

# Technical Data Sheet

## FeedBond® FP-6000-HP3

### Low temperature semi-sintering silver paste

**Description:**

**FeedBond® FP-6000-HP3** is low temperature semi-sintering silver paste. Design for ultra-electronic conductivity and ultra-thermal conductivity application in assembly material. FeedBond® FP-6000-HP3 provide good anti-RBO (resin bleed out) and high temperature die shear strength (@260°C). Resin choose higher storage module material for decrease stress in module. Due to higher storage module resin, module can pass high temperature/moisture/pressure reliability test.

**Application:**

- High power product. (like IC package for 5G application...etc.)
- Work in high temperature surrounding. (ex: Automotive products)
- SIP/QFN/LGA/HBLED

**Properties :**

- Low temperature cured & Ultra-high die shear strength at 260°C
- Ultra-high electric conductivity & thermal conductivity
- Anti-RBO & Suitable pin transfer and dispensing process.

Uncured Properties		Test Description	Test Method
Appearance	Silver	Visual	FT-P031
Density	4.7 g/cc	Pycnometer	FT-P001
Viscosity @ 25°C	12000 – 18000 cps	Brookfield DV-III/CP-51 @ 5rpm	FT-P006
Thixotropic Index @ 25°C	5.0 – 8.0	Brookfield DV-III/CP-51 Viscosity. 0.5rpm/5rpm	FT-P008
Grind	< 25µm	Grind meter	FT-P026
Work Life @ 25°C	16 hrs	25% increase in viscosity @ 5rpm	FT-P024
Shelf Life @ -30°C	6 months	25% increase in viscosity @ 5rpm	FT-P018
Die Size		Cure Condition	
Die < 2x2mm		20 min to 130°C and hold for 30~60 min; 30 min to 175-200°C and hold for 90min	
Die > 2x2mm		20 min to 130°C & hold for 90 min; 30 min to 175-200°C & hold for 120min	
Mechanical Properties		Test Description	Test Method
Die shear strength @ 25°C > 3 Kg/die		45mil × 45mil Si die on Ag LF Cure 90 min in oven @200°C	FT-M012
Die shear strength @ 25°C > 6 kg/die		2mm × 2mm Si die on Ni plate Cure 120 min in oven @200°C	FT-M012
Die shear strength @ 25°C > 11kg/die		4mm × 4mm Si die on Ni plate Cure 120 min on oven @200°C	FT-M012

p.s. The tables shown above are typical values only. If you need to write a specification, please request our current Standard Release Specification.

## FeedBond<sup>®</sup> FP-6000-HP3

Physiochemical Properties	Test Description	Test Method
Glass Transition Temperature (Tg) 62°C	TMA	FT-M014
Hardness, Shore D 75±5	Durometer Shore D	FT-P037
Coefficient of Thermal Expansion <Tg 12ppm/°C >Tg 30ppm/°C	TMA	FT-M016
Dynamic Tensile Modulus @-65°C 15.0GPa @25°C 13.7GPa @150°C 10.9GPa @250°C 0.68GPa	Dynamic Mechanical Thermal Analysis using <1.6 mm thick specimen	FT-M019A
Thermal/Electrical Properties	Test Description	Test Method
Volume resistivity < 0.00006 Ω-cm	4-point probe (Cured at 200°C/90min)	FT-P017
Thermal conductivity 100W/mK	Hot Disk	FT-P022

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### Instruction

#### Transportation

It is stored in a low-temperature ice bag during transportation to ensure product quality. When you receive the product and find that the ice pack has been completely thawed, please take a photo for storage and do not use it and notify our sales staff immediately.

#### Thawing

Place the container to stand vertically when thawing. **DO NOT** open the container before adhesive reaches ambient temperature to prevent the moisture condensation. Any moisture that collects on the thawed container should be removed prior to use. Adhesives that appear to have separated should not be used.

Syringe	1cc	3cc	10cc	30cc
Thawing time (min)	10	15	20	40

#### Storage

Adhesive should be stored @ -40°C or -20°C. The shelf life of the material is only valid when the material has been stored at the correct storage condition.

Storage temp.	-35°C~-42°C	-18°C~-22°C	0°C~5°C	18°C~28°C
Shelf Life	6 months	3months	1 month	2 days