

# STRAIN GAUGE ADHESIVES

TYPE		Contents	Component	Applicable specimen	Operational temperature	Curing temperature and time
CN	Single component Room-temperature-curing	Single 2g×5	Cyanoacrylate	Metal, Plastics, Composite	-196~+120°C	Room temperature 20sec. -1 min. (thumb pressure)
CN-E	Single component Room-temperature-curing	Single 2g×5	Cyanoacrylate	Porous, Concrete, Mortar, Wood	-30~+120°C	Room temperature 40sec. -2 min. (thumb pressure)
CN-R	Single component Room-temperature-curing	Single 2g×5	Cyanoacrylate	Metal, Plastics, Composite	-30~+120°C	Room temperature 10-30 sec. (thumb pressure)
CN-Y	Single component Room-temperature-curing	Single 2g×5	Cyanoacrylate	Metal, Plastics, Composite	-30~+80°C	Room temperature 20sec. -1 min. (thumb pressure)
P-2	Two component Room-temperature-curing (Mixing ratio: 1-3%)	A:100g B:10g	Polyester	Metal	-30~+180°C	Room temperature Pressure 50-300kPa 2~3 hrs.
RP-2	Two component Room-temperature-curing (Mixing ratio: 2-4%)	A:100g B:10g	Polyester	Concrete, Mortar	-30~+180°C	Room temperature Pressure 50-300kPa 2~3 hrs.
PS	Two component Room-temperature-curing (Mixing ratio: 2-4%)	A:200g B:20g	Polyester	Concrete, Mortar	-30~+100°C	Room temperature 2~3 hrs.
NP-50	Two component Room-temperature-curing (Mixing ratio: 2-4%)	A:50g B:10g	Polyester	Metal, Composite	-30~+300°C	Room temperature Pressure 50-300kPa 2~3 hrs.
C-1	Single component Heat-curing	Single 50g	Phenol	Metal	-269~+200°C	130°C 1hr. pressed 200°C 1hr.
EA-2A	Two component Room-temp.-or heat curing (Mixing ratio: 2:1)	A:50g B:25g	Epoxy	Metal, Concrete, Composite	-269~+50°C	Room temp. 1 day or heating 50°C 2hrs. Pressure 50~300kPa
EB-2	Two component Room-temperature-curing (Mixing ratio: 10:3)	A:10g×3 B:3g×3	Epoxy	Metal, Composite	-30~+150°C	Room temperature Pressure 50-300kPa 1 day
A-2	Two component Heat-curing (Mixing ratio: 10:1)	A:50g B:5g	Epoxy	Bolt	-30~+100°C	Room temperature 12 hrs. and 140°C 3 hrs.

N.B :

Shelf life Effective storing duration while the adhesive is properly kept in a cool, dry and dark place such as a refrigerator (+5~+10°C, do not store in a freezer).

Thumb pressure 100~300kPa

- For two-component adhesive, use the supplied mixing vessels.  
Mixing vessels : Polyethylene make  
75mm-diameter, 10mm depth

## Point

- In general, curing condition of room-temperature-curing type adhesives varies with an ambient temperature and humidity. Taking consideration of standard application described in operation manual, test curing should be recommended in site before measurement.
- CN Adhesive (Cyanoacrylate component) use minute quantities of moisture in the air or on the surface of the specimen to quickly polymerize and generate adhesive strength. A certain amount of moisture is required for the adhesive to harden.

TML strain gauge adhesives are specially designed for bonding strain gauges to test specimens. Various types are available for specific applications.

Shelf life	Applications
6 months	Single-component cement for strain gauges. The time required to bond the gauge is extremely short and handling is very easy. The thin bonding layer allows adhesion to plastic objects as well as metal. Curing time under normal conditions is 20~60 seconds.
6 months	Single-component cement featuring high viscosity for bonding strain gauges to porous materials such as concrete and mortar. Curing time under normal conditions is 4~120 seconds.
3 months	Single-component cement for accelerating cures in ambient lower temperature, or lower relative humidity.
6 months	A single-component adhesive designed exclusively for use on post-yield strain gauge. Offers minimum degradation in bonding performance (peel strength) due to aging. Suitable for a long-term measurement of large strain.
6 months	A two-component room-temperature-curing polyester adhesive for bonding PF, P and F series strain gauges. Put the necessary quantity of drug A in the supplied mixing vessel, then add drug B by drops to total 1~3% the weight of drug A. Use the mixed adhesive within 5~15 minutes.
3 months	A two-component room-temperature-curing polyester adhesive for bonding PF and P series strain gauges. The mixing procedure is the same as above for P-2 adhesive. Put the necessary quantity of drug A in the supplied mixing vessel, then add drug B by drops to total 2~4% the weight of drug A. Use the mixed adhesive within 10~20 minutes.
3 months	A two-component room-temperature-curing polyester adhesive. Use as a surface pre-coating agent for bonding P and PF series gauges to the concrete and also as an adhesive for WFLM series strain gauges. The special filler contained exhibits excellent alkali resistance and effectively shuts off moisture and gas from inside of the concrete. Its high viscosity enables use on vertical walls or ceilings. Put the necessary quantity of drug A in the supplied mixing vessel, then add drug B by drops to total 2~4% the weight of drug A.
3 months	A two-component room-temperature-curing polyester adhesive for bonding QF, ZF and BF series strain gauges. Put the necessary quantity of drug A into a mixing vessel, then add drug B by drops to total 2~4% the weight of drug A. Use the mixed adhesive within 10~15 minutes.
3 months	Single-component heat-curing type adhesive. For use on strain gauge that are subject to heat curing. Enables reliable measurement for long periods and high temperatures up to 200°C.
3 months	A two-component room-temperature-curing epoxy adhesive for bonding CF series strain gauges for use at temperature from cryogenic (-269°C) up to room temperature. Mix the necessary quantity of drugs A and B at the weight ratio of 2 to 1.
3 months	A two-component room-temperature-curing epoxy adhesive for bonding strain gauges for use at temperatures from -30°C to +150°C. Mix the necessary quantity of drug A and B at the weight ratio of 10 to 3.
3 months	A two-component heat-curing epoxy adhesive for bonding BTM strain gauges. Mix the necessary quantity of drugs A and B at the weight ratio of 10 to 1, then pour the mixed adhesive into a hole drilled of the bolt in which the gauge is inserted. Allow to set at room temperature for 12 hours, then cure at 140°C in furnace for 3 hours.

**MSDS (Material Safety Data Sheet)**

TML supplies an MSDS for all its strain gauge adhesives and coatings. Contact your TML supplier for more information.

