

# Bondmaster ESP4080

## Single Part, Heat Cured, Epoxy Adhesive

**Bondmaster**<sup>®</sup>  
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### Technical Information Sheet

#### Description:

This is a single component solvent free epoxy based product which sets quickly when heated. Bonded assemblies have excellent resistance to high temperatures and severe environments. Bondmaster ESP4080 combines high shear strength, good gap fill and fast setting at 150°C. The soft paste adhesive is grey and can be rapidly dispensed automatically where required.

#### Physical Properties

Colour	Grey
Viscosity (mPa.s)	140,000
Specific Gravity	1.26

#### Typical Performance

Shear Strength (MPa) - Steel*	24
Coeff. of Thermal Expansion (mm/mm/°C)	55 x 10 <sup>-6</sup>
Maximum Gap Fill (mm)	3

With joints involving materials such as ferrites or SMC bond strengths are generally greater than that of the substrate itself. The bond strengths measured on the more ductile metals, such as copper and its alloys, will be affected by the modulus of the metal and the thickness of the actual components.

#### Storage :

When stored in the original unopened containers at 5-7°C, the shelf life of this product is 6 months from the date of despatch from Bondmaster.

#### Service Temperature:

The recommended service temperature range for this product is -40 to +180°C. However higher temperatures may be endured for short periods providing the adhesive is not unduly stressed.

#### Handling:

Full information can be obtained from the Material Safety Data Sheet (MSDS). Users are reminded that all materials, whether innocuous or not, should be handled according to the principles of good industrial hygiene.

Cure Time at:-	100°C	120°C	150°C	180°C
Minutes* (in an air circulating oven)	150	50	30	N/A

\* The actual cure time for any application is dependent on the time it takes for the adhesive to reach temperature. Larger components, or batch curing, will require a longer warm up time and the cure cycle may be extended. The use of alternative heating methods may also affect the time required to achieve full cure; Hotplates, Infra-Red lamps or Induction heating will generally give a faster cure.

#### Directions for Use:

Surfaces should be clean, dry and grease free before applying the adhesive. Where ultimate performance is required then the surfaces should be shot blasted, or lightly abraded, in the presence of **Bondmaster SIP**.

The adhesive should be extruded using a bead diameter that will allow complete coverage of the bond area. Care should be taken not to include, or trap, any air within the joint. Normally it should be applied to only one surface. Assemble the parts and squeeze together with sufficient pressure to ensure the adhesive spreads to cover the entire bond area. Jig the components using a light clamping pressure and place in the oven to cure. Do not disturb the joint until the adhesive has cured.

The information given and the recommendations made herein are based on our experience and are believed to be accurate. No guarantee as to, or responsibility for, their accuracy can be given or accepted, however, and no statement herein is to be treated as a representation or warranty. In every case we urge and recommend that purchasers, before using any product, make their own tests to determine, to their own satisfaction, its suitability for their particular purposes under their own operating conditions.

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