

Araldite[®] MCU 23 US

Product Description

Araldite[®] MCU 23 US is a slow curing adhesive in a series of single component, solvent free, moisture curable, liquid polyurethane adhesives, which range in speed from 3 to 130 minutes. This adhesive cures in the presence of moisture to form a tough durable bond. Araldite[®] MCU 23 US bonds to a wide variety of substrate but does require that at least one of the substrates be permeable to moisture vapor. Typical substrates include wood and wood products, FRP and other plastics with Dyne levels above 38, EPS and PU foams, and many primed metals.

Features

- 100% solids
- Odorless
- Fast Curing
- Easily dispensed

Typical Properties*

Property	Araldite [®] MCU 23 US
Appearance	Tan to amber
Viscosity Brookfield at 25°C, Sp 6, 10 RPM, cP	4,000
Density at 25°C, g/cm ³	1.1
Percent NCO	12
Gel time, wood-wood, 3 g per 0.5 sq ft + 2 g water mist, min	20 - 25

*Properties are based on Huntsman test methods. Copies are available upon request.

Processing

Pretreatment

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

Application of adhesive

Araldite® MCU 23 US may be roller coated, bead or spray applied or spatter sprayed. Adhesive deposition rates vary based upon the porosity of substrates, but are typically between 10 to 20 grams per square foot. Water needs to be evenly distributed and applied as a fine mist. Typical water deposition rates can vary between 1 to 2 grams during Spring through Fall and 2 to 3 grams during the Winter months. Once assembled, the substrates should be maintained under a minimum pressure of 3 psi using a press or a vacuum bag. Please refer to Appendix A for press time. Typical press pressures may vary between 4 and 8 psi to maintain a uniform and intimate contact depending on the nature of the parts to be bonded. Once removed from the press, the bonded parts must be stored flat or in a vertical position. Parts may be handled with caution; however, care must be taken to not flex the parts.

Equipment maintenance

Propylene carbonate or some organic solvents may be used to remove any uncured adhesive. Please consult the appropriate MSDS for safe handling. Cured adhesive may only be removed with mechanical abrasion.

Typical Physical Properties

Unless otherwise stated, the data were determined with typical production batches using standard test methods. They are typical values only, and do not constitute a product specification.

Property	Value
Flat-wise tensile lap shear strength, Luan to FRP, psi	> 600 (Luan Failure)
Flat-wise tensile lap shear strength, Luan to aluminum, psi	> 600 (Luan Failure)

Storage

Araldite® MCU 23 US should be stored in a dry place, in the original sealed containers, at temperatures between 15°C and 25°C (59°F and 77°F). Under these storage conditions, the product has a shelf life of **3 months** (from date of manufacture). The product should not be exposed to direct sunlight. Open containers must be vented through a vent dryer system.

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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Appendix A: Araldite MCU Series

Open Time versus Press Time as a Function of Temperature

Bond Line Temp °F	Araldite MCU 03 US		Araldite MCU 07 US		Araldite MCU 12 US		Araldite MCU 23 US		Araldite MCU 38 US		Araldite MCU 65 US	
	Open Time	Press Time	Open Time	Press Time	Open Time	Press Time	Open Time	Press Time	Open Time	Press Time	Open Time	Press Time
	minutes											
60	5	8	10	23	20	36	33	61	62	102	120	170
65	4	7	9	20	17	32	29	55	52	92	95	155
70	4	7	8	17	15	29	25	51	45	85	80	140
75	3	6	7	14	13	27	23	46	38	80	70	130
80	3	4	6	11	12	26	21	43	33	76	65	120
85	3	4	5	10	10	25	19	40	29	73	61	115
90	2	3	4	9	9	23	18	37	26	68	57	110
95	2	3	3	9	9	22	16	33	23	63	55	105

Notes:

- 1) This table should be used as a guideline only. Users should test the product under their own specific conditions to insure quality of the laminates before commercial production.
- 2) Do not laminate below 60°F.
- 3) Assembly time should be within the open time of the product. Press time indicated is minimal. Cycle time is the sum of open time and press time; it is the minimal time required for the lamination cycle.
- 4) Water misting is a must for consistent quality of the finished product.
- 5) As mentioned in the Technical Data Sheet, the substrates should be free of oil, grease, lubricants, dirt, rust, and any other surface contaminants.
- 6) Please read MSDS before handling/using the product.