

PRODUCT DESCRIPTION:

AA-BOND F253 is a low viscosity, high temperature, two-part epoxy formulation that changes color during the curing process to indicate cure status. The unmixed components are light yellow; the mixture is green/blue; and the fully cured adhesive is reddish-amber. It exhibits excellent wicking, and develops strong, tough mechanically stable bonds to a wide variety of fiber optic and optical materials that includes most metals, ceramics, glass and many plastics. In addition, AA-BOND F253 has good impact and thermal shock resistance, demonstrates low stress, and yields excellent pot and polish connections. It is also resistant to water and weathering, vapors and gases, most petroleum products, and an extended range of organic and inorganic environments. An additional post-cure of 30 minutes at 150°C is recommended when application temperatures higher than 150°C are anticipated.

GENERAL PROPERTIES:

Appearance	Unmixed – Light Yellow Mixed – Greenish Blue Cured – Reddish Amber
Cure Type	Heat cure or Room Temperature
Benefits	<ul style="list-style-type: none"> • Good impact and thermal shock resistance. • Demonstrates low stress. • Yields excellent pot and polish connections. • It is also resistant to water and weathering, vapors and gases. • Low viscosity. • High temperature.
Mix Ratio by weight	100:10 / Resin:Hardener
Substrates	Wide variety of fiber optic and optical materials that includes most metals, ceramics, glass and many plastics

UNCURED PROPERTIES:

Viscosity @ 25 °C, cps	1800 @Temperature 77°F, 25 °C
Thixotropic Index	1.0
Specific Gravity, mixed	1.19
Reactive solids contents, %	100
Pot Life	1 hour
Volatile Organic Compounds (VOC) Content	19.6 g/l
Water Absorption	0.0040 %
Shelf life	1 year

CURED PROPERTIES:

Coefficient of thermal expansion ppm/°C	Below Tg – 2.03x1002 Above Tg – 6.24x1001
Hardness, Shore D	88
Refractive Index	1.56
Water Absorption, %	0.004
Lap shear strength, psi	2700 (Aluminum to Aluminum)

THERMAL PROPERTIES:

CTE, linear	34.8 µin/in-°F Below Tg 112 µin/in-°F Above Tg
Operating Temperature	-60 to 175 °C
Glass transition temperature (Tg), °C	116

CURE SCHEDULE:

15 minutes	@ 100°C
5 minutes	@ 125°C
1 minute	@ 150°C

GENERAL INFORMATION:

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

HOW TO USE:

1. Carefully clean and dry all surfaces to be bonded
2. Apply AA- BOND F253 completely mixed adhesive to the prepared surfaces, and gently press these surfaces together. Contact pressure is adequate for strong, reliable bonds; however, maintain contact until adhesive is completely cured
3. Some separation of components is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use
4. Some ingredients in this formulation provided may crystallize when subjected to low temperature storage. A gentle warming cycle of 52°C for 30 minutes prior to mixing components may be necessary. Crystallized epoxy components do not react as well as liquid components and should be re-dissolved prior to use for best results

AVAILABILITY:

This epoxy can be supplied in many different packages.

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