



## AL463 Two-

### GENERAL DESCRIPTION

AL463 is a two-part, clear (amber), medium viscosity, aerospace-grade epoxy adhesive system recommended for bonding a wide variety of materials for structural and non-structural applications where good wetting, toughness and superior mechanical properties are required. This high performance adhesvie is mixed and used at room temperature, contains no solvents, and may be applied by brush, trowel, roller coating or silk screen.

AL463 is used for bonding thermally ablative insulation materials to aerodynamic surfaces and meets the Boeing Material Specification BMS 5-126 and similar specifications of other major areospace manufacturers for high strength, high reliability bonds to many surfaces including phenolic plastics, polyester and epoxy laminates, glass and glass fabrics, hardboards, and to most metal surfaces.

Fully cured AL463 is a tough, durable, dimensionally stable electrical insulator with good low temperatures, mechanical, thermal shocks, and impact resistance properties coupled with excellent reistatnce to gases and vapors, petroleum products, solvents and lubricants, water weather, salt water and salt solution, mild acids and alkalis, and many other organic and inorganic compounds.

#### ADVANTAGES

- Develops a strong bond
- Durable to numerous construction materials such as metals, glass, rubber, ceramics, concrete and phenolic plastics
- Provides premium resistance to water, salt solutions, galvanic action, acids, alkalies and most chemicals

# Two-Part Epoxy Resin

### SPECIFICATIONS

Base		Epoxy	
Solvent		None	
Flammability	Non-F	lammable	
Color		Amber	
Solids Contents		100%	
Specific Gravity gm/cc		1.12	
Weight/gal (Mixed 1:1)		9.38 lbs.	
Coverage	250-	-350 ft <sup>2</sup> /gal	
Shelf life	2 years, closed packaging,	ears, closed packaging, unopened	
Service Temperature	-40°0	-40°C to 163°C	
Hardness SD		78	
Tensile Shear Strength AI to AI		2700 psi	
	After 7 days in water	1,400 psi	
	After 7 days in JP 4 fuel	1,800 psi	
Tensile strength, psi		5,200	
Elongation, %		8	
Impact, Izod, ft Ibs/inch of notch		1.0	
Dielectric strength, Vols/mil		425	
Dielectric constant, 1 KHz @ 25°C		3.35	
Dissipation factor, 1 KHz @ 25°C		0.011	
Volume resistivity, oh m-cm @ 25°C	0	6.5•10 <sup>13</sup>	

Passes 10 days humidity test mil std 8:0 above 95% with condensation

Mix Ratio:

1:1 by Volume or Weight

AL463 has a 30–45-minute pot-life after thorough mixing in the accurately premeasured kits, and a moderate exotherm during the cure cycle. This superior adhesive develops most of its major mechanical and structural properties after 24 hours at room temperatures (overnight at 25°C): longer cures up to 72 hours at 25°C are required, however, for fully matured bonds. The overall properties can also be attained more rapidly by selecting a suitable time-temperature cure cycle as shown below:

8 Hours	@ 50°C
2 Hours	@ 70°C
30 Minutes	@ 90°C
4 Minutes	@ 130°C

### PACKAGING INFORMATION

AL463 is available in 5, 10, 20, and 50 grams divided plastic bags. AL463 is also available in large unit (two-container) pint, quart, and gallon kits. Each kit consists of the correct amount of the specified epoxy material and curing agent hardener formulations, each supplied in separate containers with complete proportioning, use and cure instructions.

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purposes under their own operation conditions. No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention governed by any patent, without the authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care® program.