Application of the H-611 adhesive

Characteristics and application

H–611 is a two component normal temperature adhesive which is made of glycidol epoxy resin, bisphenol A epoxy resin, low polysulfide rubber and modified amine curing agent and is characterised by its excellent bond ability, curing under room temperature and has a low creep and high insulation resistance.

The operating temperature for this adhesive is: –30℃ up to +60℃
H–611 is suitable for most strain gauges and compensation resistors. It is highly recommended for compensation resistors and terminal tabs and for bonding gauges on inconvenient or difficult places under normal temperature and pressure conditions.

Storage

ZEMIC's H–611 adhesive is composed of 2 components, A and B. Make sure that, before usage, the components are taken out of the refrigerator and are given 1 to 2 hours to get to room temperature. Mix components A and B in a A:B = 1:2 ratio. To mix the components, use a stirring rod made out of glass or a toothpick, screw the cap back on the mixture and sway the bottle for 2 to 5 minutes. The mixture can be used immediately but make sure to use the adhesive within one hour.
The H–611 adhesive has a storage life of 10 months at room temperature.

Method of application

1. The surface where the gauge will be attached should be sand–blasted or polished and cleaned well with acetone and butanone.
2. Use anhydrous ethyl alcohol to clean the tools, Teflon film and the strain gauge which will be bonded.
3. Put a thin layer of H–611 on the bonding surface after heating it up to 40 to 60℃ . If no heating is done to the test surface, the viscosity of the H–611 is high and more difficult to bond. In addition the curing time is longer.
4. Put a thin layer of H–611 on the gauge and bond the gauge in the right position, cover it with Teflon film and squeeze out the bubbles or spare adhesive from under the gauge. This is done in the axial direction of the gauge.
5. Cover the Teflon film with a rubber and a metal plate as soon as possible and apply a pressure of 0.1– 0.3 MPa.
6. The test piece can be tested after curing the adhesive for 24 hours at normal temperature or after 2 hours curing in 60 to 80℃ .
7. The H–611 adhesive is now suitable to be used in an environment in which the humidity is less than 65%.

Caution

1. Make sure to take the H–611 adhesive out of the refrigerator 2 hours prior to using it and try using it only when the liquids temperature is the same as the environmental temperature
2. When mixing the components, make sure to mix all of the component B with all of the component A. When this is not done, it will cause a disproportional mixture and this could influence the adherent force of the adhesive. In addition make sure the two components are mixed well so a homogenous adherent force will occur.
3. During usage, the adhesives bottle should be as far away from heat and light sources. This is due to the adhesive solvent reacting with higher temperature and light to volatize faster.
4. Due to the short term using of the amine curing agent it is advised to use all the adhesive within 1 hour. After one hour, the adhesive degrades very fast and can't be used anymore.
5. Clean the tools used after bonding the gauges. This way contamination and impurities by external factors can be avoided at next use.