

Technical Information



TYRIL™ 905 SAN Resin

Overview

TYRIL™ styrene-acrylonitrile (SAN) resins are designed to offer superior chemical resistance, strength, hardness and dimensional stability in a broad range of product applications. The key properties of TYRIL 905 are its superior water-clear clarity and a high thermal stability resulting in excellent optical qualities in combination with good chemical and heat resistance and good processability. It is specially suited for self-coloring.

Applications:

- Cosmetic packaging: water-clear, thick-wall applications
- Kitchenware: airline service ware, mixer bowls, water cans and water reservoirs.
- Home appliances: transparent refrigerator parts, micro-wave windows and drying machine windows
- Personal care: cosmetic containers, tooth brushes, combs and other bathroom items.

Complies with:

- U.S. FDA 21 CFR 181.32
- European Food-Contact Compliance

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.08 g/cm ³	1.08 g/cm ³	ISO 1183
Apparent (Bulk) Density	0.69 g/cm ³	0.69 g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR)			ISO 1133
220°C/10.0 kg	13 g/10 min	13 g/10 min	
230°C/3.8 kg	5.0 g/10 min	5.0 g/10 min	
Molding Shrinkage	3.0E-3 to 7.0E-3 in/in	0.30 to 0.70 %	ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	522000 psi	3600 MPa	ISO 527-1/1
Tensile Stress (Break)	9860 psi	68.0 MPa	ISO 527-2/5
Flexural Stress	13800 psi	95.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
73°F (23°C)	7.1 ft-lb/in ²	15 kJ/m ²	
Unnotched Izod Impact Strength (73°F (23°C))	5.7 ft-lb/in ²	12 kJ/m ²	ISO 180
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (M-Scale)	82	82	ISO 2039-2
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ISO 75-2/A
264 psi (1.8 MPa), Annealed	212 °F	100 °C	
Vicat Softening Temperature			
--	214 °F	101 °C	ISO 306/B50
--	230 °F	110 °C	ISO 306/A120
CLTE - Flow	2.5E-5 in/in/°F	4.5E-5 cm/cm/°C	ISO 11359-2
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Electric Strength	230 V/mil	9.1 kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	3.00	3.00	IEC 60250
Dissipation Factor (1 MHz)	1.0E-4	1.0E-4	IEC 60250
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ¹ (0.06 in (1.5 mm))	HB	HB	UL 94

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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