HUNTSMAN

Enriching lives through innovation

Advanced Materials

Araldite® CW 5801-1 US / Aradur® HY 5801 US

Two-Component, Epoxy-Based Potting and Encapsulating System

General

Araldite® CW 5801-1/Aradur® HY 5801 is a 100% solids (no solvent) two-component, epoxy-based potting and encapsulating system designed especially for applications requiring very low shrinkage and excellent dielectric characteristics. Although the system will gel at room ambient temperature, an additional short elevated temperature post-cure is recommended in order to achieve optimal properties. This product is recommended for encapsulation of electrical and electronic components.

Key Properties

Low viscosity for good penetration
Bonds well to most substrates
Adequate working life at room temperature
Rapid cure at moderately elevated temperatures
Moderate glass transition temperature
Very low shrinkage upon cure
Excellent dielectric properties

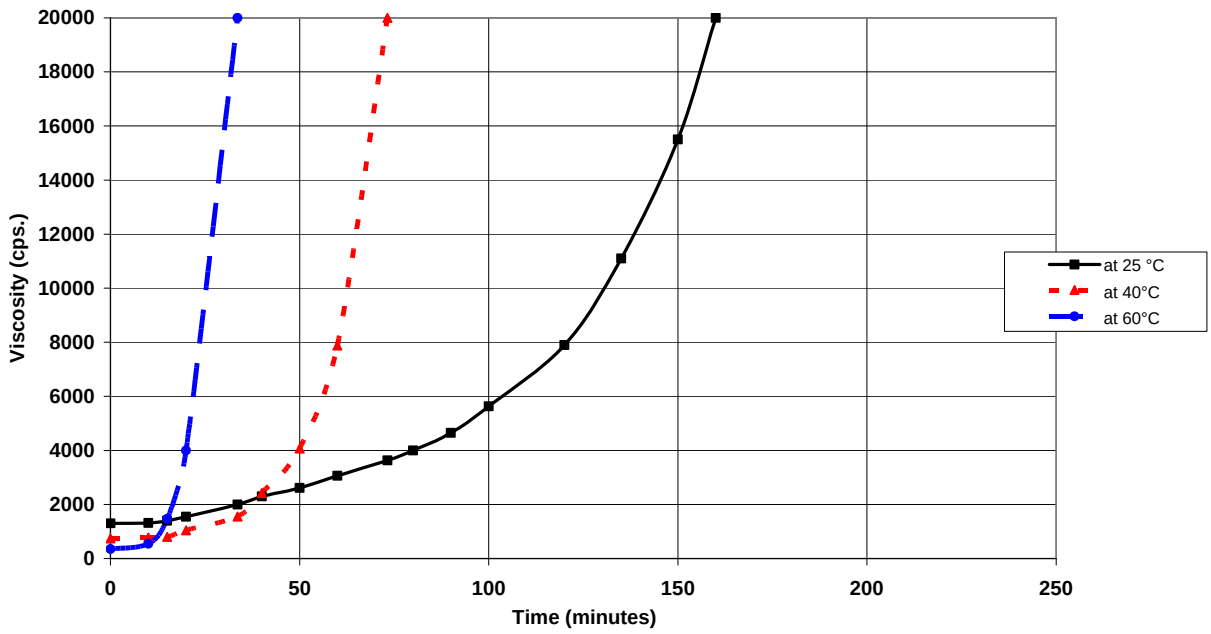
Typical Properties*

Araldite® CW 5801-1	
Appearance	Blue paste
Specific Gravity	0.77 – 0.83
Viscosity @ 25ºC, cPs	9,000 – 15,000
Flash point, Closed Cup, °F (°C)	>392 (>200)
Aradur® HY 5801	
Appearance	Clear light amber liquid
Specific Gravity	0.91 – 0.96
Viscosity @ 25ºC, cPs	12 – 25
Flash point, Closed Cup, °F (°C)	>392 (>200)
Mixed	
Specific Gravity	0.79 – 0.84
Viscosity, cPs.	
@ 25ºC	1,100 – 1,300
@ 40°C	700 – 750
@ 60°C	350 - 400

* Typical properties are based on Huntsman's test methods. Copies are available upon request.

Figure 1

Viscosity v. Time



STORAGE STATEMENT

Araldite® CW 5801-1/Aradur® HY 5801 components should be stored in a dry place and in the sealed original containers at temperatures between 2°C and 40°C (36°F and 104°F). Under these storage conditions the shelf life for each product is 1 year. The products should not be exposed to direct sunlight. Some filler separation may occur in the Araldite® CW 5801-1 component during storage. Prior to use it should be re-homogenized by gentle stirring to prevent air entrapment.

Mix ratios

	Parts by weight
Araldite® CW 5801-1	100
Aradur® HY 5801	19.6

Processing data

(typical values)

Gel time

@ 25ºC (120 grams), minutes	170 - 220
@ 40ºC (10 grams), minutes	100 - 150
@ 60ºC (10 grams), minutes	30 - 35

Recommended cure time: 12 hours @ 23°C + 3 hours @ 95°C

Physical Properties (typical values)

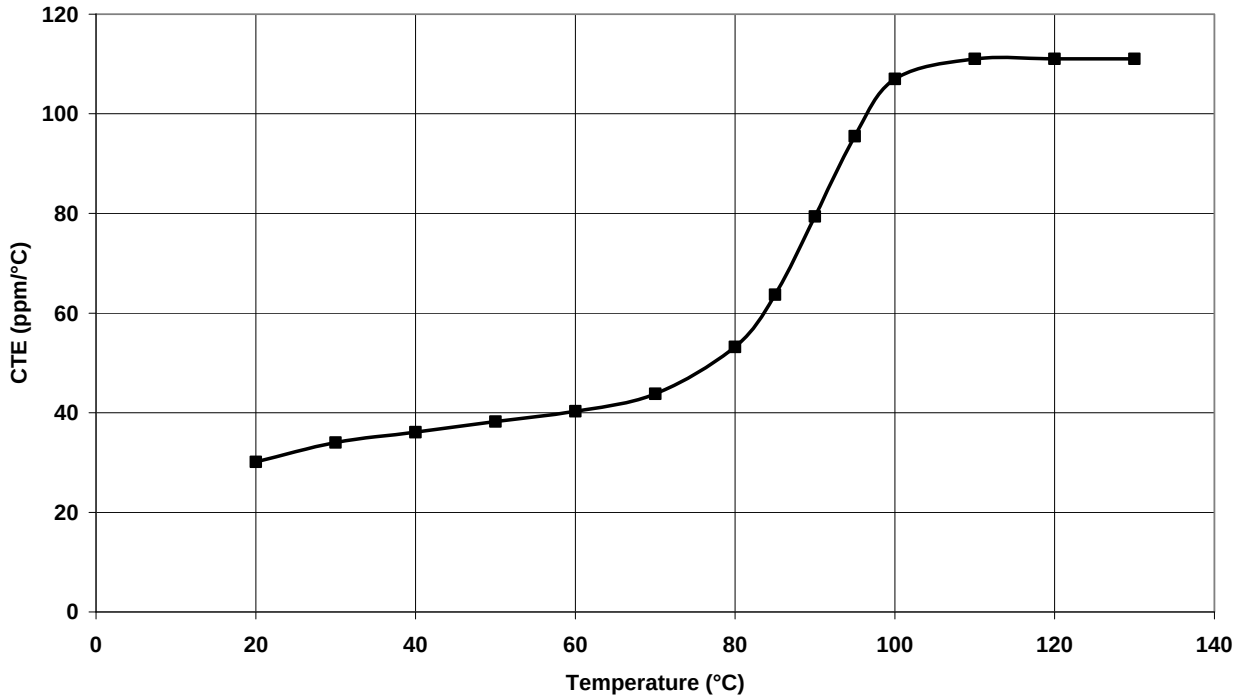
Cure: 12 hr/23°C + 3 hr/95°C

Flexural strength, psi	9,000 – 12,000
Flexural modulus, psi	520,000 – 540,000
Hardness, Shore D	78 - 84
Glass transition temperature, °C	90 - 95
Coeff. thermal expansion, in/in-°C	see Figure 2
Linear Shrinkage, %	Less than 0.005 inches/inch

Figure 2

Cure: 12 hours @ 23°C + 3 hours @ 95°C

Coefficient Linear Thermal Expansion v. Temperature



Electrical Properties (typical values)

Cure: 12 hr/23°C + 3 hr/95°C

Dielectric strength, kV/mm @ 2 mm. thickness	27.9
Dielectric constant	see Figure 3
Dissipation factor	see Figure 4
Volume resistivity	see Figure 5
Surface resistivity	see Figure 6

Figure 3

Dielectric Constant vs. Temperature

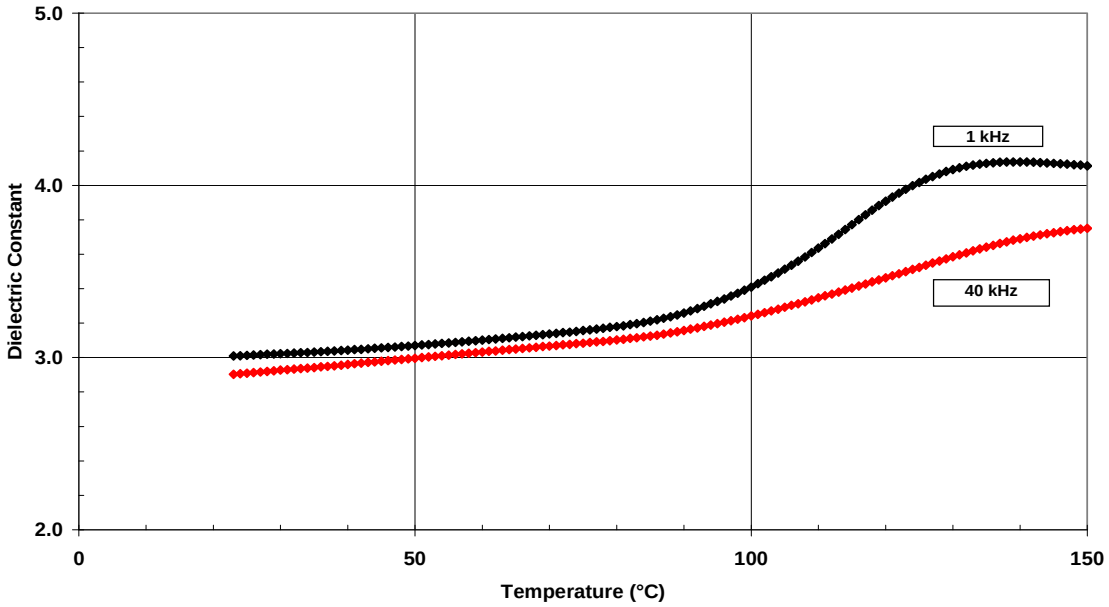


Figure 4

Dissipation Factor v. Temperature

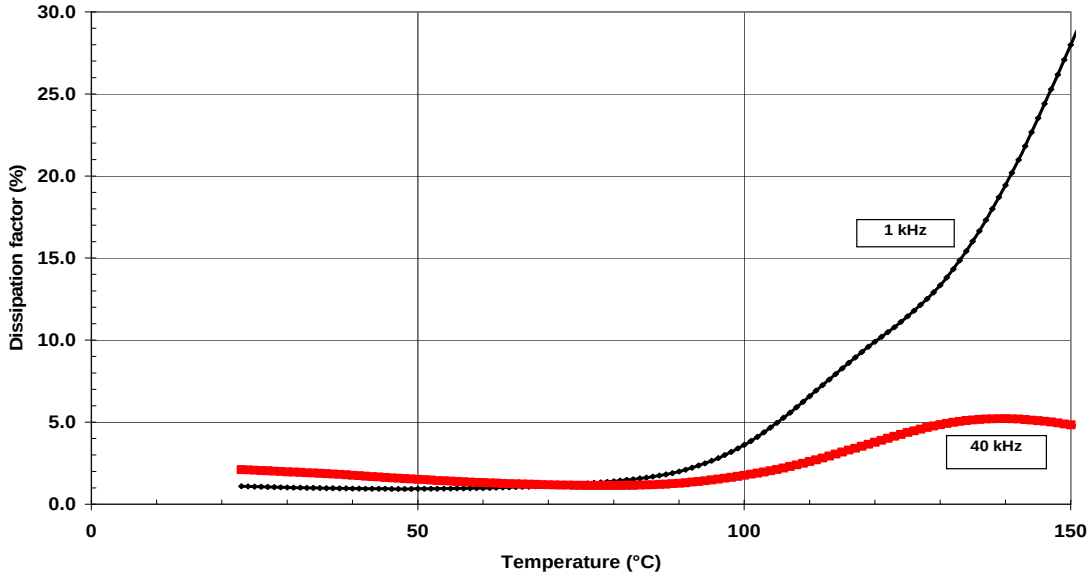


Figure 5

Volume Resistivity vs. Temperature

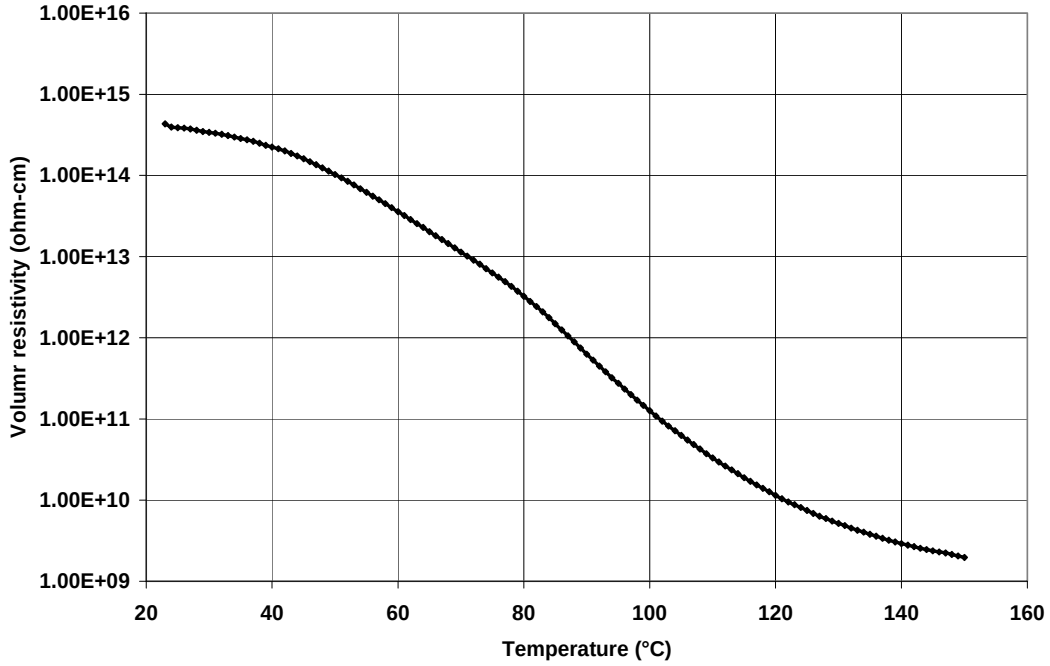
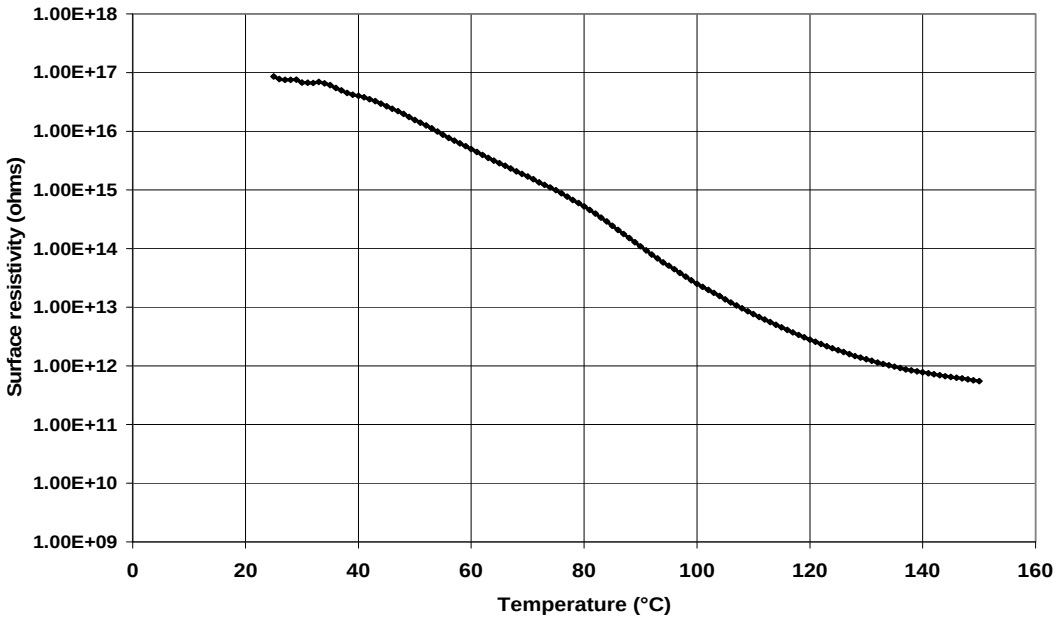


Figure 6

Surface Resistivity v. Temperature



PRECAUTIONARY STATEMENT

Huntsman Advanced Materials Americas maintains up–to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to MSDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

FOR PROFESSIONAL AND INDUSTRIAL USE ONLY

Huntsman Advanced Materials
10003 Woodloch Forest Drive
The Woodlands, Texas 77381

Tel: 888-564-9318
Fax: 281-719-4047
www.huntsman.com/advanced_materials