

**TECHNICAL DATA SHEET**

**PRODUCT # FE-0004**

**DESCRIPTION**

This is a two component, room temperature curing adhesive with exceptional structural strength and physical properties at 180°F.

SUGGESTED USES: General purpose bonding where high integrity bonds are needed. FE-0004 is QPL'd to MMM-A-134, Type I and meets the strength requirements of Type II. In addition, this product is QPL'd to MIL-A-8623 Type I and II.

**TYPICAL PHYSICAL PROPERTIES AND GENERAL INFORMATION**

Property	Part A	Part B	Blend
RESIN SYSTEM	EPOXY	POLYAMIDE	EPOXY
COLOR	OFF-WHITE	TAN	TAN
VISCOSITY (Cp (m Pa.s))	25, 000	60, 000	62, 500
WEIGHT PER U.S. GALLON (POUNDS)	10.4	11.4	10.9
SOLIDS (%)	100	100	100
BLENDING RATIO BY VOLUME (A/B)			100/100
BLENDING RATION BY WEIGHT (A/B)			100/110
SHELF LIFE	ONE YEAR	ONE YEAR	
MAX. EXOTHERM, 100 – 200G MASS (DEGREES C)			37
GEL TIME SAMPLE VOLUME IN FLUID OZ. (FL. OUNCES)			6
GEL TIME TEMPERATURE (F.)			77
GEL TIME IN MINUTES			90

**PERFORMANCE CHARACTERISTICS**

Evaluation of FE-0004 cured 2 hours at 158°F

Average Tensile Shear Strength on 2024-T3 Aluminum

-67°F	3, 600 psi
77°F	3, 850 psi
180°F	2, 725 psi
After 30 days at 95% RH and 120°F	4, 000 psi
After 7 days immersion is std. Test Fluid # 3	4, 050 psi

Izod Impact Test	0.3 foot lbs. / in/ notch
Climbing Drum Peel	31 lbs. /inch width
Average Peel Torque	15.5 inch lbs. / inch width
T-peel (MMM-A-132)	2.5 lbs. /inch width
Cleavage Strength	1, 375 lbs. /inch width
Heat Deflection Temperature	180°F
Compressive Strength	13, 500 psi
Hardness: Barcol	70 - 75
Shore D	90
Flexural Strength	5, 800 psi

Coefficient of Linear Thermal Expansion

-7 to 32°F	26 x 10 exp -6 / deg. F
32 to 86°F	32 x 10 exp -6 / deg. F
86 to 140°F	36 x 10 exp -6 / deg. F
Average -7 to 140°F	31 x 10 exp -6 / deg. F
Thermal conductivity at 33C	0.00099 cal/cm.sq.c
Glass Transition Temperature (TMA)	73C

**ELECTRICAL PROPERTIES**

Dielectric Properties,	60 Hz, 23°C	3.75
Dielectric Properties,	100 Hz, 23°C	3.62
Dissipation Factor,	60 Hz, 23°C	0.00642
Dissipation Factor,	100 Hz, 23°C	0.015
Volume Resistivity,	50% R.H., 23C	6.9e + 15

**APPLICATION AND EQUIPMENT SUGGESTIONS**

Suitable two part metering and mixing equipment is available. Contact your H.B. Fuller representative for suggested application equipment to suit your specific needs.

**DIRECTIONS FOR USE**

**SURFACE PREPARATION:** Surfaces must be clean, dry and free from grease, oil, wax, weak oxide films and other surface contaminants. Chemical etching, sanding or grit blasting often give the best results.

**PROPORTIONING AND MIXING:** Just prior to using, blend the two components, Part A and Part B, in the ratio above. Stir the two components together thoroughly, being certain to scrape in all material from the walls and bottom of the mixing container. Materials can be hand stirred. Mechanical mixing is preferable, but should be carried out at slow speeds (about 300 rpm), taking as little air as possible into the adhesive batch.

**APPLICATION:** Spread a thin layer of the mixed adhesive on one or both of the parts to be bonded. Once the adhesive is applied, no open times in necessary. The surfaces can be assembled immediately. Parts should be assembled while to adhesive is still wet to the touch and before it sets. The individual parts, the ambient temperature as well as the adhesive itself will dictate the open time permitted.

**CURE SCHEDULE:** 7 – 14 days at 77°F, 2 – 3 hours at 158°F, 30 – 45 minutes at 250°F

**STORAGE AND HANDLING**

Use good personal hygiene. Avoid eye and skin contact. Wash contaminated clothing before reuse. Store material in closed container in a cool, dry place.

**CAUTION**

Potential sensitizer. Eye and skin irritant. Vapors harmful. Consult the container label and Material Safety Data Sheets for additional cautionary information before using.