
EVO-PLAS TENSOL 70 USER GUIDE

DESCRIPTION

Tensol 70 is a two component, acrylic adhesive which hardens at room temperature by the polymerisation of the Part A. The Part A is a viscous mixture of acrylic polymer dissolved in monomer. The Part B is a liquid catalyst solution that initiates the polymerisation of the Part A.

RECOMMENDED USE

Tensol 70 is designed for bonding cast acrylic sheet. It will also bond extruded acrylic sheet, but will cause surface crazing and stress cracking of the sheet unless the sheet is annealed prior to bonding.

The bonds obtained using Tensol 70 are of approximately the same strength as the acrylic sheet. Typical joint strengths are 35 MPa for a cold cured joint and 45 MPa for a post cure heat treated joint.

METHOD OF USE

Before using Tensol 70 the Part A must be at 20°C and the workroom must be at 20±5°C to obtain the optimum cure rate and properties of the adhesive.

Surfaces to be bonded should be clean, dry and dust free. If necessary they can be cleaned with petroleum ether or white spirit then washed with water.

The minimum film thickness that can be successfully used is 5 thou (0.13 mm) thick. Since the adhesive shrinks on curing allowance must be made for this when making butt joints and fillet joints. When bonding edge to face the edge should have a 10° chamfer to allow a sufficient quantity of adhesive into the joint.

Accurately weigh 5 parts of Part B into 100 parts of Part A. It is important that this is done accurately otherwise the adhesive will not cure properly and will give inferior performance.

Thoroughly mix the adhesive by stirring, taking care to entrap as little air in the adhesive as possible. The mixed adhesive must be used with 20 minutes of mixing.

Cover the container and allow the mixed adhesive to stand for 5 minutes to allow the larger air bubbles to rise to the surface of the adhesive.

Do not use adhesive that has been mixed for more than 20 minutes as it will be difficult to use and give inferior final performance.

The adhesive will be hardened sufficiently within one and a half hours to allow careful handling of the assembly . After 4 hours cure the parts can be lightly machined but, for the best results, the joint should be left to cure for 24 hours before further processing.

Once the adhesive has set the final bond strength can be increased by heat curing the material. This can only be done at least one hour after the adhesive has set. Non-thermoformed components can be heated for 3 to 4 hours at 80°C. Thermoformed, highly stretched components may be heated for 4 to 5 hours at 70°C .