

Technical Information



PLEXIGLAS® HT121

Overview

Plexiglas® HT121 is a thermoplastic acrylic resin formulated for injection molding applications. This grade has the highest heat resistance of all the Plexiglas® grades. Plexiglas® HT121 has excellent weatherability and optical properties allowing it to excel in applications requiring outdoor stability, high quality surface appearance and/or precision optics. It has excellent resistance to many chemicals including solutions of inorganic acids, alkalis and aliphatic hydrocarbons such as VM&P naphtha and heptane. Additionally, it is virtually unaffected by a wide range of commercial products including many beverages, foodstuffs, detergent solutions and cleaners.

Automotive Specifications

- ASTM D788
- FORD WSS-M4D776-B3
- GM GMW16335P-PMMA-T1
- CHRYSLER MS-DB-75
- FORD WSS-M4D776-B4
- SAE J576 Color: Various Colors

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.19 g/cm ³	1.19 g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR)			
230°C/3.8 kg	2.6 g/10 min	2.6 g/10 min	ASTM D1238
230°C/3.8 kg	2.7 g/10 min	2.7 g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/3.8 kg)	2.5 cm ³ /10min	2.5 cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow	2.0E-3 to 6.0E-3 in/in	0.20 to 0.60 %	ASTM D955
--	2.0E-3 to 6.0E-3 in/in	0.20 to 0.60 %	ISO 294-4
Water Absorption			
24 hr	0.40 %	0.40 %	ASTM D570
Equilibrium, 73°F (23°C), 50% RH	0.30 %	0.30 %	ISO 62
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
--	475000 psi	3280 MPa	ASTM D638
--	508000 psi	3500 MPa	ISO 527-1/1A/1
Tensile Stress			
Yield	8700 psi	60.0 MPa	ISO 527-2/1A/5
Break	10200 psi	70.3 MPa	ASTM D638
Break	8700 psi	60.0 MPa	ISO 527-2/1A/5
Tensile Strain			
Yield	3.0 %	3.0 %	ISO 527-2/1A/5
Break	3.0 %	3.0 %	ASTM D638 ISO 527-2/1A/5
Flexural Modulus			
--	475000 psi	3280 MPa	ASTM D790
--	493000 psi	3400 MPa	ISO 178
Flexural Stress			
-- 1	13800 psi	95.0 MPa	ISO 178
Yield	15200 psi	105 MPa	ASTM D790

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength	0.48 ft-lb/in ²	1.0 kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength	9.5 ft-lb/in ²	20 kJ/m ²	ISO 179/1eU
Notched Izod Impact			
73°F (23°C)	0.30 ft-lb/in	16 J/m	ASTM D256
--	0.95 ft-lb/in ²	2.0 kJ/m ²	ISO 180/A
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (M-Scale)	99	99	ASTM D785 ISO 2039-2
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Annealed ²	235 °F	113 °C	ASTM D648
66 psi (0.45 MPa), Annealed	228 °F	109 °C	ISO 75-2/B
264 psi (1.8 MPa), Annealed ²	226 °F	108 °C	ASTM D648
264 psi (1.8 MPa), Annealed	221 °F	105 °C	ISO 75-2/A
Vicat Softening Temperature			
--	246 °F	119 °C	ASTM D1525 ³ ISO 306/A50 ³
--	240 °F	116 °C	ASTM D1525 ⁴
--	237 °F	114 °C	ISO 306/B50
Thermal Conductivity	1.3 Btu-in/hr/ft ² /°F	0.19 W/m/K	ASTM C177
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating	HB	HB	UL 94
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index ⁵	1.490	1.490	ASTM D542 ISO 489
Light Transmittance (125.0 mil (3175 µm))	92.0 %	92.0 %	ASTM D1003
Haze (125.0 mil (3175 µm))	< 1.00 %	< 1.00 %	ASTM D1003
Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
ASTM Classification	PMMA 0141V2	PMMA 0141V2	ASTM D788

Notes

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

¹ Conventional Deflection

² Annealing cycle: 4hrs @ 221°F

³ Rate A (50°C/h), Loading 1 (10 N)

⁴ Rate A (50°C/h), Loading 2 (50 N)

⁵ ND @ 72°F

Technical Information

**TRINSEO**[™]

trinseo.com

The principles of Responsible Care® and sustainability influence the production of printed literature for Trinseo PLC and its affiliated companies. As a contribution towards the protection of our environments, Trinseo's printed literature is produced in small quantities and on paper containing recovered/post-consumer fiber and using 100 percent soy-based ink whenever possible.

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.

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS

TRINSEO REQUESTS THAT CUSTOMERS REFER TO TRINSEO'S MEDICAL APPLICATION POLICY [HTTP://WWW.TRINSEO.COM/MEDICAL.HTM](http://WWW.TRINSEO.COM/MEDICAL.HTM) BEFORE CONSIDERING THE USE OF TRINSEO PRODUCTS IN MEDICAL APPLICATIONS. THE RESTRICTIONS AND DISCLAIMERS SET FORTH IN THAT POLICY ARE INCORPORATED BY REFERENCE.

For more information on products, innovations, expertise, and other services available from Trinseo, visit www.trinseo.com, or in the U.S. contact us at +1-855-TRINSEO (+1-855-874-6736).

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.

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.

For additional information not covered by the content of this document or to ensure you have the latest version of this document available, please refer to our website at www.trinseo.com/contact.

Follow us at:



Copyright ©Trinseo (2024) All rights reserved.
™ Trademark of Trinseo S.A. or its affiliates
®Responsible Care is a service mark of the American
Chemistry Council

**TRINSEO**[™]