

Araldite[®] HM PUR 5 US

Product Description

The Araldite[®] HM PUR 5 US is a long assembly time, moisture-curing, hot-melt polyurethane adhesive. The adhesive is solid at ambient temperatures. The adhesive is applied in the molten form and cures in the presence of moisture to form a tough, durable bond. The Araldite[®] HM PUR 5 US bonds to a wide variety of substrates, but at least one substrate must be gas permeable. Typical substrates include wood and wood products, most foams, primed metals, FRP, and other plastics with Dyne levels greater than 38 dynes. At 3-mil thickness, the adhesive transfers to the opposing substrate at least through five minutes of assembly time, prior to nipping.

Key Features

- 100% solids
- Roll coater stable
- Five-minute assembly time
- Excellent Green strength

Typical Properties

Property	Araldite [®] HM PUR 5 US	Test Method
Color	Tan to Amber	Visual
Specific Gravity	1.1	ASTM D-1622
Viscosity, Brookfield, 250°F (121°C), Spindle 27, 20 RPM, cP	14,000	HATC
Percent Solids	100	n/a
Open-time, Wood-Wood, 3-mil, min	5	HATC

Pre-treatment

In order to obtain optimal adhesion, all substrates must be free of oil, grease, lubricants, dust, dirt, or any other surface contaminant.

Application

Because the adhesive is solid at room temperature, Araldite® HM PUR 5 US must be transferred from the drum through the use of a heated follower plate pump. The lines between the pump and the application device must also be heated to prevent solidification. Araldite® HM PUR 5 US is typically applied using a heated roll coater. Typical application temperatures vary between 250°F – 275°F (121°C – 135°C). The adhesive is applied to one surface with deposition rates between 10 to 12 grams per square foot; however, deposition can vary depending on the porosity of the substrates. Overhead humidification must be present to provide necessary moisture for curing.

Once the substrate is coated with adhesive, mate the coated substrate with the other part, and immediately nip the bonded structure in a roll coater with at least 40 psi of down pressure. The bonded part may be moved but should not be processed until the next day.

Roll Coater Clean Up

Reverse roll coater and dump off excess adhesive. Place in forward and add HMPUR Cleaner to the nips(s) and allow cleaning for at least three minutes. Reverse and dump the cleaner. Add more cleaner, allow cleaning for at least three minutes, and dump the cleaner. Open rolls at least ¼” and dry with a clean cloth. Extreme care must be taken to only wipe the side away from the nip.

Lap Shear Strength (ASTM D 1002)

Unless otherwise stated, the figures given below were all determined by testing standard specimens made by lap-joining 4 in x 1 in (11.4 cm x 2.5 cm). The thickness of plastic substrates is typically 0.12 in (3 mm) and aluminum substrate is 0.063 in (1.6 mm) thick. The joint area was 1 in x 1 in (2.5 cm x 2.5 cm) in each case. The figures were determined with typical production batches using standard testing methods. They are provided solely as technical information and do not constitute a product specification.

Substrate	psi
Aluminum	300
Acrylic	900
Maple Wood	300
PVC	1,000
SMC	400
ABS	450

Mechanical Strength

Property	Value	Test Method
Tear Strength	300 pli	ASTM D624
Tensile Strength	900 psi	ASTM D412
Tensile Modulus	20 ksi	ASTM D412
Elongation	360%	ASTM D412
Shore Hardness "D"	42	ASTM 2240

Storage

Araldite® HM PUR 5 US should be stored in a dry place, in its sealed original container, at temperatures between 59°F to 77°F (15°C to 25°C). Under these storage conditions the shelf life is six months from date of shipment. The product should not be exposed to direct sunlight. Never reuse partial drums.

Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up-to-date Safety Data Sheets (SDS) 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 SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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Main Offices:

Huntsman Corporation
10003 Woodloch Forest Dr
The Woodlands, TX 77380
888-564-9318

Huntsman Advanced Technology Center
8600 Gosling Rd.
The Woodlands, TX 77381
281-719-7400