



ENGLISH

## Datasheet

# Transparent Gel Tube Cyanoacrylate Adhesive

RS Stock number [473-423](#)



### Description:

This 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. It comes in 20 ml tubes.

### Applications:

The product 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.



**Properties:**

Chemical Type:	Ethyl
Appearance:	Clear Gel
Specific Gravity:	1.10
Viscosity (cPs):	Thixotropic: 50 – 90,000
Tensile Strength (N/m):	21
Fixture Time (secs):	3 - 60
Full Cure (hours):	24
Flash Point (°C):	> 85
Shelf Life at 5 °C (months):	12
Max Gap Fill (mm):	0.25
Temperature Range (°C):	-50 to 80 (continuous)

**Curing Performance:**

Typical Speed:

Mild Steel:	15 – 30
Balsa Wood:	~ 3
Cardboard:	25 – 35
ABS:	10 – 15
PVC:	15 – 30
Buna Rubber:	~ 3

Tensile Strength attained, ISO6922, on mild steel:

2 mins:	> 4 N/mm <sup>2</sup>
10 mins:	> 9 N/mm <sup>2</sup>
24 hours (full cure):	15 – 27 N/mm <sup>2</sup>

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 Bond Gap:

Cyanoacrylate will give best results on reasonably close fitting parts. A thinner bond line will give faster polymerisation and a strong bond. Large bond gaps (>0.5mm) will result in slower cure speeds and lower bond strengths.

### Cure Speed vs Activator:

Activators may be used in conjunction with the product where cure speed needs to be accelerated. Cure speeds of less than 5 seconds can be obtained. The use of an activator may possibly reduce the final bond strength by up to 30% - testing on the parts is recommended to measure the effect if bond strength is critical.

### Cure Speed vs Environmental Conditions:

Cyanoacrylate adhesives 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.

### Environmental Resistance:

#### Hot Strength:

Cyanoacrylate adhesives 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.

#### Heat Ageing:

Cyanoacrylates retain over 80% of their strength when heated to 80°C for 90 days and then tested at 21°C. Heating the bond to 100°C and then testing at 21°C gives bond strength of approximately 35% of initial strength.

#### Chemical / Solvent Resistance:

Cyanoacrylates exhibit excellent chemical resistance to most oils and solvents including motor oil, leaded petrol, ethanol, propanol and freon. Cyanoacrylates are not resistant to high levels of moisture or humidity over time.



### **Removal of Cured Cyanoacrylate:**

Cured cyanoacrylate may be removed from most substrates with a debonder. It is not possible to fully remove cyanoacrylate from fabrics.

### **Directions:**

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 Primers. 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.

### **Storage:**

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