

TYRIL™ 790 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 property of TYRIL 790 is its high flow that results in excellent processability. TYRIL 790 is specifically designed for end-use applications requiring a good balance of physical properties, optical properties (gloss, clarity or opacity), heat resistance and practical toughness.

Applications:

- Tableware: airline serviceware, other multi-cavity applications
- Personal care: combs, toothbrushes
- Electronics: dust covers, display screens

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	ASTM D792 ISO 1183/B
Apparent (Bulk) Density	0.69 g/cm ³	0.69 g/cm ³	ASTM D1895 ISO 60
Melt Mass-Flow Rate (MFR)			ASTM D1238 ISO 1133
220°C/10.0 kg	21 g/10 min	21 g/10 min	
230°C/3.8 kg	9.0 g/10 min	9.0 g/10 min	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	551000 psi	3800 MPa	ASTM D638 ISO 527-2
Tensile Strength			
Break ¹	10400 psi	72.0 MPa	ASTM D638
Break	10400 psi	72.0 MPa	ISO 527-2/5
Flexural Strength	17100 psi	118 MPa	ASTM D790 ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Unnotched Impact Strength			ISO 179
73°F (23°C)	7.6 ft·lb/in ²	16 kJ/m ²	
Unnotched Izod Impact Strength (73°F (23°C))	6.2 ft·lb/in ²	13 kJ/m ²	ISO 180
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (M-Scale)	84	84	ASTM D785 ISO 2039-2
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648 ISO 75-2/A
264 psi (1.8 MPa), Annealed	214 °F	101 °C	
Vicat Softening Temperature			
--	214 °F	101 °C	ASTM D1525 ² ISO 306/B50 ²
--	230 °F	110 °C	ASTM D1525 ³ ISO 306/A120 ³
CLTE - Flow	2.8E-5 in/in/°F	5.0E-5 cm/cm/°C	DIN 53752
Specific Heat	0.330 Btu/lb/°F	1380 J/kg/°C	ASTM D2766

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)	2.80	2.80	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 ⁴ (0.06 in (1.6 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 0.20 in/min (5.0 mm/min)

² Rate A (50°C/h), Loading 2 (50 N)

³ Rate B (120°C/h), Loading 1 (10 N)

⁴ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



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