

ADH9416 Cyanoacrylate adhesive

Description

ADH9416 is a high viscosity modified Ethyl Cyanoacrylate adhesive. The adhesive is suitable for bonding a very wide range of materials, including many porous ones, where a fast cure speed is required.

Key properties

- High viscosity
- Bonds difficult substrates with either absorbent and porous surfaces

Product data

Properties of uncured material	
Chemical type	Ethyl
Appearance	Clear
Specific gravity	1.08
Viscosity cPs ¹	
- range	1275-1650
- typical value	1500
Tensile strength ² (N/mm ²)	21
Fixture time (secs)	5-60
Full cure (hours)	24
Flash point (°C)	>85
Shelf life at 5°C (months)	12
Max gap fill (mm)	0.20
Operating temperature range (°C)	-50 to +80

¹Brookfield LVF, spindle 3, 30rpm

²ISO 6922

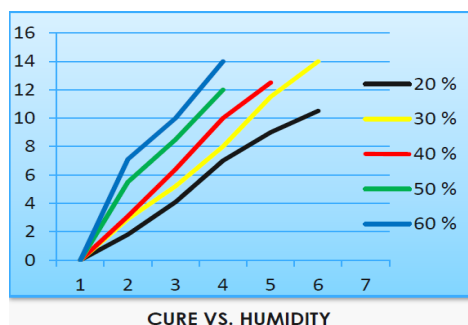
Cure speed vs. substrate

The speed of cure of cyanoacrylates adhesives 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 Adhere 9770 primer.

Typical curing performance	
Typical speed:	
Steel / Steel	<60 seconds
ABS / ABS	<20 seconds
Rubber / Rubber	<10 seconds
Wood (balsa)	<3 seconds

Cure speeds 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.



Technical Data Sheet

Cure speeds vs. activator	<p>ADH 9455 activator may be used in conjunction with cyanoacrylate adhesives where cure speeds needs to be accelerated.</p> <p>Cure speeds of less than two seconds can be obtained with most cyanoacrylate adhesives.</p> <p>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.</p>
Cure speeds vs. bond gap	<p>Adhere cyanoacrylate adhesives give best results on close fitting parts. The product should be applied in a very thin bond line in order to ensure rapid polymerisation and a strong bond. Excessive bond gaps will result in slower cure speeds. Adhere cyanoacrylate activators may be used to greatly increase cure speed.</p>
Typical environment resistance hot strength	<p>Adhere 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.</p>
Chemical / solvent resistance	<p>Cyanoacrylate adhesives exhibit excellent chemical resistance to most oils and solvents including motor oil, leaded petrol and ethanol.</p> <p>Cyanoacrylate adhesives are not resistant to high levels of moisture or humidity over time.</p>
Storage	<p>Store in a cool area and out of direct sunlight. Refrigeration to 5°C give optimum storage stability.</p>
Packaging	<p>Cyanoacrylate adhesives are supplied in 20g or 50g pin cap bottles, 500g bottles and bulk packs.</p>
Direction for use	<p>Bond speed is very fast, so ensure that parts are properly aligned before bonding.</p> <p>Activators may be required if there are gaps or porous surfaces. Some plastics may require application of a primer.</p> <p>Ensure parts are clean, dry and free from oil and grease.</p> <p>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 adhesive as possible should be used - over application will result in slow cure speed and lower bond strength.</p>
General information	<p>For safe handling of this product, consult the Safety Data Sheet.</p>
Notes and disclaimer	<p>The information contained herein is produced in good faith and is believed to be reliable, but is for guidance only. Intertronics and its agents cannot assume liability or responsibility for results obtained in the use of its product by persons whose methods are outside or beyond our control. It is the user's responsibility to determine the suitability of any of the products and methods of use or preparation prior to use mentioned in our literature and furthermore the user's responsibility to observe and adapt such precautions as may be advisable for the protection of personnel and property in the handling and use of any of our products.</p>

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