

Adhesive EC-30 for KYOWA Strain Gages

INSTRUCTION MANUAL

Thank you for purchasing this KYOWA product. Before using it, please read this instruction manual carefully. Also, keep the manual within easy reach so that you can refer to it whenever necessary.

1. Safety precautions

Be sure to observe the following safety precautions when using the adhesive.

Warning! This warning applies where improper handling may cause serious injury to the operator.

- Keep the adhesive out of the mouth, or serious injury may occur. If swallowed, vomit the adhesive by immediately drinking copious amount of water, then see a physician.
- Keep the adhesive out of the eyes, or serious damage may occur. If the adhesive gets in the eye, immediately wash the eye with water, then see an eye doctor. Use eye-glasses or other eye protector if necessary.
- Avoid handling the adhesive near fire, or it may ignite.

Caution! This caution applies where improper handling may cause deleterious effects to the operator's body or cause material damage.

- Keep the adhesive out of children's reach.
- Avoid skin contact with the adhesive, or a rash may develop. If it gets on the skin, immediately wash it off. Use gloves or other protector if necessary.
- While handling the adhesive, maintain proper ventilation, or it may irritate eyes, nose or throat.
- Disposal of the adhesive should be handled by a qualified industrial waste disposal agent, as industrial waste.

2. Outline of product

Composed of two ingredients A and B, EC-30 is the polyurethane adhesive which cures at room temperatures. It can be suitably used for measurement of large strain with KLM strain gages. Also, it features a small modulus of longitudinal elasticity, thereby making it suitable for bonding KFML strain gages onto low-elasticity materials such as rubber and plastics.

3. How to use

■ Surface preparation

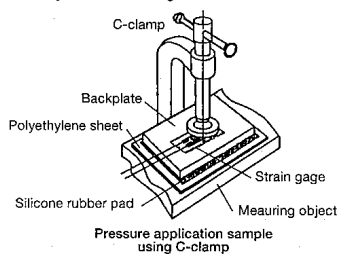
- (1) Using a sander or the like, remove rust, paint and oxidized coat from the surface of measuring object.
- (2) Using sandpaper (#300 to 600), finish the surface flat and smooth.
- (3) Clean the surface by wiping in one direction only with industrial tissue slightly dampened with a solvent (such as acetone, isopropanol, etc.).
- (4) Using a lead pencil (HB to 4H), scribe the gage guidelines on the bonding surface of measuring object.

■ Bonding a strain gage

- (1) Take proper amounts of ingredients A (main light yellow ingredient) and B (transparent curing ingredient) in a stirring dish at the ratio indicated below, then stir them thoroughly.

A:B = 100:60 (weight ratio)

- (2) Using a toothpick, apply the mixed adhesive thinly onto the measuring object and the gage base (back of strain gage).
- (3) Keep the condition as it is for several minutes so that the solvent contained in the adhesive may evaporate to some extent.
- (4) Align the gage's center mark with the guideline on the measuring object, cover the gage surface with a polyethylene sheet, then squeeze excessive adhesive out by pressing with the finger. You may prevent the gage from moving at that time by fixing the edge of gage base with adhesive tape or the like.
- (5) Apply a pressure of 30 to 50kPa (reference value: 0.3 to 0.5kgf/cm²) to the gage installation via a cushion such as silicone rubber (see the figure below).
- (6) Keep the gage installation under this condition for 24 hours at room temperature, then remove pressure, and the gage will be ready for measuring.



■ Other handling precautions

- (1) Weigh ingredients A and B as precisely as possible by using a balance.
- (2) Store EC-30 in a refrigerator (suitable temperatures 5 to 10°C).

4. General characteristics of EC-30

Composition	Ingredient A: Epoxy resin, methyl ethyl ketone Ingredient B: Amine compound, tetraethylene pentamin
Appearance	Ingredient A: Light yellow, viscous liquid Ingredient B: Colorless transparent, viscous liquid
Operating temperature after curing	0 to +60°C
Dilution agent	None (To wash the hair pencil, use methyl ethyl ketone)

KYOWA
KYOWA ELECTRONIC INSTRUMENTS CO., LTD.
Overseas Department:

Address: 1-22-14, Toranomon, Minato-ku, Tokyo 105-0001 Phone: 03-3502-3553 Fax: 03-3502-3678