

TECHSIL® CYANOACRYLATE GEL

Techsil® CA Gel is specially formulated for high strength, general purpose bonding of most metals, wood, card, plastics, rubbers, leather, fabrics and other common substrates. The gel formulation is suitable for bonding poorly mating components and for porous substrates such as china and other ceramics. It is also suitable for use on vertical and over-head surfaces as it will not drip or slump.

Techsil® CA Gel Instant Superglue is a faster curing, very high viscosity Ethyl Cyanoacrylate based adhesive. The new formulation shows greater surface insensitivity thus allowing faster bonding of all substrates and improved performance on wood, card and metals. The new gel formulation exhibits improved thixotropic behaviour and uniform appearance.

Physical Properties

Property	Test Method	Value
Uncured Product		
Chemical Type		Ethyl
Appearance		Clear Gel
Specific Gravity		1.10
Viscosity cPs ¹		
- Range @ 2.5rpm		50-90,000
- Range @ 20rpm		7-20,000
Tensile Strength ² , typical	(N/mm ²)	21
Fixture Time	(secs)	3-60
Full Cure	(Hours)	24
Flash Point	(°C)	>85
Shelf Life @ 20°C	(Months)	12
Max Gap Fill	(mm)	0.5
Operating Temperature Range	(°C)	-50 to +80

¹Brookfield RVT, T-spindle°C

Cure speed vs. Environmental conditions

Techsil® Cyanoacrylates require surface moisture on the substrates in order to initiate the curing mechanism. The speed of cure is reduced in low-humidity conditions. Low temperatures will also reduce cure speed. All figures relating to cure speed are tested at 21°C .

Cure speed vs. Substrate

The speed of cure of Cyanoacrylates varies according to the substrates to be bonded. Acidic surfaces such as paper and leather will have longer cure times than most plastics and rubbers. Some plastics with very low surface energies, such as polyethylene, polypropylene and Teflon require the use of a Primer.

Cure speed vs. Activator

Techsil® Activators may be used in conjunction with cyanoacrylates where cure speed needs to be accelerated.

Cure speeds of less than 2 seconds can be obtained with most cyanoacrylates. The use of an activator can reduce the final bond strength by up to 30% Testing on the parts to measure the effect is recommended.

Cure speed vs. Bond gap

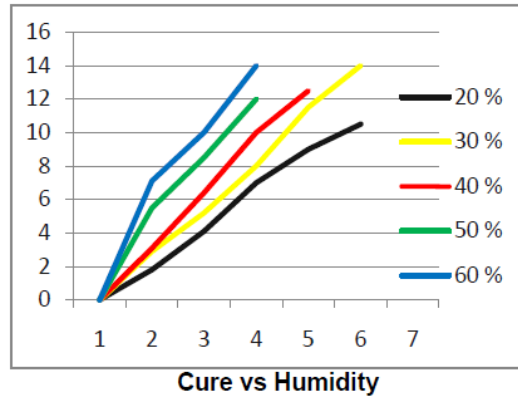
Techsil® Cyanoacrylates give best results on close fitting parts. The product should be applied in a very thin line in order to ensure rapid polymerisation and a strong bond. Excessive bond gaps will result in slower cure speeds. Cyanoacrylate Activators may be used to greatly increase cure speeds.

Contact Details

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Typical Curing Performance

Substrate	Cure Time (Secs)
Mild Steel	15 – 30
Balsa Wood	~3
Cardboard	25 – 35
ABS	10 – 15
PVC	15 – 30
Buna Rubber	~3



Typical Environmental Resistance Hot Strength

Techsil® Cyanoacrylates are suitable for use at temperatures up to 80°C. At 80°C the bond will be approximately 70% of the strength at 21°C. The bond strength at 100°C is approximately 50% of full strength at 21°C.

Chemical/Solvent Resistance

Techsil® Cyanoacrylates exhibit excellent chemical resistance to most oils and solvents including motor oil, leaded petrol, ethanol, propanol and Freon.

Techsil® Cyanoacrylates are **not** resistant to high levels of moisture or humidity over time.

Storage

Store in a cool area out of direct sunlight. Refrigeration to 5°C gives optimum storage stability.

Removal of Cured Cyanoacrylate

Cured cyanoacrylate may be removed from most substrates, and parts disassembled, with a De-bonder.

It is not possible to fully remove cyanoacrylate from fabrics

Directions for Use

Bond speed is very fast so ensure that parts are properly aligned before bonding.

Activators may be required if there are gaps or porous surfaces. Some plastics may require application of Primer.

Ensure parts are clean, dry and free from oil and grease.

Product is normally hand applied from the bottle. Apply sparingly to one surface and press parts firmly together until handling strength is achieved. As a general rule, as little cyanoacrylate as possible should be used – over application will result in slow cure speed and lower bond strength.

Please contact your representative for further advice on dispensing solutions.

DISCLAIMER

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy themselves as to the suitability of such information for their particular use.

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