ARALDITE® CY 5808 US
HARDENER HY 5808 US

Formerly LSC 672-32 RESIN
LSC 672-32 HARDENER

DESCRIPTION:

Araldite® CY 5808 US with Hardener HY 5808 US is a 100% solids (no solvent) two-component, bisphenol-A based epoxy potting and impregnating system that cures to a tough, chemical resistant thermosetting polymer. This product exhibits good mechanical and electrical properties, and outstanding thermal shock resistance. It is recommended for electrical and mechanical applications operating in low temperature environments. It is especially recommended for cryogenic applications.

FEATURES:

- Low viscosity for good flow and penetration
- Cures at room ambient temperature
- Adequate working life at room temperature
- Acccelerated cure at moderately elevated temperatures
- Very low shrinkage on cure
- Excellent thermal shock and thermal cycling resistance

TYPICAL PROPERTIES:

Araldite® CY 5808 US

Appearance	Clear light amber liquid
Specific Gravity	1.17 – 1.20
Viscosity, cPs. @ 25°C	
Spindle 2 @ 20 rpm	11,000 – 14,000
Flash Point, Closed Cup, °F	> 200

Hardener HY 5808 US

Appearance	Clear light amber liquid
Specific Gravity	0.97 – 0.98
Viscosity, cPs. @ 25°C	
Spindle 1 @ 20 rpm	50 – 60
Flash Point, Closed Cup, °F	> 200

Mixed

Specific Gravity	1.08 – 1.10
Viscosity, cPs.	
@ 25°C	900 – 1,000
@40°C	250 – 300
@50°C	100 –125

MIXING RATIO (by weight):

100 to 72 Resin to Hardener

CURE CYCLE:

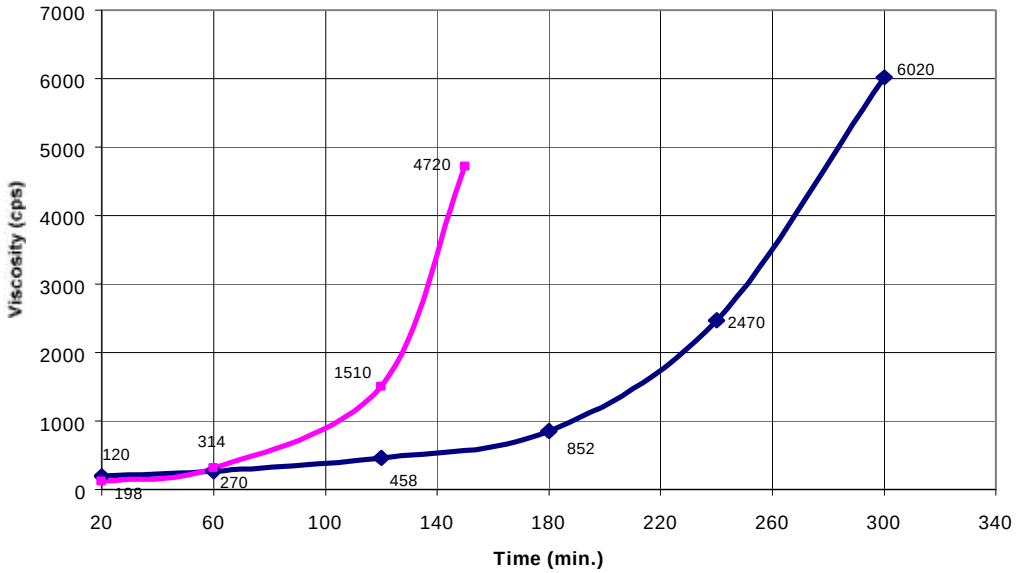
Araldite® CY 5808 US/Hardener HY 5808 US system can be cured at room ambient temperatures or by using moderate elevated temperature such as 16 hours at 40°C or 6 hours @ 60°C. At room temperature, near optimum properties will be attained after a period of 24 hours and full cure will be achieved within 7 days.

REACTIVITY CHARACTERISTICS:

Pot life at 40°C and 50°C	Brookfield Thermosel Sunshine	See Figure 1
Gel time (10 grams)		
@ 25°C		18 – 24 hours
@ 60°C		190 – 210 minutes
@ 80°C		60 – 70 minutes
@ 100°C		20 – 30 minutes

Figure 1

VISCOSITY vs. TIME



MECHANICAL PROPERTIES:

Property	ASTM Test Method	Test Value
Flexural strength, psi @298°K	ASTM D-790	4,640
@77°K		23,200
Flexural modulus, psi @298°K	ASTM D-790	101,500
@77°K	ASTM D-790	1,059,00
Thermal shock, cycles to failure	See Note 1	> 25
Linear shrinkage, inches/inch	ASTM D 2566	0.0029
Hardness, Shore D	ASTM D-2240	78
Glass transition temperature, °C	ASTM E-381	45 – 50
Coeff. thermal expansion, µm/m-°C Average over –30°C to +30°C	ASTM E-381	95 – 100

Note 1 – thermal shock test
Test samples consisted of 3 inch diameter x 1-inch thick blocks, each containing a 10 mm x 50 mm hex-head brass bolt located axially within the block with threaded end protruding and with a 3 mm gap between encapsulated bolt head and specimen surface. Samples were submerged directly into liquid nitrogen, removed when cold, allowed to warm to room temperature and examined for signs of cracking. Non-cracked specimens were re-cycled through the same test. Average cycle to failure of 10 specimens is reported.

ELECTRICAL PROPERTIES:

Dielectric constant, 50 Hz		IEC 60250
@ 4.2°K	2.73	
@ 77.0°K	2.76	
@ 200°K	3.10	
@ 273°K	3.49	
@ 292°K	3.60	
Dissipation factor, 50 Hz		IEC 60250
@ 4.2°K	4.50×10^{-4}	
@ 77.0°K	1.84×10^{-3}	
@ 200°K	1.13×10^{-2}	
@ 273°K	8.93×10^{-3}	
@ 292°K	7.47×10^{-3}	
Volume resistivity		ASTM D-257
@ 25°C	1.4×10^{16}	
@ 40°C	3.0×10^{15}	
@ 50°C	1.7×10^{13}	
@ 60°C	4.9×10^{11}	
Dielectric Strength		ASTM D-149
V/mil @ 3mm	581	

STORAGE/HANDLING INFORMATION:

Araldite® CY 5808 US
Store at 70-90°F in a dry and well-sealed condition, if possible, in original containers. If only part of container is used, re-close to prevent contamination.

Hardener HY 5808 US
Store at 70-90°F in a dry well-sealed condition, if possible in original containers.

SHELF LIFE:

Provided these materials are stored under the recommended storage conditions in their original containers, they will remain in usable condition for 1 year from date of manufacture.

PACKAGING:

Please call Customer Service (1-800-331-6810) for price and availability.

SAFETY/HANDLING PRECAUTIONS:

Do not use or handle these products until the Material Safety Data Sheets have been read and understood.

Araldite® CY 5808 US
WARNING! Causes skin and eye irritation. May cause allergic skin reaction. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.

Hardener HY 5808 US
DANGER! Corrosive - causes skin and eye burns. Harmful if swallowed or if absorbed through skin. Do not get in eyes, on skin, on clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

FIRST AID:

In case of contact:

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Eyes: Immediately flush with water for at least 15 minutes. Call a physician.

Ingestion: If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

Inhalation: Remove to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Other: Referral to physician is recommended if there is any question about the seriousness of any injury.

PRECAUTIONARY NOTE:

Thermosetting systems generate heat when curing. The amount of heat and the period of time in which heat is released vary significantly between systems. Additionally, ambient or compound temperature, amount of material mixed, and construction and shape of the mold or container can also be factors in the temperature profile of a mixed system.

In some cases, the thermosetting reaction can be vigorous, generating heat sufficient to cause decomposition of the system with subsequent liberation of large volumes of acrid smoke.

A good rule of thumb is never mix more material than can be applied during the stated pot life or gel time. Also take care when using materials in applications other than stated on the Product Data Sheet, i.e., a laminating resin for casting.

Please feel welcome to call our Product Information Department or your local Vantico representative for instructions before you start your job.

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