

Advanced Materials**Araldite[®] AW 8545-1 Resin
Hardener HW 8545-1 Adhesive**

TWO-COMPONENT EPOXY ADHESIVE

DESCRIPTION :

Araldite[®] AW 8545-1 Resin/Hardener HW 8545-1 epoxy adhesive is a two-component toughened system for bonding metals, including oily metals, as well as a variety of other substrates. It has a 1:1 mix ratio for ease of use.

APPLICATIONS :

- Metal-to-metal bonding
- Stainless steel and aluminum panel bonding requiring a low coefficient of expansion to minimize read-through.

ADVANTAGES :

- Good flexibility
- Low expansion/contraction coefficient
- The liquid consistency handles and spreads easily
- Especially developed to provide a long working life
- Can be used in 1:1 ratio by volume

MIX RATIO :

By Weight	100 to 100	Resin to Hardener
By Volume	100 to 100	Resin to Hardener

TYPICAL PHYSICAL PROPERTIES :

Tested @ 77 °F (25 °C)

<u>Property</u>	<u>Criteria</u>	<u>Test Method</u>	<u>Test Values</u>
Color	Resin	Visual	Lt. Blue
	Hardener	Visual	Lt. Yellow (Cream)
	Mixture	Visual	Lt. Green
Specific Gravity	Resin	ASTM D-792	1.33 ± 0.02
	Hardener	ASTM D-792	1.42 ± 0.02
	Mixture	ASTM D-792	1.38 ± 0.02
Viscosity, cP @ 77 °F (25 °C)	Resin	ASTM D-2393	35,500 ± 2,000
	Hardener	ASTM D-2393	51,000 ± 2,000
	Mixture	ASTM D-2393	43,300 ± 2,000
Gel Time, minutes @ 77 °F (25 °C)	100 gram mass	QC-WL-023	2.0 hours
	@ 212 °F (100 °C)	20 gram mass	QC-WL-023

(a) Shelf Life is a warranty period and should not be confused with Useful Life. The Useful Life may extend far beyond the Shelf Life and should be evaluated on a case by case basis.

CURING SCHEDULE :

<u>Schedule</u>	<u>Temperature</u>	<u>Minimum Cure Time</u>
1	77 °F (25 °C)	24 hours
2	77 °F (25 °C)	7 days
3	212 °F (100 °C)	15' @ 212 °F (100 °C) - >15' @ RT- > 15' @ 212 °F (100 °C)

TYPICAL CURED PROPERTIES^B :

(mix ratio 1:1 by volume)

<u>Property</u>	<u>Cure Schedule</u>	<u>ASTM Test Method</u>	<u>Test Values</u>
Shore D Hardness	1	D-2240	80
Ultimate Tensile Strength, psi (Mpa)	3	D-412	5,075 (35)
Elongation, %	3	D-412	20
Lap Shear Strength (on primed Al), psi (MPa)		D-1002	
Tested at RT after 24 hours	3		3,019 (21)
Tested at RT after 7 days	2		3,632 (25)
Tested at 179 °F (82 °C) after 24 hours	3		540 (3.7)
At RT after 7 days water immersion at 100 °F (38 °C)	3		3,126 (22)
T-Peel Al/Al Honeycomb, pli (N/mm)	3	D-1876	7.9 (1.38)
Tg (peak of Loss Modulus Curve by DMA), °F (°C)	3	D-4065	135 (57)
Read-Through (see footnote c)	3	Visual	Nil
Coefficient of Thermal Expansion by TMA from 77 °F to 203 °F (25 °C to 95 °C) in/in/°F (Alpha i m/m°C)	3	--	83 x 10 ⁻⁶ (150)

(b) Tested @ 77 °F (25 °C), unless otherwise noted. Not for specification purposes

(c) Adhesive applied at 0.025 to 0.030 inch (0.6 to 0.8mm) thickness on 12 inch x 12 inch x 0.040 inch (30.5 cm x 30.5 cm x 1.0 mm) primed aluminum panels with 0.920 inch (23 mm) thickness aluminum honeycomb sandwiched between. After cooling to room temperature, panel is viewed to observe the reflected light on the surface to detect aberrations (Read-Through) in surface caused by adhesive contraction during the cooling process.

STORAGE:

Araldite[®] AW 8545-1 Resin/Hardener HW 8545-1 epoxy adhesive should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +40°C (+36°F and 104°F). Under these storage conditions, the shelf life is 3 years. The product should not be exposed to direct sunlight.

If stored below 60°F, the adhesive should be brought to 60°F – 77°F and conditioned at this temperature for some time prior to use.

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First Aid!

Refer to MSDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN**FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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