

STYRON™ 680A

General Purpose Polystyrene Resin

Overview

STYRON™ 680A is a general purpose polystyrene resin with good balance of processability and high heat properties. It is designed for general injection molding applications.

Main Characteristics:

- Easy processing
- High heat

Applications:

- Cutlery
- Decorative lighting
- Blending with HIPS

Complies with:

- FDA, 21 CFR 177.1640
- Consult the regulation for complete details.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.04 g/cm ³	1.04 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	8.5 g/10 min	8.5 g/10 min	ASTM D1238
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3 in/in	0.40 to 0.70 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			ASTM D638
Yield, Compression Molded	5800 psi	40.0 MPa	
Yield, Injection Molded	6800 psi	46.9 MPa	
Ultimate, Compression Molded	5800 psi	40.0 MPa	
Ultimate, Injection Molded	6800 psi	46.9 MPa	
Tensile Elongation			ASTM D638
Break, Compression Molded	1.0 %	1.0 %	
Break, Injection Molded	2.0 %	2.0 %	
Flexural Modulus			ASTM D790
Compression Molded	450000 psi	3100 MPa	
Injection Molded	462000 psi	3190 MPa	
Flexural Strength			ASTM D790
Compression Molded	8200 psi	56.5 MPa	
Injection Molded	13000 psi	89.6 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
Compression Molded	0.20 ft-lb/in	11 J/m	
Injection Molded	0.30 ft-lb/in	16 J/m	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
264 psi (1.8 MPa), Unannealed	181 °F	82.8 °C	
264 psi (1.8 MPa), Annealed	216 °F	102 °C	
Vicat Softening Temperature	221 °F	105 °C	ASTM D1525
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.



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 (2016) All rights reserved.
TMTrademark of Trinseo S.A. or its affiliates
 ©Responsible Care is a service mark of the American Chemistry Council

