

TECHNICAL DATA SHEET CYANOCRYLATE

DESCRIPTION

It's a medium viscosity (100cPs) Ethyl-cyanoacrylate. Formulated for high speed, high strength bonding of plastics and rubbers but is also suitable for very wide range of materials. Specially formulated for high strength, general purpose bonding of most plastics and rubbers. Recommended for use on assemblies with close fitting parts and relatively smooth, even surfaces.

Technology: Cyanoacrylate
Chemical Type: Ethyl cyanoacrylate
Appearance (uncured): transparent, colourless
Viscosity: medium
Cure: Humidity
Application: bonding
Key Substrats: Plastic, Rubber and Metals

PROPERTIES OF UNCURED MATERIAL

Specific Gravity: 1,06
Viscosity: 100cP
Tensile Strength (N/mm²): 20
Full Cure (hours) (hours): 24
Flash Point: 85°C
Shelf Life a 5°C (months) Shelf Life a 5°C (months): 12
Max Gap Fill (mm) Max Gap Fill (mm): 0,15
Operating Temperature Range (°C): -50°, +80°

CURING PERFORMANCE

Cure Speed vs. Substrate

This is defined as the time to develop a shear strength of 0,1 N/mm². The speed of cure of cyanoacrylate 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 P.T.F.E require the use of Primer.

Fixture Time, Seconds

Steel	5 a 20
Aluminium	2 a 10
Neoprene	<4
Rubber	<3
ABS	2 a 10
PVC	2 a 10
Wood Balsa	2 a 4
Wood Oak	60 a 180
Carton	20 a 90
Textile	2 a 15
Leather	5 a 15
Paper	1 a 10

Cure Speed vs. Bond Gap

Cyanoacrylate gives 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. Activator may be used to greatly increase cure speeds.

Cure Speed vs. Humidity

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.

Cure Speed vs. Activator

Activator may be used in conjunction with cyanoacrylate where cure speed needs to be accelerated. Cure speeds of less than 2 seconds can be obtained with most cyanoacrylate. The use of an activator can reduce the final bond strength by up to 30%.

PERFORMANCE OF CURED MATERIAL

After 24 hours to 21°C

Lap Shear Strength		
Steel	N/mm ²	18 to 26
	(psi)	(2600 a 3700)
Aluminium	N/mm ²	10 to 18
	(psi)	(1600 a 2800)
ABS	N/mm ²	>5
	(psi)	(>875)
PVC	N/mm ²	>4
	(psi)	(>580)

Tensile Strength		
Steel	N/mm ²	12 to 25
	(psi)	(1740 s 3625)

PROPERTIES OF CURED MATERIAL

After 24 hours to 21°C

Physical Properties	
Coefficient of Thermal Expansion	80x10 ⁻⁶ K ⁻¹
Coefficient of Thermal Conductivity	0,1W/(m.k)
Glass transition Temperature	120°C

Electrical Properties	
Dielectric Constant / Dissipation Factor	
0,1 KHz	2,25 / <0,02
1 KHz	2,25 / <0,02
10 KHz	2,25 / <0,02
Volume Resistivity (W.cm)	10x10 ¹⁵
Surface Resistivity (W)	10x10 ¹⁵
Dielectric Breakdown Strength (Kv/mm)	25

ENVIRONMENTAL RESISTANCE

After 1 week to 21°C

Hot Strength

Our adhesives are suitable for use at temperatures up to 80°. 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 Aging

Cyanoacrylate retains over 90% of their strength when heated to 80°C for 7 days and then tested at 21°C. Heating the bond to 100°C and then testing at 21°C gives bond strength of approximately 50% of initial strength.

Chemical / Solvent resistance

Cyanoacrylate adhesives exhibit excellent chemical resistance to most oils and solvents including motor oil, leaded petrol, ethanol, propane and Freon. Cyanoacrylate is not resistant to high levels of moisture or humidity over time.

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Material Safety Data Sheet.

Directions for Use

1. For best performance bond surfaces should be clean and free from grease.
2. This product performs best in thin bond gaps (0,05 mm).
3. Apply sparingly to one surface and press parts firmly together until handling strength is achieved.
4. Activators may be required if there are gaps or porous surfaces. Some plastics require previous application of primer.
5. Product is normally hand applied from the bottle.
6. Cured cyanoacrylate may be removed from most substrates, and parts disassembled, with debonder. It is not possible to remove cyanoacrylate from fabrics. De bonder is not good for the view, for more information consult the Material Safety Data Sheet.

Storage

Store product in an unopened container in a dry and cool location. Storage information may be indicated on the product container labelling. The optimal storage is between 2°C to 7°C.

Storage below 2°C or greater than 7°C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container.

Safety

Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of reach of the children.

Irritating to Eyes, respiratory system and skin. Do not breathe fumes/vapour. Avoid contact with skin and eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable gloves. For additional information consult the Material Safety Data Sheet.

Data Ranges

The data contained in this data sheet may be reported as typical value and/or range. Values are based on actual test data and are verified on a regular basis.

PRESENTATION

Bottle 20ml. 12 units/box

RECOMMENDATIONS OF MANAGEMENT RESIDUES

Recommending for reason at the content of recipient, to deliver this recipient at a management residues person authorized for its destruction or its recuperation, as well as anything element to throw out that it was with contact with this product.

NOTE

The information supplied in this Specification Sheet is of general type following our experience. We cannot take responsibility by an inadequate use of the product.