

CALIBRE™ 302-15 Polycarbonate Resin

Overview

CALIBRE™ 300-15 Polycarbonate resins offer exceptional impact resistance, heat distortion resistance, and optical clarity. The CALIBRE 300-15 series products are available in 4 additive packages: CALIBRE 300: No mold release or UV Stabilizer. CALIBRE 301: Mold release. CALIBRE 302: UV stabilizer. CALIBRE 303: Mold release and UV stabilizer.

Govt. and Industry Standards:

- CSA (Canadian Standards Association)
- Underwriters Laboratory, Inc. (UL)

Applications:

- Automotive interiors
- Automotive exteriors
- Sheet applications
- Electrical lighting/switches
- Small & large appliances
- Beverage containers/serviceware
- Power equipment

Automotive Specifications

- CHRYSLER MS-DB-145

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792 ISO 1183/A
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15 g/10 min	15 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955 ISO 294-4
Water Absorption			ASTM D570 ISO 62
24 hr, 73°F (23°C)	0.15 %	0.15 %	
Equilibrium, 73°F (23°C), 50% RH	0.32 %	0.32 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
-- ¹	340000 psi	2340 MPa	ASTM D638
--	334000 psi	2300 MPa	ISO 527-2/50
Tensile Strength			
Yield ¹	8700 psi	60.0 MPa	ASTM D638
Yield	8700 psi	60.0 MPa	ISO 527-2/50
Break ¹	10300 psi	71.0 MPa	ASTM D638
Break	10300 psi	71.0 MPa	ISO 527-2/50
Tensile Elongation			
Yield ¹	6.0 %	6.0 %	ASTM D638
Yield	6.0 %	6.0 %	ISO 527-2/50
Break ¹	150 %	150 %	ASTM D638
Break	150 %	150 %	ISO 527-2/50
Flexural Modulus			
-- ²	350000 psi	2410 MPa	ASTM D790
-- ³	348000 psi	2400 MPa	ISO 178

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Flexural Strength			
-- ²	14000 psi	96.5 MPa	ASTM D790
-- ³	14100 psi	97.0 MPa	ISO 178
Taber Abrasion Resistance	45 %	45 %	ASTM D1044
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	12 ft-lb/in ²	25 kJ/m ²	ISO 179/1eA
Notched Izod Impact			
73°F (23°C)	16 ft-lb/in	850 J/m	ASTM D256
73°F (23°C)	39 ft-lb/in ²	83 kJ/m ²	ISO 180/A
Unnotched Izod Impact (73°F (23°C))	No Break	No Break	ASTM D256 ISO 180
Instrumented Dart Impact ⁴			ASTM D3763
73°F (23°C), Total Energy	770 in-lb	87.0 J	
Tensile Impact Strength	220 ft-lb/in ²	462 kJ/m ²	ASTM D1822
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	73	73	
R-Scale	118	118	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Annealed	289 °F	143 °C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	260 °F	127 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	255 °F	124 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	284 °F	140 °C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature	298 °F	148 °C	ISO 306/B50 ASTM D1525 ⁵
Ball Indentation Temperature	257 °F	125 °C	IEC 60335-1
CLTE - Flow (-40 to 180°F (-40 to 82°C))	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ASTM D696
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	2.0E+17 ohms-cm	2.0E+17 ohms-cm	ASTM D257
Dielectric Strength			
--	420 V/mil	17 kV/mm	ASTM D149
--	430 V/mil	17 kV/mm	IEC 60243-1
Dielectric Constant			ASTM D150
60 Hz	3.00	3.00	
1 MHz	3.00	3.00	
Dissipation Factor			ASTM D150
50 Hz	1.0E-3	1.0E-3	
1 MHz	2.0E-3	2.0E-3	
Comparative Tracking Index			IEC 60112
0.0787 in (2.00 mm), Solution A	250 V	250 V	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁶			UL 94
0.06 in (1.6 mm)	HB	HB	
0.13 in (3.2 mm)	HB	HB	
Oxygen Index ⁶	26 %	26 %	ISO 4589-2
Average Extent of Burning	1 in	3 cm	ASTM D635
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index	1.586	1.586	ASTM D542 ISO 489
Transmittance	89.0 %	89.0 %	ASTM D1003
Haze	1.0 %	1.0 %	ASTM D1003

Notes

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

¹ 2.0 in/min (50 mm/min)

² Method I (3 point load), 0.079 in/min (2.0 mm/min)

³ 0.079 in/min (2.0 mm/min)

⁴ 11.1 ft/sec (3.39 m/sec)

⁵ Rate A (50°C/h), Loading 2 (50 N)

⁶ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



The principles of Responsible Care® and Sustainable Development influence the production of printed literature for Trinseo S.A. 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 its 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, sales, 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> Before considering the use of Trinseo products in medical applications. The restrictions and disclaimers set forth in that policy are incorporated by reference.

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. TRINSEO DISCLAIMS ANY AND ALL LIABILITY FOR LOSSES OR DAMAGES THAT MAY RESULT FROM THE USE OF TRINSEO PRODUCTS IN UNSUPPORTED USE. TRINSEO MAKES NO WARRANTIES, EXPRESS OR IMPLIED, THAT THE USE OF ANY TRINSEO PRODUCT WILL BE FREE FROM ANY INFRINGEMENT CLAIMS

For more information on products, innovations, expertise, and other services available from Trinseo, visit www.trinseo.com, or contact us as indicated below.

North America	
U.S.	+1-855-TRINSEO (+1-855-874-6736)
U.S. - Canada	+1-989-633-1718
Latin America	
Brazil	+55-11-5184-8722
Argentina, Chile, South Region of LAA	+54-11-4319-0100
Mexico, Colombia, North Region of LAA	+52-55-5201-4700
Europe/Middle East/Africa	
	+800-444-11-444
	+31-11567-2601
Asia Pacific	
China	+603-7965-53-19
	+86-21-3851-1017
Email	CIG@trinseo.com

www.trinseo.com

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 the Customer Information Group contact information on our website at www.trinseo.com/contact/.

Previously called "Styron", the company announced plans to change the name of all Styron affiliated companies to "Trinseo". Some, but not all, of the Styron companies have completed the name change process and are currently known as "Trinseo"; Styron companies that have not completed this process will continue to do business as Styron until their respective name changes are complete. Styron's operating companies also continue to do business as Styron at this time.

Copyright ©Trinseo (2018) All rights reserved.
 ™Trademark of Trinseo S.A. or its affiliates
 ©Responsible Care is a service mark of the American Chemistry Council