



PRODUCT DESCRIPTION

ELITE ADHESIVE E1416 (1500 cps) is a highviscosity (1500 cPs) Ethyl Cyanoacrylate based adhesive. E1416 is formulated for rapid, high strength bonding of plastics and rubbers but is also suitable for bonding a very wide range of materials.

TYPICAL APPLICATIONS

E1416 is specially formulated for high strength,general purpose bonding of most plastics and rubbers . E1416 has excellent gap-filling ability and can be used on parts that do not fit together perfectly. The high viscosity formulation means that the adhesive does not wick into unwanted areas.

PROPERTIES OF UNCURED MATERIAL

	Value
Chemical type	Ethyl
Appearance	Clear
Specific Gravity	1.08
Viscosity cPs ¹	
– range	1200-1700
– typical value	1500
Tensile Strength ²	(N/mm ²) 20
Fixture Time	(secs) 20-100
Full Cure	(hours) 24
Flash Point	(°C) > 85
Shelf Life @ 5°C	(months) 12
Max Gap Fill	(mm) 0.2
Operating Temperature Range (°C)	-50 to +80

¹ Brookfield LVF, Spindle 3, speed 30rpm
² ISO 6922

TYPICAL CURING PERFORMANCE

Typical Speed:	
Steel/steel	<60 seconds
ABS/ABS	<20 seconds
Rubber/Rubber	<20 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 ELITE® require the use of ELITE AC - 77 Primer (see AC-77 TDS for further info).

ELITE 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. ELITE AC11 and AC12 Cyanoacrylate Activators may be used to greatly increase cure speeds (see AC11 and AC12 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. activator

ELITE Activators AC11 and AC12 may be used in conjunction with ELITE cyanoacrylate where cure speed needs to be accelerated.Cure speeds of less than 2 seconds can be obtained with most ELITE cyanoacrylates. The use of an activator can reduce the final bond strength by up to 30%- Chemence ecommends testing on the parts to measure the effect.

TYPICAL ENVIRONMENTAL RESISTANCE

Hot strength

ELITE cyanoacry late 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.

TYPICAL ENVIRONMENTAL RESISTANCE

Heat ageing

ELITE 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

ELITE 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.

GENERAL INFORMATION

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

REMOVAL OF CURED CYANOACRYLATE

Cured cyanoacrylate may be removed from most substrates, and parts disassembled, with ELITE AC68 Debonder. It is not possible to fully remove cyanoacrylate from fabrics.

DIRECTIONS FOR USE

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

ELITE Activators may be required if there are gaps or porous surfaces. Some plastics may require application of ELITE AC77 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 ELITE representative for further advice on dispensing solutions.

STORAGE

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

PRESENTATION

Bottles: 20g, 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. ELITE CO., LTD and its agents TD 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.