KRYLEX® Adhesives and sealants

KB1054

Rubber Toughened Instant Adhesive (Cyanoacrylate)

Document No:	KX-01-600-2301
Issue:	1
Amendment:	b
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TECHNICAL DATA

PRODUCT DESCRIPTION

KRYLEX® KB1054 is a high viscosity, black rubber-toughened cyanoacrylate adhesive. KB1054 displays excellent peel and impact strength and is well suited to applications involving vibration, thermal shock, temperature cycling and high humidity.

TYPICAL APPLICATIONS

KRYLEX® KB1054 is specially formulated to provide a more flexible bond than standard cyanoacrylates. KB1054 can be used up to 105°C and has intermittent temperature resistance up to 125°C. KB1054 can be used to bond a wide variety of substrates including metals, plastics, rubbers, etc. KB1054 can be used on PCB's to provide strain relief for large components.

PROPERTIES OF MATERIAL

		Value
Chemical type		Modified Ethyl
Appearance		Black Liquid
Specific Gravity		1.10
Viscosity range [1]	cPs @ 2.5 rpm	5,000-10,000
Viscosity range [1]	cPs @ 20 rpm	1,000-3,000
Tensile Strength [2]	(N/mm^2)	20
Fixture Time	(secs)	20-90
Full Cure	(hours)	24
Flash Point	(°C)	> 85
Shelf Life @ 5°C	(months)	6
Max Gap Fill	(mm)	0.20
Temperature Range	(°C)	
	Continuous	-50 to +105
	Intermittent	-50 to +125

[1] Brookfield RVT, spindle 3

[2] ISO 6922

CURING PERFORMANCE

Typical Speed:

Steel/steel	<50 seconds
ABS/ABS	<30 seconds
Rubber/Rubber	<25 seconds

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 ***KRYLEX®*** KP707 Primer (see KP707 TDS for further info).

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.

Cure speed vs. bond gap

KRYLEX® 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.

Cure speed vs. activator

KRYLEX® KP4527 Activator may be used in conjunction with ***KRYLEX®*** KB1054 cyanoacrylate where cure speed needs to be accelerated or tack-free fillets are desired. Cure speeds of 2 to 20 seconds can be obtained, depending on application and bond orientation. The use of an activator can reduce the final bond strength by up to 30%

Chemence recommends testing on the parts to measure the effect if critical.

ENVIRONMENTAL RESISTANCE

Hot strength

KRYLEX® KB1054 cyanoacrylate adhesive is suitable for use at temperatures up to 105°C continuously, intermittently up to 125°C. At 105°C the bond will be approximately 40% of the strength at 21°C

Heat ageing

KRYLEX® cyanoacrylates retain over 90% of their strength when heated to 100°C for 90 days and then tested at 21°C. Heating the bond to 120°C and then testing at 21°C gives bond strength of approximately 50% of initial strength.

Chemical / Solvent Resistance

KRYLEX® 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, and parts disassembled, with ***KRYLEX®*** KP687 Debonder. It is not possible to fully remove cyanoacrylate from fabrics.

GENERAL INFORMATION

For safe handling of this product consult the Material Safety Data Sheet.

STORAGE

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

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DIRECTIONS FOR USE

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

KRYLEX® KP4527 Activator may be required if there are gaps or porous surfaces.

Some plastics may require application of ***KRYLEX***® KP707 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 ***KRYLEX***® representative for further advice on dispensing solutions.

PRESENTATION

Bottles:..... 50g, 500g
Available in bulk for use with dispensing systems

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.

NOTES

The information contained herein is produced in good faith and is believed to be reliable but is for guidance only. Chemence Ltd 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.