CHEMENCE

TECHNICAL DATA

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CF5

PRODUCT DESCRIPTION

Chemence CF-5 is a very fast curing, very low viscosity modified Ethyl Cyanoacrylate adhesive. It is suitable for the bonding of a very wide range of materials, including acidic surfaces and some porous ones, where rapid bonding times are required.

TYPICAL APPLICATIONS

Chemence CF-5 is specially formulated for bonding absorbent or porous surfaces such as paper, wood and leather. CF-5 is also suitable for the rapid bonding of a wide range of plastics, metals and rubbers. Can be used as a wicking adhesive on pre-assembled parts.

PROPERTIES OF MATERIAL

		Value
Chemical type		Ethyl
Appearance		Clear Liquid
Specific Gravity		1.04
Viscosity [1]	cPs	2-5
Typical Value	cPs	3
Tensile Strength[2]	(N/mm^2)	20
Fixture Time[3]	(secs)	1-25
Full Cure	(hours)	24
Flash Point	(°C)	> 85
Shelf Life @ 5°C	(months)	12
Max Gap Fill	(mm)	0.05
Temperature Range	(°C)	
	Continuous	-50 to +80

1 Cone and Plate Rheometer, controlled stress
2 ISO 6922
3 Depending on substrate and conditions

CURING PERFORMANCE

Typical Speed:

Steel/steel (Degreased)	5-20	seconds
Aluminium	2-10	seconds
ABS/ABS	2-7	seconds
Rubber/Rubber	1-6	seconds
Wood (balsa)	2-5	seconds
Chipboard	25-70	seconds
Fabric	<10	seconds
Leather	2-20	seconds
Paper	2-10	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 Chemence LA-77 Primer (see LA-77 TDS for further info).

Cure speed vs. bond gap

Chemence 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

Chemence Activators LA-11 and LA-12 may be used in conjunction with Chemence cyanoacrylates where cure speed needs to be accelerated. Cure speeds of less than 2 seconds can be obtained with most Chemence cyanoacrylates. 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.

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

Chemence 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

Chemence cyanoacrylates retain over 90% 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 50% of initial strength.

Chemical / Solvent Resistance

Chemence 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 Chemence LA-68 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.

DIRECTIONS FOR USE

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

Chemence Activators may be required if there are gaps or porous surfaces. Some plastics may require application of Chemence LA-77 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 Chemence representative for further advice on dispensing solutions.

PRESENTATION

Bottles: ... . 20g, 50g and 500g.
Available in bulk for use with dispensing systems.

STORAGE

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

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.