

Technical Data Sheet

MASTER BOND POLYMER SYSTEM EP30QF

**Quartz Filled, Two Component, Epoxy System for
High Performance Bonding, Sealing, Coating & Casting, Featuring Exceptionally Low Shrinkage
and High Dimensional Stability**

Product Description

Master Bond Polymer System EP30QF is a quartz filled, two component epoxy for high performance bonding, sealing, coating and casting formulated to cure at room temperature or more rapidly at elevated temperatures with a four (4) to one (1) mix ratio by weight. This adhesive is 100% reactive and does not contain any solvents or other volatiles. It is especially recommended where high tensile modulus, outstanding compressive strength and superior dimensional stability are important requirements. Linear shrinkage after cure is exceptionally low. A lower viscosity version called EP30QFLV is also available.

Master Bond Polymer System EP30QF produces high strength, rigid bonds which are remarkably resistant to chemicals including water, oil and most organic solvents, as well as cold sterilants, ETO and gamma radiation. Adhesion to both similar and dissimilar materials including metals, glass, ceramics and plastics is excellent. The hardened adhesive is an electrical insulator. The color of part A is tan and part B is tan. Master Bond Polymer System EP30QF is widely used in electronic, electrical, computer, optical, metalworking, appliance, automotive and chemical industries.

Product Advantages

- Convenient mixing: easy-to-use mix ratio, four (4) to one (1) by weight.
- Exceptionally high physical strength properties, especially tensile modulus and compressive strength.
- Easy application: contact pressure only required for cure, adhesive spreads readily.
- Versatile cure schedules: ambient temperature cures or fast, elevated temperature cures as required.
- High bonding strength to a wide variety of substrates.
- Superior dimensional stability and chemical resistance.

Product Properties

- Mixing ratio, by weight, parts A to B 4/1
- Mixed viscosity, cps at 25°C >15,000
- Working life after mixing, 75°F
100 gram mass, minutes 30-40
- Cure schedule, room temperature 24-48 hours
at 100°C 2-3 hours
- Bond strength, shear, aluminum to aluminum, room temperature cure, 75°F, psi >100 0
- Dielectric strength 420 volts/mil
- Tensile strength >5,000
- Tensile modulus..... >400,000
- Compressive strength, 23°C, psi >18,000
- Volume resistivity >10¹³
- Dielectric constant, 23°C, 60 Hertz 4.26
- Dissipation factor, 23°C, 60 Hertz..... 0.024
- Service temperature range, °F -60°F to +275°F
- Shelf life at 75°F, in unopened containers 6 months
- Parts A and B available in pint, quart, 1 (one) gallon and 5 (five) gallon containers.

Preparation of Adhesive and Bonding Surfaces

Master Bond Polymer System EP30QF is prepared by thoroughly mixing part A with part B in a four (4) to one (1) mix ratio by weight. Mixing should be done slowly to avoid entrapping air. The working life of a mixed 100 gram batch is approximately 30 to 40 minutes. It can be substantially lengthened by using shallower mixing vessels or mixing smaller size batches. All bonding surfaces should be carefully cleaned, degreased and dried to obtain maximum bond strength. Also, when bonding to certain metal surfaces, chemical etching should be employed for optimal adhesion and environmental durability. Non-porous surfaces should be roughened with sandpaper or emery paper for hard materials.

Adhesive Application and Assembly

Master Bond Polymer System EP30QF can be conveniently applied with a brush, paint roller, spatula, knife, etc. Adequate amount of mixed adhesive should be applied to obtain a final adhesive bond line thickness of 3-5 mils. Porous surfaces may require somewhat more adhesive to fill the voids than non-porous ones. Thicker glue lines do not increase the strength of a joint but do not necessarily give lower results as the EP30QF adhesive system does not contain any volatiles. The parts to be bonded should then be pressed together with just enough pressure to maintain intimate contact during cure.

Cure

Master Bond Polymer System EP30QF can be cured at room temperature or at elevated temperatures as desired. At room temperature Master Bond Polymer System EP30QF will cure in 24-48 hours. Faster cures can be realized at elevated temperatures, e.g., 2-3 hours at 100°C (212°F) for full strength. Remove excess adhesive promptly before it hardens with a spatula. Then wipe with a rag and solvent, such as toluene or acetone. The thinner the section of epoxy, the slower the rate of cure.

Handling and Storage

All epoxy resins should be used with good ventilation taking care to minimize skin contact. Master Bond Polymer System EP30QF employs a low toxicity skin irritation "safety" hardener. To remove resin or hardener from skin, use solvent, then wash with mild soap and water. If material enters the eyes, flood with water and consult a physician. Optimum storage is at or below 75°F in closed containers. No special storage conditions are necessary. Containers should however be kept closed when not in use to avoid contamination. Cleanup of spills and equipment is readily achieved with aromatic or ketone solvents employing proper precautions of ventilation and flammability.

Master Bond Inc.

Adhesives, Sealants & Coatings • 154 Hobart Street • Hackensack, N.J. 07601 • Tel: 201-343-8983

Internet Address: <http://www.masterbond.com>

➔Notice: Master Bond believes the information on the data sheets is reliable and accurate as is technical advice provided by the company. Master Bond makes no warranties (expressed or implied) regarding the accuracy of the information, and assumes no liability regarding the handling and usage of this product. H29B8