Armstrong Products Division

PRODUCT DATA

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ARMSTRONG PRODUCT
General Purpose Epoxy

Armstrong A-2 Epoxy Resin Adhesive
General Purpose Epoxy

Description

Armstrong A-2 is an off-white versatile filled paste resin. It has low coefficient of thermal expansion making it ideal for bonding porcelain, glass, ceramics, etc. A-2 exhibits excellent wetting properties and provides exceptionally strong bonds to such rigid materials as cast iron, steel, aluminum, copper, bronze, magnesium, phenolics, wood, titanium, polycarbonate, polyester, nylon, acrylics, acetates, and A.B.S. Versatility is achieved by selecting one of four recommended curing agents (activators). Non-metallic oxide fillers provide excellent electrical insulation properties.

A-2 with Activator A -
Offers relatively short-time room temperature cures. The low combining weight causes a minimum reduction of A-2 viscosity.

A-2 with Activator E -
Is a low reactivity curing agent to be used where long working time is necessary and elevated temperature cure can be tolerated. Not recommended for room temperature cure. Activator E also has a low combining weight as with Activator A

A-2 with Activator W -
A low toxicity curing agent offering highest physical properties available of all A-2 systems. Activator W provides increased flexibility and is well suited for cryogenic uses. Offers room temperature curing with long working life.

A-2 with Activator H-20 -
Offers room temperature cure with long working life 1 – 1 1/2 hours and high tensile shear values. Can withstand severe thermal shock and thermal cycling without effect. Reduces paste consistency of A-2 to a high viscosity pourable casting material for potting applications.

Typical Physical Properties

	A-2 Resin	Act. A	Act. E	Act. W	Act. H-20
Viscosity @ 77°F	5,000	5-15 cps	5-15 cps	10,000 @ 40°c	10-25 cps
Specific Gravity	1.8	0.95	0.83	0.97	1.01
Color	Off White	Gardener 2 Max	Gardener 2 Max	Gardener 14 Max	Gardener 2 Max

Typical Physical Properties of the Cured System

System	A-2/A	A-2/E	A-2/W	A-2/H20
Mix-Ratio by Weight	100:4	100:6	100:36	100:10
Mixed Viscosity, poise	2100	1700	1300	150
Working Life	30 min	2-3 hrs	1–2 hrs	45–90 min
Specific Gravity, mixed	---	---	1.45	1.67
Tensile Shear PSI (ASTM D-1002) Aluminum to Aluminum .064" – 2024-T3				
at Room Temp	2900	2500	4300	3800
at 180°F	3500	2960	1400	900
at -60°F	2500	2850	3100	2700
After 7 days in				
Ammonia, 28%	1530	3050	---	---
Distilled Water	1650	2930	---	---
Salt Water, 10%	3070	3380	---	---
Acetone (100%)	2530	3030	---	---
Glacial Acetic Acid	980	2350	---	---
Toluene (100%)	2850	3600	---	---
Ethylenedichloride (100%)	3010	3050	---	---
Ethyl Acetate	2530	2000	---	---
Hexane (100%)	2320	2520	---	---
After 30 days in 100% RH	3370	2400		
Bond Strength, PSI (ASTM D897)	2270	4520	4700	3500
Compressive Strength, ULT PSI (ASTM D695)	17900	16500	---	---
Thermal Coeff. Expansion, in/in °F x 10^{-5}	3.9	4.0	2.2	2.4
Elongation, % (ASTM D638)	1.5	2.8	6	4
Tensile Strength, PSI (ASTM D638)	3000	6570	5100	3800
Cleavage, PSI (ASTM D 1602)	1560	1860	1700	1600
Optimum Cure Schedule*	2 hrs @ 165°F	1 hr @ 200°F	30 min @ 200°F	30 min @ 165°F
Fast Cure Schedule	10 min @ 200°F	---	5 min @ 300°F	10 min @ 200°F

*Optimum cures are determined as the time elapsed after the glue lines have reached the recommended cure temperature.

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