

TECHNICAL DATA

ThreeBond 1741

Cyanoacrylate Adhesive

Three Bond 1741 is a cyanoacrylate-based instant high-strength adhesive of solventless single-fluid type. It polymerizes in a few seconds and binds strongly on almost all materials except for materials, which absorb the adhesive.

Features

- Instant bonding. Strong adhesion in only 5 to 30 seconds.
- No mixing, pressure or heat required.
- Strong adhesion at room temperature.
- Very small quantity required. Its relatively low viscosity allows good spread and penetration.
- Clean appearance. Bonding is colourless, transparent and clean.

Applications

- For binding weather-strip rubber and door stop rubber.
- Firm fixing of the speed changer level.
 - Suitable for bonding wood such as balsa or plywood. Also applicable to rubber, plastic, metal, ceramics and paper.

Directions for Use

- Remove the cap and prick the nozzle to open a small hole with the provided needle.
- Thoroughly clean surfaces of water, oil, rust and other foreign matters.
- Apply a very small quantity of adhesive to sufficiently spread and cover the surface to be bonded.
- Press the two surfaces together to help spread fluid thinly and uniformly until the two faces are fixed at the desired position.
- The set time may vary depending upon the acidity and water content of the wood materials, temperature and humidity of working site.
- For bonding butt ends, it is recommended to take bonding area as wide as possible and to press objects together to ensure stronger bonding

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Properties

Item	Units	Results
Appearance		Transparent
Viscosity25°C	mPa.s	3
Specific Gravity25°C		1.07
Shear strength (Steel / Steel)	MPa	10
Refractive Index	-	1.4
Volumic resistivity	Ω.m	8.6×10^{12}
Dielectric constant at1MHz	-	3.34
Flash point	°C	165

Set Time

Material	Set time
Steel	15 sec
ABS	15sec
PVC	10 sec
PC	20 sec
Epoxy FR4	10 sec
NBR	5 sec

Set time depends on the material itself, on the gap between the two material to be bonded and on the environmental conditions (temperature and humidity). This set time have been measured at 23°C, 50% RH.

Whitening

The adhesive in the container or around the bonded site may turn white. This is called whitening. Whitening affects neither bond strength nor material properties. Preventing whitening forcibly by using some chemicals may cause adverse effects with respect to bond strength, set time or toxicity. It is advisable, therefore, not to suppress whitening by any means unless the appearance poses serious problem. If whitening is to be prevented as far as possible, try the following measures:

- Reduce the humidity in the work site and improve ventilation.
- Minimize the amount of adhesive to be applied.

Adhesion characteristics : Shear strength

Material	Shear Strength [MPa]
Steel / Steel	10
Aluminium / Aluminium	8
Steel / Aluminium	9
PVC /PVC	4 *
PC / PC	5 *
ABS / ABS	4 *
Acrylic / Acrylic	6 *
Epoxy FR4 / Epoxy FR4	12
6.Nylon / 6.Nylon	3 *
NBR / NBR	*
EPDM / EPDM	*

Measured after 24 hours at 23°C, 50% RH.

*: Material broken

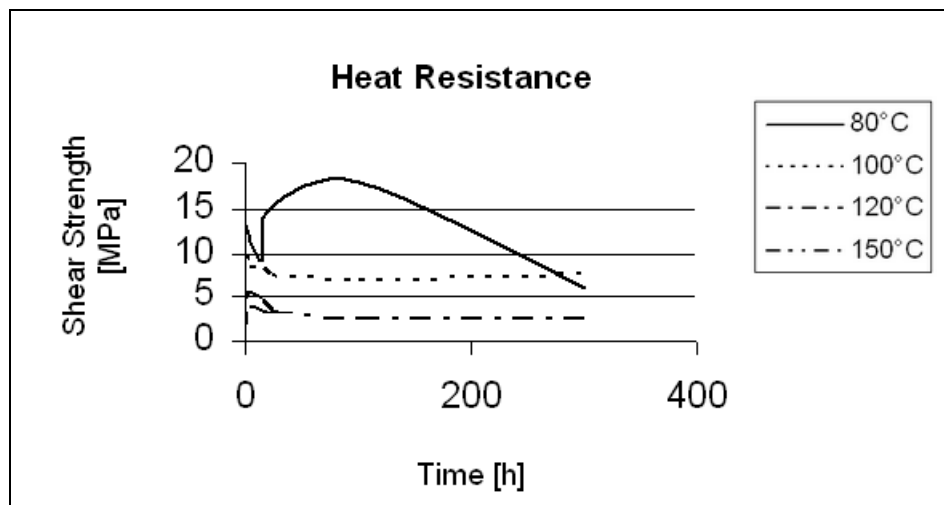
Ageing tests

Heat resistance

Test conditions : Steel / Steel
Cured at 23°C, 50%RH for 24 hours
Measurement are done at room temperature after heated in following conditions

	1h	5h	15h	24h	100h	300h
80°C	13.2	11.1	9.2	15.1	17.8	6.2
100°C	9.9	8.3	8.1	7.6	6.9	7.6
120°C	4.3	5.4	4.6	3.5	2.5	2.4
150°C	1.1	3.8	3.4	2.9	Failure	Failure

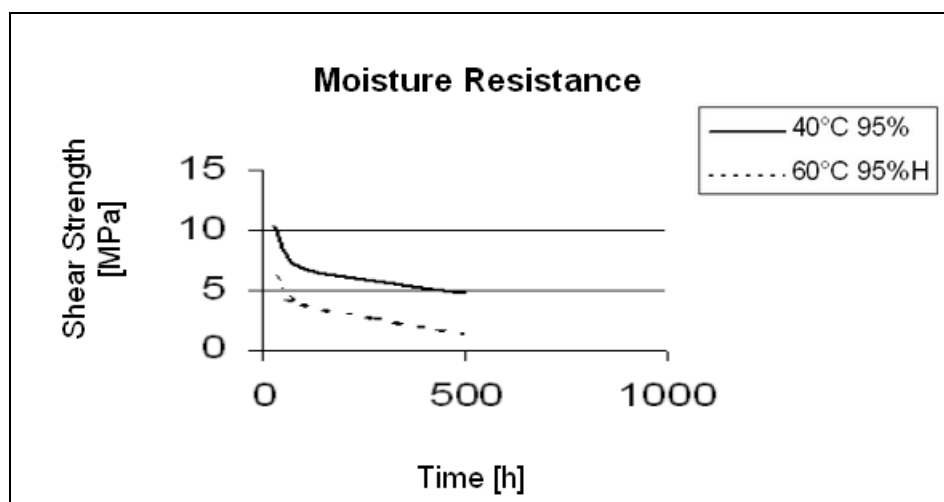
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Moisture resistance

Test conditions : Steel / Steel
Cured at 23°C, 50%RH for 24 hours
Measurement are done at room temperature after stored in following conditions

T°C x HR %	Time [hours]	Shear strength [MPa]
40°C x 95% HR	24h	10
	100h	7
	500h	5
60°C x 95% HR	24h	6
	100h	4
	500h	2



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Chemical resistance

Test conditions : Steel / Steel
Cured at 23 °C, 50%RH for 24 hours
Measurement are done at room temperature after after immersed in the following solutions for 240 hours

Chemical solution	Shear Strength [MPa]
Water	6
Glycolized Water	5
Engine Oil	15

Handling Precautions

- Harmful. Do not inhale or ingest. In the event that this product is ingested, consult a physician immediately.
- If using a large amount of this product or using for a long time, it is compulsory to ventilate the area well. If necessary, use mask, non-permeable gloves, and protective glasses. Ventilate well with local exhaust equipment.
- In case of eye contact, do not blink or rub eyes. Absolutely do not use remover or solvent. Consult a physician immediately.
- In case of abnormal reaction, stop using and consult a physician.
- Do not use on human body.
- Persons with allergies or who are sensitive should not use this product.
- Product may spray, do not point nozzle towards other persons.
- Cautions: Bonds skin and mucous membrane instantly.
- In case fingers or other skin areas are inseparably bonded together, gently tear apart by immersing into warm water (about 40°C) and rub around affected area.
- Upon contact with clothes, burns may occur due to heat generated from the chemical reaction.
- Handle with appropriate care.
- Please read direction and brochure carefully before use.
- To prevent dew formation, wait till the contents had reached room temperature before opening.
- Depending on the material of the mating surfaces, the surface may deteriorate. Confirm the effect of the product before use.
- If adhesive overflows, whitening may occur.
- This product cannot bond with polyethylene, polypropylene, silicone resin, soft PVC and glass
- Keep away from children.
- Avoid direct sunlight; store at low temperature (5 ~ 10°C) and low humidity.
- Product may solidify in container. Do not store with accelerator, epoxy hardener or other alkali materials together. Close lid tightly after use, then store.
- After the adhesive has been used up, close the container tightly and dispose as other plastics.
- This product is flammable. Please take the necessary precautions in storage and handling (refer to MSDS).
- Clean the bonding area before use.
- For industrial use only.

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Shelf Life

12 months when stored at 5 ~ 10°C, unopened.

Packaging

Available in packing size of 2g (tube), 20g (bottle), 50 g (bottle), 10 kg (bottle).

Disclaimer

For Industrial Use Only

(Do not use for household purposes)

- The data contained in this report are obtained from experimental results, based on our test methods. We cannot assume absolute responsibility for accuracy and safety. Before using this product, use your own judgement to determine whether or not this product meets the requirements of the application and objectives. This includes the burden of responsibility and hazardous danger. The extent of the guarantee provides replacement for products, which are clearly unsatisfactory.
- We assume responsibility for neither injury nor property damages resulting from the misuse of this product.
- We do not assume responsibility without written notice or contract.