

Araldite[®] MCU 12 US

Product Description

Araldite[®] MCU 12 US is a medium-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 12 US bonds to a wide variety of substrates, 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 12 US
Appearance	Tan to amber
Viscosity Brookfield at 25°C, Sp 6, 10 RPM, cP	4,100
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	10 - 13

*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 12 US may be roller coated, bead or spray applied. 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 12 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

FOR PROFESSIONAL AND INDUSTRIAL USE ONLY

Important Legal Notice

Sales of the product described herein ("Product") are subject to the general terms and conditions of sale of either Huntsman Advanced Materials LLC, or its appropriate affiliate including without limitation Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., or Huntsman Advanced Materials (Hong Kong) Ltd. ("Huntsman"). The following supercedes Buyer's documents.

Huntsman warrants that at the time and place of delivery all Products sold to Buyer shall conform to the specifications provided to Buyer by Huntsman.

While the information and recommendations included in this publication are, to the best of Huntsman's knowledge, accurate as of the date of publication, NOTHING CONTAINED HEREIN (EXCEPT AS SET FORTH ABOVE REGARDING CONFORMANCE WITH SPECIFICATIONS PROVIDED TO BUYER BY HUNTSMAN) IS TO BE CONSTRUED AS A REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS, OR WARRANTIES AS TO QUALITY OR CORRESPONDENCE WITH PRIOR DESCRIPTION OR SAMPLE, AND THE BUYER ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE OF SUCH PRODUCT, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES.

No statements or recommendations made herein are to be construed as a representation about the suitability of any Product for the particular application of Buyer or user or as an inducement to infringe any patent or other intellectual property right. Buyer is responsible to determine the applicability of such information and recommendations and the suitability of any Product for its own particular purpose, and to ensure that its intended use of the Product does not infringe any intellectual property rights.

The Product may be or become hazardous. The Buyer should obtain Material Safety Data Sheets and Technical Data Sheets from Huntsman containing detailed information on Product hazards and toxicity, together with proper shipping, handling and storage procedures for the Product, and should comply with all applicable governmental laws, regulations and standards relating to the handling, use, storage, distribution and disposal of, and exposure to the Product. Buyer shall also take all steps necessary to adequately inform, warn and familiarize its employees, agents, direct and indirect customers and contractors who may handle or be exposed to the Product of all hazards pertaining to and proper procedures for safe handling, use, storage, transportation and disposal of and exposure to the Product, and the containers or equipment in which the Product may be handled, shipped or stored.

Araldite is a registered trademark of Huntsman LLC or an affiliate thereof in one or more, but not all countries.

© 2015 Huntsman Advanced Materials Inc.

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

Appendix A: Araldite MCU Series

Open Time versus Press Time as a Function of Temperature

Bond Line Temp	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
°F	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.