



EP 5010

EPOXY ADHESIVE - COATING - POTTING

Revision 2

● PRODUCT DESCRIPTION

EP 5010 is a low viscosity epoxy resin, which is ideal for bonding, coating, potting, encapsulating many different substrates such as plugs, switches, electronic components with metal, plastics and composites materials. 100% solid and solvent free. Advantages are low toxicity, excellent overall physical and electrical properties, good chemical resistance, excellent adhesion, long pot life, low exotherm, low viscosity.

Can be used as, adhesives, coatings, castings, electrical potting and encapsulating, laminating, tooling.

● CURING PROPERTIES

20°C	65°C	Pot Life	Full Cure
18 hours	1 hour	50min.	24 hours

● UNCURED PROPERTIES

Base	Epoxy
Cure Time @ 25°C :	24 hours
Color	Clear
Mixed Ratio	2:1 (by weight)
Viscosity (mixed)	1000cps
Flash Point	200°C
Specific Gravity	1,1

● CURED PROPERTIES

Temperature Resistance	-40°C to +100°C
Hardness (Shore D)	82
Volume Resistivity @ 25°C, ohm-cm	6x10 ¹⁵
Dielectric Strength, volts/mil	475
Dielectric Constant @ 25°C, 100 KC	4.3
Dissipation Factor @ 25°C, 100 KC	0.030
Color	Clear
Specific Gravity @ 25°C	1.15
Linear Shrinkage, in./in.	0.002
Moisture Absorption 10 Days @ 25°C, %	0.11
Izod Impact Strength, ft. lbs./in. of	1.25
Tensile Strength @ 25°C, N/mm ²	77,9
Compressive Strength @ 25°C, N/mm ²	146,9
Thermal Conductivity, cal/sec/cm ² /°C/cm X 10 ⁻⁴	5.2
Thermal Stability, 1000 Hrs. @ 175°C, % Wt. Loss	0.45
Coefficient of Thermal Expansion, in./in./°C X 10 ⁻⁶	50



● INSTRUCTION FOR USE

When mixing smaller quantities for small applications the resin and hardener has to be WEIGHED to insure the proper mixing ratio. The use of a gram scale is strongly suggested. The first step to be taken is to balance the scale with the mixing container (preferably an unwaxed plastic cup) on it. EP5010 Resin should then be weighted out with the hardener weighed last in the same container.

Stir the two components together until thoroughly blended. Do not whip or stir with a vigorous motion. The mixing procedure should be a smooth motion to avoid beating air into the mixture. Stir the mixture for about 1 - 1½ min. In order to assure that the two components are properly mixed it is suggested to vigorously stir with a paint stirrer (or similar item) for 2 - 3 minutes. This method of stirring will cause air bubbles in the mixture, eliminating of such will be discussed later.

After proper stirring the material is ready for use and may be applied by any suitable means such as plastic squeeze bottles, pneumatic dispensers or brushes. Pour as soon as thoroughly mixed. Carefully pour in an even pattern, spreading where necessary with a paint stirrer. After the resin has been applied, air bubbles will start to rise to the surface. Smaller bubbles can be effectively burst by gently exhaling (warm breath) on them until they burst and disappear. On larger surfaces, use of a hot-air dryer can be a useful tool in eliminating entrapped air. Using a sweeping motion will aid in removing the bubbles from the coating. The heat from the dryer is causing expansion of the air bubbles forcing them to rise to the surface.

For best curing results the room temperature should remain between 20°C - 26°C for

18 - 28 hours. Temperature falling below 20°C will slow the curing process and cause air entrapment in the resin.

