MAGNUM™ 3904 Smooth
ABS Resin

Overview

MAGNUM™ 3904 Smooth is an extrusion / thermoforming resin developed for high impact and other technical applications.

The mass (continuous process) ABS technology ensures an ABS resin that combines excellent processability with a stable light base colour that is ideal for self-colouring.

The new MAGNUM* 'Smooth Series' resins have an ultra low particulate content, which results in a superb surface finish that will enable our customers to produce parts with excellent aesthetics at a lower total cost.

Applications

- Transportation
- Protective covers
- Sanitary ware
- Marine
- Signage
- Recreational vehicles
- Furnishings

Automotive Specifications

- CHRYSLER MS-DB-300 CPN4432 Color: Color As Noted On Drawing

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.05	g/cm³	1.05	g/cm³	ISO 1183/B
Apparent (Bulk) Density	0.65	g/cm³	0.65	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	4.7	g/10 min	4.7	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	4.70	cm³/10min	4.70	cm³/10min	ISO 1133
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3	in/in	0.40 to 0.70	%	ISO 294-4
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus					ISO 527-2
0.126 in (3.20 mm), Injection Molded	264000	psi	1820	MPa	
Tensile Stress					
Yield, 0.126 in (3.20 mm), Injection Molded	5370	psi	37.0	MPa	ISO 527-2/50
Yield, 0.126 in (3.20 mm), Injection Molded	5660	psi	39.0	MPa	ISO 527-2/100
Tensile Strain					
Yield, 0.126 in (3.20 mm), Injection Molded	2.6	%	2.6	%	ISO 527-2/50
Yield, 0.126 in (3.20 mm), Injection Molded	2.8	%	2.8	%	ISO 527-2/100
Flexural Modulus [1, 2]					ISO 178
0.126 in (3.20 mm), Injection Molded	276000	psi	1900	MPa	
Flexural Stress [1, 2]					ISO 178
0.126 in (3.20 mm), Injection Molded	8410	psi	58.0	MPa	

Impact	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Charpy Notched Impact Strength					
-22°F (-30°C), Injection Molded	8.6	ft·lb/in²	18	kJ/m²	ISO 179/1eA
-22°F (-30°C), Injection Molded	5.7	ft·lb/in²	12	kJ/m²	ISO 179/2C
73°F (23°C), Injection Molded	18	ft·lb/in²	37	kJ/m²	ISO 179/1eA
73°F (23°C), Injection Molded	10	ft·lb/in²	22	kJ/m²	ISO 179/2C
Notched Izod Impact Strength					ISO 180/A
-22°F (-30°C), Injection Molded	8.1	ft·lb/in²	17	kJ/m²	
73°F (23°C), Injection Molded	20	ft·lb/in²	42	kJ/m²	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Heat Deflection Temperature					ISO 75-2/A
264 psi (1.8 MPa), Annealed	207	°F	97.0	°C	
Vicat Softening Temperature	207	°F	97.0	°C	ISO 306/B50
Flammability	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Burning Rate [3] (0.0787 in (2.00 mm))	1.6	in/min	40	mm/min	ISO 3795
Flame Rating [3]					UL 94
0.06 in (1.5 mm)	HB		HB		
0.12 in (3.0 mm)	HB		HB		

Notes

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

[1] 0.079 in/min (2.0 mm/min)

[2] 3-points

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

PRODUCT STEWARDSHIP

Trinseo and its affiliated companies have a fundamental concern for all who make, distribute, and use their products and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products so that appropriate steps may be taken to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Trinseo products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

CUSTOMER NOTICE

Customers are responsible for reviewing their manufacturing processes and their applications of Trinseo products from the standpoint of human health and environmental quality to ensure that Trinseo products are not used in ways for which they are not suitable. Trinseo personnel are available to answer questions and to provide reasonable technical support. Trinseo product literature, including safety data sheets, should be consulted prior to the use of Trinseo products. Current safety data sheets are available from Trinseo.

No freedom from infringement of any patent owned by Trinseo or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the customer is responsible for determining whether products and the information in this document are appropriate for the customer's use and for ensuring that the customer's workplace and disposal practices are in compliance with applicable legal requirements. Although the information herein is provided in good faith and was believed to be accurate when prepared, Trinseo assumes no obligation or liability for the information in this document.

GENERAL NOTICE

Any photographs of end-use applications in this document represent potential end-use applications but do not necessarily represent current commercial applications, nor do they represent an endorsement by Trinseo of the actual products. Further, these photographs are for illustration purposes only and do not reflect either an endorsement or sponsorship of any other manufacturer for a specific potential end-use product or application, or for Trinseo, or for specific products manufactured by Trinseo.If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Trinseo to change specifications and/or discontinue production, and (4) although Trinseo may from time to time provide samples of such products, Trinseo is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.

Follow us at:

DISCLAIMER

TRINSEO MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, IN THIS DOCUMENT; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE (INCLUDING MEDICAL APPLICATIONS) ARE EXPRESSLY EXCLUDED. SINCE THE CONDITIONS AND METHODS OF USE OF THE INFORMATION AND PRODUCTS REFERRED TO ARE BEYOND TRINSEO'S KNOWLEDGE AND CONTROL, TRINSEO DISCLAIMS ANY AND ALL LIABILITY FOR LOSSES OR DAMAGES THAT MAY RESULT FROM RELIANCE ON THE INFORMATION OR USE OF THE PRODUCTS DESCRIBED HEREIN. TRINSEO MAKES NO WARRANTIES, EXPRESS OR IMPLIED, THAT THE USE OF ANY TRINSEO PRODUCT WILL BE FREE FROM ANY INFRINGEMENT CLAIMS.