



Resin Technology Group, LLC, 28 Norfolk Avenue, Easton MA 02375
 Phone (508) 230-8070 Fax (508)230-2318

ARMSTRONG PRODUCT General Purpose Epoxy

Armstrong A-12 Epoxy Resin Adhesive

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.

Storage and Shelf Life

Shelf life is one year when stored below 90°F out of sunlight and in original unopened containers of pints or greater. Shelf life will vary with specialty packages.

Typical Physical Properties

| | 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 of 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

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)

SUGGESTED CURE SCHEDULES FOR ARMSTRONG A-12

| Mix-Ratio | Elevated Temperature | | Room Temperature | |
|-----------|----------------------|--------------|------------------|-----------|
| | 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

RTG, LLC MAKES NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS OR OTHERWISE with respect to its products. In addition, while the information contained herein is believed to be reliable, no warrantee is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof. All recommendations or suggestions for use are made without guarantee- in as much as conditions of use are beyond our control. The properties given are typical values and are not intended for use in preparing specifications. Users should make their own test to determine the suitability of this product for their own purposes.