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Advanced Materials

Araldite® AY 8650 Resin / Hardener 5090-1 Adhesive

LOW-VISCOSITY POLYURETHANE PANEL BONDING SYSTEM

DESCRIPTION :

Araldite® AY 8650 Resin / Hardener 5090-1 polyurethane adhesive is a low-viscosity, two-part system designed specifically for bonding sandwich-panels fabricated using aluminum, foam and honeycomb cores, and plastic skins. It performs well in all types of service conditions including sub-zero and high-heat temperatures as well as wet environments.

ADVANTAGES :

- Low viscosity
- Long open time
- Can be roll coated or spray applied
- Good performance over a wide range of temperatures
- Adheres to variety of substrates : plastics, metals, honeycomb and foam cores
- Good peel strength

TYPICAL PHYSICAL PROPERTIES :

Tested @ 77 °F (25 °C) unless otherwise noted.

Property	Criteria	Test Method	Test Values
Color	Resin	Visual	Brown
	Hardener		Beige
Specific Gravity	Resin	ASTM D-1963	1.24
	Hardener		1.64
Viscosity (cP) @ 77 °F (25 °C)	Resin	ASTM D-2393	200 - 300
	Hardener		20,000 - 25,000

TYPICAL MIXED PROPERTIES :

Property	Criteria	Test Method	Test Values
Mix ration by Weight	Resin to hardener		1 to 5
Mix Ration by Volume	Resin to hardener		1 to 4
Specific Gravity	Mixed		1.55
Viscosity (cP) @ 77 °F (25 °C)	Mixed		5,000 - 7,000
Gel Time, minutes @ 77 °F (25 °C)	100 grams	ASTM D-2471	70 - 90

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RECOMMENDED CURE SCHEDULES :

Option	Minimum Time	Temperature
1	24 hours	77 °F (25 °C)
2	16 hours	104 °F (40 °C)
3	3 hours	140 °F (60 °C)
4	30 minutes	212 °F (100 °C)

(1) Time to reach 200 psi lap shear strength

TYPICAL CURED PROPERTIES :

Tested @ 77 °F (25 °C) unless otherwise noted (1)

Property	Test Method	Test Values[2]	Test Values[3]
Lap Shear Strength, psi (MPa)	ASTM D-1002		
@ -4 °F (-20 °C)		--	2,650 (18.3)
@ 68 °F (20 °C)		--	2,300 (15.8)
@ 104 °F (40 °C)		--	1,850 (12.7)
@ 140 °F (60 °C)		--	750 (5.2)
Drum Peel Strength, pli (N/mm)	ASTM D-1002		
@ -4 °F (-20 °C)		21	17 (2.9)
@ 68 °F (20 °C)		26	26 (4.5)
@ 104 °F (40 °C)		28	27 (4.7)
@ 140 °F (60 °C)		22	17 (2.9)

(1) Tested on etched aluminum
(2) Cured 7 days at 77 °F (25 °C)
(3) Cured 60 minutes at 212 °F (100 °C)

NOTE :

These physical properties are reported as typical test values obtained by our test laboratory. If assistance is needed in establishing product specifications, please consult with our Quality Control Department.

CAUTION :

Huntsman Advances Materials Americas Inc. maintains up-to-date Material Safety Data Sheet (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. Copies of the latest MSDS may be requested by calling our customer service group at 800-367-8793 or emailing your request to adhesives_group@huntsman.com

To protect against any potential health risks presented by our products, the use of proper personal protective equipment (PPE) is recommended. Eye and skin protection is normally advised. Respiratory protection may be needed if mechanical ventilation is not available or is insufficient to remove vapors. For detailed PPE recommendations and exposure control options consult the product MSDS or a Huntsman EHS representative.

FIRST AID :

Eyes and skin : Flush eyes with water for 15 minutes. Contact a physician if irritation persists. Wash skin thoroughly with soap and water. Remove and wash contaminated clothing before reuse.
Inhalation : Remove subject to fresh air.
Swallowing : Dilute by giving water to drink and contact a physician promptly. Never give anything to drink to an unconscious person.

KEEP OUT OF REACH OF CHILDREN

FOR PROFESSIONAL AND INDUSTRIAL USE ONLY

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Main Offices :
Huntsman Corporation
10003 Woodloch Forest Dr.
The Woodlands
Texas 77380
(281) 719-6000

Huntsman Advanced Technology Center
8600 Gosling Rd.
The Woodlands
Texas 77381
(281) 719-7400
Website :
www.huntsman.com/advanced_materials