

PRODUCT DATA SHEET

DESCRIPTION

Toray RS-16 is a low viscosity, low temperature curing cyanate ester resin that can be used in wet winding, RTM, and VARTM processing. Its two-part construction allows easy and long-term storage while delivering excellent processability and pot life. It is intended for lower temperature exposure with a moderate T_g requirement, and is an ideal system when used with other materials that limit the upper cure temperature. The system may also be cured using different combinations of cure/post cure temperatures and durations.

FEATURES

- ▶ **135°C (275°F) 2-hour curing cyanate resin with optional post cure cycles**
- ▶ **RTM resin with very low viscosity at processing temperature**
- ▶ **Low viscosity at elevated temperature**
- ▶ **Two part resin: Mix Ratio 100:9 Part A to Part B**

PRODUCT TYPE

135°C (275°F) Cyanate Ester RTM Resin System

TYPICAL APPLICATIONS

- ▶ RTM, VARTM, Resin Infusion, Wet Winding

SHELF LIFE

Pot Life:	4 hours at 75°C (167°F) 60 minutes at 100°C (212°F)
Storage Life: Applicable to Part A & Part B	12 months when stored refrigerated between 1°C (34°F) and 4.4°C (40°F), tightly sealed and blanketed with inert gas, or 6 months when stored at 5°C (41°F) to 25°C (77°F), tightly sealed and blanketed with inert gas
DO NOT FREEZE: NO STORAGE AT 0°C (32°F) OR BELOW	

TYPICAL NEAT RESIN PROPERTIES

Resin Density	1.21 g/cc
Dry T_g (DSC)	No Post Cure: 151°C (304°F) Post Cure A: 179°C (354°F) Post Cure B: 211°C (411°F) Post Cure C: 236°C (456°F) Post Cure D: 252°C (486°F)
Moisture Absorption (70°C water bath 7 days)	1.0%
Viscosity at 50°C (122°F)	500 cPs
Minimum Viscosity at 122°C (251.6°F)	20 cPs
Dielectric Constant (10 GHz)	2.85
Loss Tangent (10 GHz)	0.0082
Coefficient of Thermal Expansion	60.2ppm/°C (33.4 ppm/°F)
Outgassing per ASTM E595 (TML)	0.22%
Outgassing per ASTM E595 (CVCM)	0.01%
Outgassing per ASTM E595 (WVR)	0.13%

T_g specimen cure: Ramp to 113°C (235°F) and hold for 4 hours, then ramp to 135°C (275°F) and hold for 1.5 hours
 Post Cure A: 149°C (300°F) for 2 hours
 Post Cure B: 177°C (350°F) for 2 hours
 Post Cure C: 204°C (400°F) for 2 hours
 Post Cure D: 232°C (450°F) for 2 hours



Contact us for more information:

North America/Asia/Pacific

e explore@toraytac-usa.com

t +1 408 465 8500

Europe/Middle East/Africa

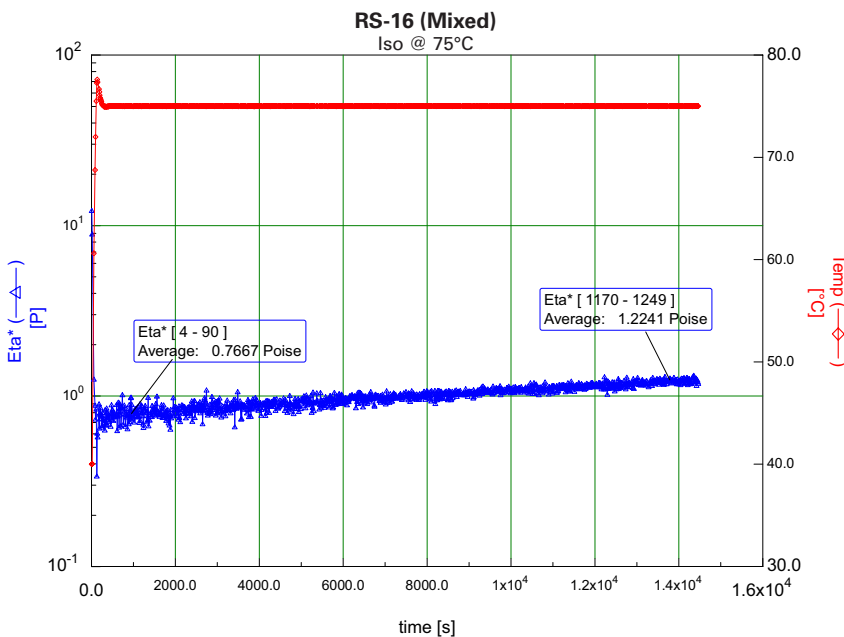
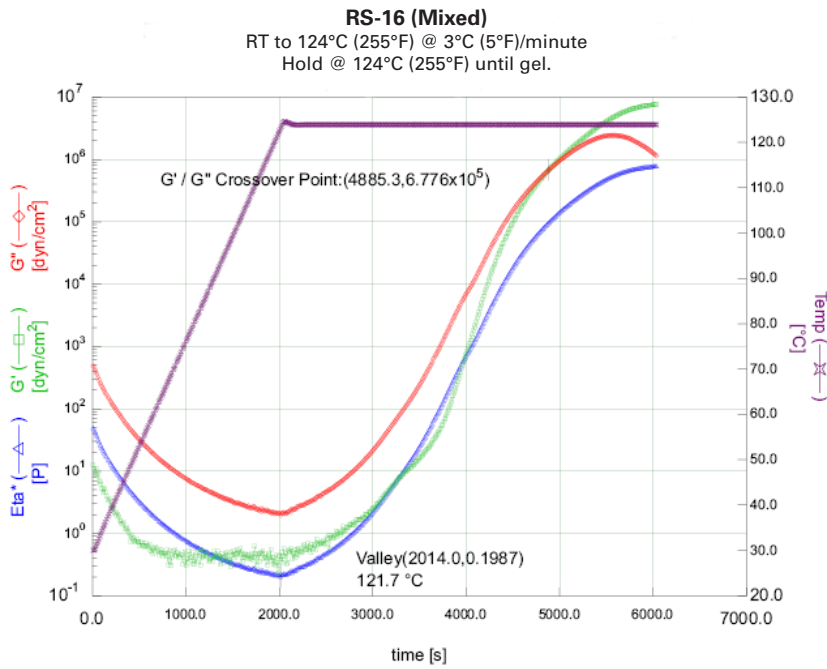
e explore@toraytac-europe.com

t +44 (0)1773 530899

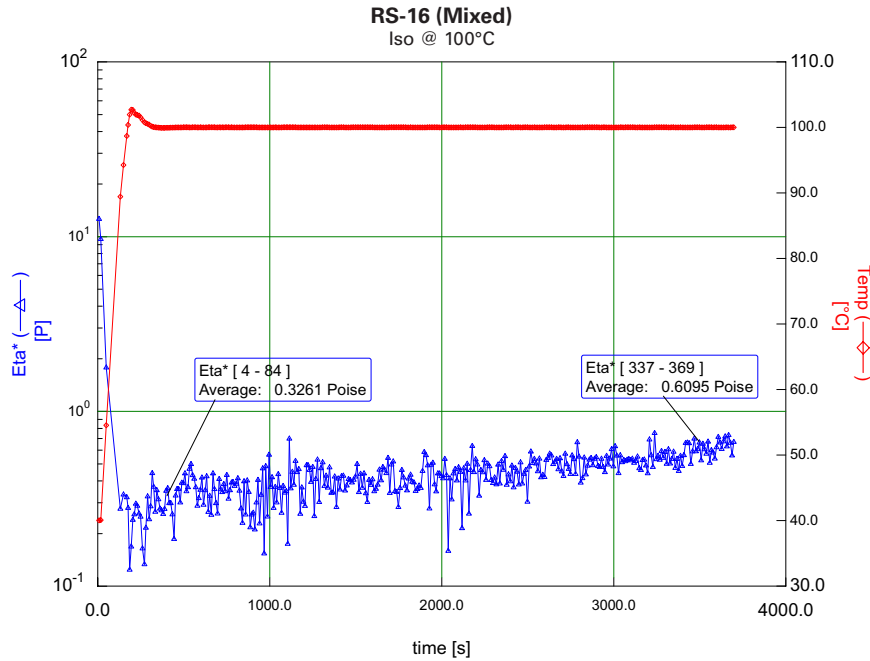
PRODUCT DATA SHEET

NEAT RESIN MECHANICAL PROPERTIES

Property	Condition	Method	Typical Results	
Flexural Modulus	RTD	ASTM D 7264	4.1 GPa	592 ksi
Flexural Strength	RTD	ASTM D 7264	159 MPa	23.1 ksi
Flexural Strain	RTD	Calculation	4.1%	



PRODUCT DATA SHEET



TORAY_RS-16_PDS_v3.1_2023-04-21 Page 3/3

© 2019-2022 Toray Advanced Composites. All data given is based on representative samples of the materials in question. Since the method and circumstances under which these materials are processed and tested are key to their performance, and Toray Advanced Composites has no assurance of how its customers will use the material, the corporation cannot guarantee these properties. Toray®, (Toray) AmberTool®, (Toray) Cetex®, (Toray) MicroPLY™, and all other related characters, logos, and trade names are claims and/or registered trademarks of Toray Industries Inc. and/or its subsidiary companies in one or more countries. Use of trademarks, trade names, and other IP rights of Toray Industries Inc. without prior written approval by such is strictly prohibited.