

Quicktite – Standard Epoxy Adhesive



PRODUCT DESCRIPTION:

Quicktite – Standard Epoxy Adhesive is a two component epoxy adhesive that bonds virtually anything to anything from tiny parts to large structural components. This multipurpose two component system comprises of Epoxy resin and Polyamide hardener which are to be mixed thoroughly in the recommended ratio to achieve optimum results. **Quicktite – Standard Epoxy Adhesive** is a thermosetting system which means, the resin and hardener on mixing cure by polymerization to a rigid thermoset mass which on heating may soften but shall not melt and flow. This system does not contain volatile matter such as solvent or water and hence there is negligible shrinkage on curing. **Quicktite – Standard Epoxy Adhesive** which is internally flexibilized system provides strong joints with excellent low creep properties hence, make it ideal for structural bonding applications.

Products Features: -

Handling strength is achieved within 4 - 6 hours.

- Excellent adhesion to a wide range of substrates, virtually anything to anything. These substrates include all natural wood, Plywood and engineered wood such as MDF, Particle board which could be used in Cabinet frame making along with other substrates, Metals, Metal alloys, Ferrous/non Ferrous castings, China ware, Ceramics, Glass, Marble, Granite, Kadappa, Variety of Artificial Stones, Leather, Hardboard, Cement-Concrete, Most Plastics viz. Rigid PVC, Filled/unfilled ABS, Polystyrene, Epoxy/Polyester FRP, Polycarbonate, Phenol- Formaldehyde (Bakelite) moulded parts, decorative /Industrial Laminates, Powder coated metal, Asbestos, Cork, Ferrite, etc. Please note that Plastics like PTFE, Polyethylene, Polypropylene cannot be bonded without appropriate specialized surface treatment to these surfaces.
- Non-sagging nature helps in vertical applications
- High Cohesive Strength
- Good solvent/Chemical resistance
- Negligible shrinkage on curing and hence good dimensional stability.
- Good shock resistance
- Long lasting bond

APPLICATION AREAS:

It is a multipurpose structural adhesive finding extensive applications in virtually all industries. These applications could be in OEM, Wood Working Joinery or Maintenance. This system is an indispensable tool for engineers and proved its value in thousands of applications in Wood Working, Automobile, Electronics, Electrical, Railway, Aeronautical, Construction and host of engineering industry.

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GENERAL INSTRUCTIONS FOR USE:

- 1. Substrate Preparation:** The strength and durability of bonded joint are dependent on proper pre- treatment of substrates to be bonded. At the very least surfaces to be joined should be cleaned with a good degreasing agent such as Acetone or Trichloroethylene in order to remove all traces of oil, grease, rust, dust, etc. from the surface. The best and most durable joints are obtained by either mechanical abrading (Sand Blasting) or by chemical etching (pickling) the degreased surfaces. Mechanical abrading shall be followed by a second degreasing treatment.

2. Mixing of RESIN and HARDENER:

Mix Ratio	Parts By Weight	Parts By Volume
Resin	100	100
Hardener	80	100

Resin and Hardener are to be mixed until they form a homogeneous mix. It is very important that the above proportions are adhered as accurately as possible to achieve optimum results.

Do not mix on high-speed mixer, which will result in sudden increase in temperature, which shall adversely affect the pot-life of the mix. Mix, at a time, small quantity so that it can be consumed in stipulated usable life. 50 gms of mixture has a usable life of about 60 minutes at 30°C of room temperature.

Note: Specialized Automatic Metering & Mix equipment are available in the market. These equipment help to improve the productivity and reliability.

- 3. APPLICATION OF ADHESIVE :** Apply a thin layer of the mixture on the pretreated and dry surfaces to be joined, using a spatula. Soon after the application of the adhesive, the components are to be positioned /aligned and clamped together. Even contact pressure throughout is sufficient to achieve good bond. Allow the bond to cure. This curing process is room temperature dependent i.e. higher the temperature faster will be the process. Normally at 30°C the handling strength is achieved within 4 – 6 hours. Full cure will be attained in 18-24 hours.

WATER RESISTANCE: Very good.

TYPICAL PROPERTIES

PROPERTIES	Resin	HARDENER
Visual appearance	High viscous opaque whitish liquid	High Viscous Brownish liquid
Viscosity at 25 Deg C , Centipoise	23,000 – 24,000	21,000 – 22,000
Density , gm/ml	1.15	0.9 approx.
Odour	Faint characteristic	Amine
Flash Point (Deg C)	200	110

Coverage:- 0.5meter 2 /100g on flat mating surfaces with 200 micron thickness.

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COMPOSITE PRODUCT DATA:

MIX-VISCOSITY: At very low temperatures the viscosity of resin and Hardener will be much higher than mentioned above and hence the mixing will be slightly difficult.

POT-LIFE at 30°C for 50g Resin +Hardener mix. : Approx. 60 Minutes

Pot-Life or Usable Life is inversely proportional to room temperature. i.e. higher the room temperature shorter will be the Pot-Life or vice-versa. The resin/hardener mix should be kept in a shallow container. This will prevent unnecessary exothermic reaction that decreases usable life. The mixture should be used well within its usable life to get good results. Soon after the mixing the chemical reaction starts and the viscosity of the mix gradually increases and at one stage (Pot-Life) it is not possible to Apply/spread it.

Test Property	Standard	Unit	Value
Adhesive Tensile Strength (MS-MS) Bond cured for 6 Hrs/35°C & tested at 30 °C	ASTM D - 897	Kg/sq.cm	> 130
Adhesive Tensile Strength (MS-MS) Bond cured for 24 Hrs/35°C & tested at 30 °C	ASTM D - 897	Kg/sq.cm	> 160

CURING TIME versus TEMPERATURE:-

- Curing time depends on the weather temperature.
- Higher temperature results in faster curing.
- Care should be taken while subjecting the component to higher temperature (eg. Plastic part may get damaged).

DO'S AND DONT'S:

- Even though it is advised to mix Resin & Hardener until uniform colour is attained, it is beneficial to mix for at least 2-3 minutes thoroughly. Correct R/H proportion & thorough mixing is the secret of consistent and optimum bond strength.
- Do not mix large quantity at a time.
- Never add extra hardener to expedite the curing process, instead take the help of heat to achieve this mix.
- Never dilute R/H mix with solvents to lower the viscosity.
- Replace the respective caps of Resin & Hardener containers whenever they are not in use.
- Hardener tends to form skin if exposed to air for long time.
- Wipe off the excess oozed quantity from the bond area, when the adhesive is wet.
- Do not keep the R/H mix near heat source such as hotplate.
- Method by weighing is more appropriate.
- If mixing by volume, never pour resin & hardener over one another. Pour equal quantity side by side. This way judgment of volume is good.
- Do not disturb the bond during setting i.e. after the clamping of assembly is over.

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SAFETY PRECAUTIONS :

This is a non-flammable product. Generally epoxies on cure are totally harmless. The resin component is non-toxic, hardener being based on amine type hardener may cause irritation to sensitized skin. However hands should be cleaned with Cleansing cream or with soap and warm water. Do not use organic solvents for cleaning hands. All tools and equipment should be cleaned with solvents such as Acetone, before adhesive residue cures. The removal of cured residues is very difficult and time consuming. Dis-assembly of wrongly bonded components is very difficult but in certain cases controlled heat or solvent like DMF may be used to separate the parts.

STORAGE & SHELF LIFE:

Store in a cool (<300C) and dry place. Under such storage conditions the shelf life of the product is 24 months in sealed unopened jars.

DISCLAIMER:

The Product information and application details given by Wembley Laboratories Ltd. and its agents has been provided in good faith and meant to serve only as a general guideline during usage. Users are advised to carry out tests and take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used, and on-site workmanship are factors beyond our control, there are no expresses or implied guarantee/warranty as to the results obtained. The company does not assume any liability or any consequential damage for unsatisfactory results, arising from the use of our products.