## Aerospace Composite Materials

## Product Overview

## E-767 Epoxy

Park's E-767 is a versatile, low flow, adhesive grade epoxy resin. When impregnated onfiberglass fabric it provides high bond strength at elevated temperatures while maintaining high electrical integrity.

## Key Features \& Benefits

High Tensile Shear Strength
Excellent electrical Properties
High peel strength
Good thermal properties

## Product Forms

Typical reinforcements are 1080 and 116 glass cloth Available in solution coated fabrics up to 60 inches wide ( 1.5 m )

## Applications / Qualifications

The prime application of Park's E-767 Epoxy is in bonding metallic surfaces to base materials for printed circuit boards, comparable to G10. It is also an excellent adhesive for metal to metal bonding such as stainless steel or aluminum to itself. Copper and other metallics may be bonded to epoxy, polyester, Kapton ${ }^{\circledR}$, Mylar ${ }^{\circledR}$ and other such dielectric systems. In addition to controlled flow, the E-767 on fiberglass cloth will maintain a specific bond line thickness. Selection of other fabric carriers will enable the user to vary this bond line thickness according to his or her needs. Other applications have included multilayer, heat sink bonding and overlay.

## For Information about Park's materials:

Newton, KS
+1.316.283.6500
info@parkaerospace.com
www.parkaerospace.com

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## Technical Datasheet

## E-767 Epoxy

Prepreg Specifications

| Reinforcement | 108 <br> Glass |
| :--- | :---: |
| Resin solids | $60-70 \%$ |
| Resin Flow $\left(340^{\circ} \mathrm{F}, 50 \mathrm{psi}\right)\left(170^{\circ} \mathrm{C}, 345 \mathrm{k} / \mathrm{Pa}\right)(\%)$ | $1-5 \%$ |
| Gel Time $\left(340^{\circ} \mathrm{F} / 170^{\circ} \mathrm{C}\right)$, sec | $10-60$ |
| Roll length | 250 yds. Nominal $\left(388^{\prime \prime}\right.$ width $) / 230 \mathrm{~m}(.97 \mathrm{~m})$ |

## Adhesion Properties

|  | Typical Values | Test Methods |
| :--- | :---: | :---: |
| Copper Bond Peel Strength $\left(1\right.$ oz. @ $\left.70^{\circ} \mathrm{F}\right)\left(35\right.$ micron @ $\left.21^{\circ} \mathrm{C}\right)$ | $15 \mathrm{lbs} / \mathrm{in} . / 2.1 \mathrm{~N} / \mathrm{mm}$ | MIL-P-13949 |
| Solder Blister Resistance - @ $500^{\circ} \mathrm{F}\left(260^{\circ} \mathrm{C}\right)$ | $20 \mathrm{sec} . \mathrm{min}$. | MLL-P-13949 |
| Tensile Shear |  |  |
| @ $77^{\circ} \mathrm{F}\left(25^{\circ} \mathrm{C}\right)$ Aluminum to Aluminum | $4100 \mathrm{psi} / 28.3 \mathrm{kPa}$ | ASTM D-1002 |
| $@ 77^{\circ} \mathrm{F}\left(25^{\circ} \mathrm{C}\right)$ Steel to Steel | $4250 \mathrm{psi} / 29.3 \mathrm{kPa}$ | ASTM D-1002 |
| $@ 212^{\circ} \mathrm{F}\left(100^{\circ} \mathrm{C}\right)$ Aluminum to Aluminum | $690 \mathrm{psi} / 4.8 \mathrm{kPa}$ | ASTM D-1002 |
| @ $212^{\circ} \mathrm{F}\left(100^{\circ} \mathrm{C}\right)$ Steel to Steel | $2000 \mathrm{psi} / 13.8 \mathrm{kPa}$ | ASTM D-1002 |

Satisfactory properties may be obtained using pressures from contact to $500 \mathrm{psi}(3450 \mathrm{kPa})$. Typical cure cycles range between $350^{\circ} \mathrm{F}$ to $400^{\circ} \mathrm{F}\left(180^{\circ}\right.$ to $\left.200^{\circ} \mathrm{C}\right)$ for a minimum of 45 minutes.

## Processing Guidelines

## Prepreg Storage Life

- Out Life: 15 days @ $75^{\circ} \mathrm{F}$
- Shelf Life: 12 months @ $0^{\circ} \mathrm{F}$

All test data provided are typical values and not intended to be specification values. For review of critical specification tolerances, please contact a company representative directly.

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