1eA | kJ/m² | 9 |
| Hardness, Ball Indentation | ISO 2039-1 | MPa | 65 |
| **Thermal Properties** | | | |
| Vicat Softening Temperature VST/B/50 (50N, 50 °C/h) | ISO 306 | °C | 90 |
| Vicat Softening Temperature, VST/A/50 (10N, 50 °C/h) | ISO 306 | °C | 104 |
| Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa) | ISO 75 | °C | 95 |
| Heat Deflection Temperature B; (annealed 4 h/80 °C; 0.45 MPa) | ISO 75 | °C | 100 |
| Coefficient of Linear Thermal Expansion | ISO 11359 | $10^{-6}$/°C | 80 - 110 |
| Thermal Conductivity | DIN 52612-1 | W/(m K) | 0.17 |

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|---|---|---|---|
| **Electrical Properties** | | | |
| Relative Permittivity (100 Hz) | IEC 62631-2-1 | - | 3.8 |
| Relative Permittivity (1 MHz) | IEC 62631-2-1 | - | 3.3 |
| Dissipation Factor (100 Hz) | IEC 62631-2-1 | $10^{-4}$ | 90 |
| Dissipation Factor (1 MHz) | IEC 62631-2-1 | $10^{-4}$ | 260 |
| Volume Resistivity | IEC 62631-3-1 | Ohm*m | $10^{12}$ |
| Surface Resistivity | IEC 62631-3-1 | Ohm | $10^{13}$ |
| **Other Properties** | | | |
| Density | ISO 1183 | kg/m³ | 1070 |
| Water Absorption, Saturated at 23 °C | ISO 62 | % | 1.65 |
| Moisture Absorption, Equilibrium 23 °C/50% RH | ISO 62 | % | 0.35 |
| UL94 rating at 1.5 mm thickness | IEC 60695-11-10 | - | HB |
| **Processing** | | | |
| Melt Temperature Range | ISO 294 | °C | 240 - 280 |
| Mold Temperature Range | ISO 294 | °C | 40 - 80 |
| Drying Temperature | - | °C | 80 |
| Drying Time | - | h | 2 - 4 |
| Molding shrinkage, free, longitudinal | - | % | 0.4 - 0.7 |

Typical values for uncolored products

## SUPPLY FORM

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 colors, however, storage over a number of years can give rise to some change in color. Under poor storage conditions, Luran S 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 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 vapors of degradation products which can arise on severe overheating of the materials or during purging out should be avoided. Further information can be found in the Luran S safety data sheets.

## DISCLAIMER

The aforementioned data shall constitute the agreed contractual quality of the product sold by INEOS Styrolution at the time of passing of risk. INEOS Styrolution does not make any further warranty, representation or guarantee of any kind, express or implied, regarding the suitability of the product for any particular purpose or application and 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.

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