

N109 W13300 ELLSWORTH DRIVE GERMANTOWN, WI 53022
262-253-5900 FAX 262-253-5919

DESCRIPTION:

ResinLab® Armstrong™ A-1 with Activator A is a two-part epoxy adhesive that has been formulated from specification-controlled epoxy resins and inert, high purity filler materials. These adhesives contain ingredients that impart low, surface-free energy characteristics, giving them excellent wettability to adherents that are traditionally hard to bond.

Activator A is a fast-reacting hardener which, when mixed at a ratio of 4 parts activator to 100 parts resin by weight, gives a fast “initial set” time. It is recommended for use when curing is to be done at room temperature. Accelerated cure can be completed within 2 hours at 75 °C.

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TYPICAL PROPERTIES:

All properties given are at 25 °C unless otherwise noted.

<i>Property:</i>	<i>Value:</i>	<i>Test Method or Source:</i>
Color	Brown	Visual
Mix Ratio	Part A to Part B	Calculated
Mix Ratio by weight	25 to 1	
Mix Ratio by volume	16.6 to 1	
Cure Schedule	7 days @ 25 °C 2 hrs @ 75 °C	
Viscosity - Part A	897,000 cP	TA HR20 Rheometer 25mm parallel plate @ 1/s DCV6100723
Viscosity - Part B	30 cP	
Viscosity - Mixed	103,000 cP	
Specific Gravity - Part A	1.43	Calculated
Specific Gravity - Part B	0.95	
Specific Gravity - Mixed	1.40	
Pot Life defined as the time it takes for initial mixed viscosity to double	16 minutes	TA HR20 Rheometer parallel plate 25mm @ 1/s DCV6100723
Hardness	80 Shore D	455300006287/ASTM D2240
Coefficient of Thermal Expansion by TMA: below Tg	43 ppm/°C	Extrapolated from Henkel LDS
Bond Strength	7 days @ 25 °C: 1150 psi 2 hrs @ 75 °C: 2,070 psi	Extrapolated from Henkel LDS
Cleavage	7 days @ 25 °C: 830 psi 2 hrs @ 75 °C: 1,190 psi	Extrapolated from Henkel LDS
Operating Temperature Range	-40 to 150 °C**	



TECHNICAL DATA SHEET

Armstrong™ A-1 with Activator A

Revision date: 8/27/2024

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<i>Property:</i>	<i>Value:</i>	<i>Test Method or Source:</i>
Relative Thermal Index (RTI)	90 °C	UL746B, Table 7.1 Generic Value Based on Composition

* Asterisk denotes values considered typical to associated resin systems or extrapolated from other test results.

** Operating Temperature Range is based on average design requirements and is not intended as a guarantee of suitability for all applications operating at that temperature.

*** This TDS contains values that have been updated. The values reported in this technical data sheet are typical values of the product, and are highly dependent on test conditions and methodology. We actively seek the most precise and accurate ways to measure and interpret performance of our products, and to update estimated values with measured values. The formula has not been revised or changed in any way. Although the values on paper have changed, you can expect the same performance of the product.

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Additional Performance Data – Lap Shear Adhesion, Extrapolated from Henkel LDS:

Substrate Type	Strength	Test Temperature	Cure Schedule	Bond Line Thickness
Al to Al	1,600 psi	25 °C	7 days @ 25 °C	0.005 "
Al to Al	2,400 psi	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,460 psi	80 °C	7 days @ 25 °C	0.005 "
Al to Al	3,180 psi	80 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,100 psi	-51 °C	7 days @ 25 °C	0.005 "
Al to Al	1,960 psi	-51 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,820 psi After 7 days in ammonia, 28%	25 °C	7 days @ 25 °C	0.005 "
Steel to Steel	1,850 psi	25 °C	7 days @ 25 °C	0.005 "
Al to Al	1,930 psi After 7 days in ammonia, 28%	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,730 psi After 7 days in distilled water	25 °C	7 days @ 25 °C	0.005 "
Al to Al	2,150 psi After 7 days in distilled water	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,980 psi After 7 days in salt water, 10%	25 °C	7 days @ 25 °C	0.005 "
Al to Al	1,770 psi After 7 days in salt water, 10%	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,980 psi After 7 days in acetone	25 °C	7 days @ 25 °C	0.005 "
Steel to Steel	1,660 psi	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	2,220 psi After 7 days in acetone	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,100 psi After 7 days in glacial acetic acid	25 °C	7 days @ 25 °C	0.005 "
Al to Al	2,250 psi After 7 days in glacial acetic acid	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,800 psi After 7 days in toluene	25 °C	7 days @ 25 °C	0.005 "
Al to Al	2,000 psi After 7 days in toluene	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	2,000 psi After 7 days in ethylene dichloride	25 °C	7 days @ 25 °C	0.005 "
Al to Al	2,050 psi After 7 days in ethylene dichloride	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,380 psi After 7 days in ethyl acetate	25 °C	7 days @ 25 °C	0.005 "

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Al to Al	2,190 psi After 7 days in ethyl acetate	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,250 psi After 7 days in hexane	25 °C	7 days @ 25 °C	0.005 "
Al to Al	2,580 psi After 7 days in hexane	25 °C	2 hrs @ 75 °C	0.005 "
Al to Al	1,270 psi After 30 days in 100% R.H.	25 °C	7 days @ 25 °C	0.005 "
Al to Al	3,070 psi After 30 days in 100% R.H.	25 °C	2 hrs @ 75 °C	0.005 "

Additional Performance Data – Tensile, Extrapolated from Henkel LDS:

Test Temperature	Strength	Elongation	Modulus	Cure Schedule
25 °C	3,000 psi	1 %	N/A	7 days @ 25 °C
25 °C	4,000 psi	2 %	N/A	2 hrs @ 75 °C

Additional Performance Data – Compression, Extrapolated from Henkel LDS:

Test Temperature	Offset (0.2%) Yield Strength	Yield Strength	Ultimate Strength	Modulus	Cure Schedule
25 °C	N/A	N/A	15,200 psi	N/A	7 days @ 25 °C
25 °C	N/A	N/A	13,400 psi	N/A	2 hrs @ 75 °C

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INSTRUCTIONS:

1. Bring to room temperature prior to use.
2. Bulk format: stir until homogeneous weigh and mix parts A and B accurately and thoroughly, scraping sides of container often. Do not pour from mixing container, transfer to a new container as residual unmixed material may cause a tacky spot on the surface of the casting. Maintain adequate velocity during dispensing to ensure complete mixing.
3. Clean up uncured resin with suitable organic solvent such as MEK or acetone.
4. Allow to cure undisturbed until product is fully gelled or tack-free to the touch.

SHELF LIFE AND STORAGE:

12 months at 25 °C.
Specialty packaging may be less.

Many epoxy resin systems are prone to crystallization as epoxy resin is a super-cooled fluid. This condition may give the product a gritty or grainy appearance (or hazy in clear products). Products in this state will not usually cure to normal and expected properties. In extreme cases it may appear solid and cured. Fluctuating temperatures (within 5 to 50 °C) aggravate this phenomenon. Heating the individual component to 50 to 60 °C while stirring can usually restore products to original state. Storage at 25 +/- 10 °C is optimum for most products.