Laboratory Data Sheet

Armstrong A-12 Epoxy Resin Adhesive

General Purpose Epoxy

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PRODUCT DESCRIPTION

Armstrong A-12, one of Armstrong's most popular general purpose adhesives, combines low toxicity with good physical properties. This two-part adhesive has a non-critical mixing ratio with 1:1 used most frequently. The mix ratio can be varied to obtain a more flexible or more rigid bond by increasing or decreasing respectively, the concentration of Part B. For cryogenic applications, the ratio may be as high as 1 part A to 4 parts B. The two components of A-12 are different colors, providing a visual indication of proper and complete mixing.

APPLICATIONS

Almost all rigid to semi-flexible materials can be bonded with A-12 - including ceramics, metals, woods, plastics, etc.

Instructions

1. The surfaces to be bonded should be clean and dry (for critical applications refer to our suggested surface preparation procedures - Bulletin No. 964)
2. Thoroughly mix the A-12 Part B with the A-12 part A in a clean discardable container using correct mix ratio. Avoid the introduction of excess air.
3. Apply the adhesive to surfaces to be bonded (preferably both surfaces) and press together. Light clamping may be used to keep parts in position during curing.
4. Cure as desired. (Refer to suggest cure schedule)

TYPICAL PHYSICAL PROPERTIES – UNCURED SYSTEM

	Part A	Part B
Viscosity @77°F (poise)	400 – 1,000	500 – 1,000
Specific Gravity	1.30 - 1.45	1.20 - 1.35
Color	Brown	Grey

Mixed Systems (Part A/Part B)			
Mix Ratio (wt or vol)	3/2	1/1	2/3
Mix Viscosity (poise)	800	800	800
Minimum Working Life			
(100 gms @77°F)	2 hrs	2 hrs	2 hrs
(1# @ 77°F)	1 hr	1 hr	1 hr

TYPICAL PHYSICAL PROPERTIES – CURED SYSTEM (PART A / PART B)

	3/2+	1/1*	2/3*
Specific Gravity @ 77°F	1.31	1.32	1.33
Tensile Shear (psi)(al./al.)			
@77°F	4200	5000	4000
@180°F	2000	700	500
@-60°F	2500	2500	3000
Bond Strength (psi)	2500	2000	1800
Tensile Strength (psi)	2500	5000	2900
Elongation (%) (Maximum)	6	8	30
Thermal Coefficient of Expansion (in/in/°F.) (x 10^{-5})	3.5	3.8	4.0
Cleavage (psi)	1600	1500	2000

+Cured 20 min @ 200°F *Cured 2 hours @165°F

Suggested Cure Schedules for Armstrong A-12

	Elevated Temperature		Room Temperature	
Mix-Ratio	**Optimum**	**Fast***	**Optimum**	**Fast***
3/2	30 min/200°F	5 min/ 300°F	1 week	Overnight
1/1	1 hr/200°F	5 min/ 300°F	1 week	Overnight
2/3	2hrs/165°F	20min/ 300°F	2 weeks	Overnight

*Cure required to develop handling strength

Storage

Store below 25°C out of sunlight and in original unopened containers. Refer to packaging specific quote for shelf life information.

Data Ranges

The data contained herein may be reported as a typical value and/or range. Values are based on actual test data and are verified on a periodic basis.

Note

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