

# INSPIRE™ TF1305 ESU

## Performance Polymers

### Overview

Talc filled, high impact PP Compound. INSPIRE™ TF1305 ESU has been developed for highly demanding aesthetic automotive applications, with superior scratch resistance and UV light stabilisation. It is especially suitable for car interior applications requiring ductility, because of its high impact resistance, even at low temperature and requiring very high level of scratch resistance because of the location in the car interior.

#### Applications:

- Instrument panel retainer
- Instrument panel trim
- Mid console
- Door panels
- Door pockets
- Interior trim
- Trunk trim

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.02 g/cm <sup>3</sup>	1.02 g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	9.6 g/10 min	9.6 g/10 min	ISO 1133
Molding Shrinkage	9.0E-3 to 0.012 in/in	0.90 to 1.2 %	ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	283000 psi	1950 MPa	ISO 527-2/1
Tensile Stress (Yield)	3630 psi	25.0 MPa	ISO 527-2/50
Tensile Strain (Break)	70 %	70 %	ISO 527-2/50
Flexural Modulus <sup>1, 2</sup>	268000 psi	1850 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact Strength			ISO 180/1A
-40°F (-40°C)	2.4 ft·lb/in <sup>2</sup>	5.0 kJ/m <sup>2</sup>	
32°F (0°C)	4.8 ft·lb/in <sup>2</sup>	10 kJ/m <sup>2</sup>	
73°F (23°C)	12 ft·lb/in <sup>2</sup>	25 kJ/m <sup>2</sup>	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
32°F (0°C), Ductile Failure	36.9 ft·lb	50.0 J	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	230 °F	110 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	136 °F	58.0 °C	ISO 75-2/A
Vicat Softening Temperature	275 °F	135 °C	ISO 306/A120
CLTE - Flow	4.7E-5 in/in/°F	8.5E-5 cm/cm/°C	ASTM D696

### Notes

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

<sup>1</sup> 0.079 in/min (2.0 mm/min)

<sup>2</sup> 3 point load



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](http://www.trinseo.com), or contact us as indicated below.

<b>North America</b>	
U.S.	+1-855-TRINSEO (+1-855-874-6736)
U.S. - Canada	+1-989-633-1718
<b>Latin America</b>	
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
<b>Europe/Middle East/Africa</b>	
	+800-444-11-444
	+31-11567-2601
<b>Asia Pacific</b>	
China	+603-7965-53-19
	+86-21-3851-1017
<b>Email</b>	<a href="mailto:CIG@trinseo.com">CIG@trinseo.com</a>

[www.trinseo.com](http://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/](http://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.  
™Trademark of Trinseo S.A. or its affiliates  
©Responsible Care is a service mark of the American Chemistry Council