ALFA INTERNATIONAL CORPORATION
32 Mechanic Avenue Unit 99 • Woonsocket RI 02895 • Tel. 401-765-0503 • Fax 401-765-0508
E-mail: info@alfaadhesives.com • http://www.alfaadhesives.com

Product Bulletin

AL463 Two-Part Epoxy Resin

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

SPECIFICATIONS

Base		Epoxy
Solvent		None
Flammability		Non-Flammable
Color		Amber
Solids Contents		100%
Specific Gravity gm/cc		1.12
Weight/gal (Mixed 1:1)		9.38 lbs.
Coverage		250-350 ft^2/gal
Shelf life		2 years, closed packaging, unopened
Service Temperature		-40°C to 163°C
Hardness SD		78
Tensile Shear Strength Al to Al		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 lbs/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		$6.5 \cdot 10^{13}$

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.