



ChemTools 8444 Cyanoacrylate Adhesive Wire Tacking Adhesive

ChemTools 8444 is a medium viscosity cyanoacrylate adhesive, combined with fast cure speed, surface insensitive cyanoacrylate adhesive. It is specifically formulated to bond difficult surfaces with high industrial strength.

Applications:

- Ideal for wire tacking applications.
- Wide variety of industrial manufacturing and repair applications
- Meets Military Specification MLLA 46050 Type II Class II.

Bonding Times:

Plastics	3-6 seconds	Rubbers	<3 seconds
Wood	1-6 seconds	Leather	7-17 seconds
Metals	9-12 seconds	Ceramics	14-20 seconds

Physical Properties:

Liquid

Composition	Ethyl Cyanoacrylate Adhesive
Appearance	Colorless liquid
Viscosity@ 25°C, cps (Brookfield LVF, Spindle 1-60 rpm)	700

Cured Adhesive

Gap Filling	0.35 mm
Tensile Shear Strength	20-28 N/mm ²
Service Temperature Range	-60 to + 80°C
Full Cure	24 hours
Melting Point Temperature	160 to 170°C

Shear Strength, ASTM D1002/DIN 53283

Grit Blasted Steel	>22 N/mm ²
Etched Aluminium	>18 N/mm ²
Rubbers	>20 N/mm ²
Wood	>25 N/mm ²
Polycarbonate	>12 N/mm ²

Physical Properties

Glass Transition Temperature, ASTM E228	120°C
Coefficient of thermal expansion, ASTM D696, K ⁻¹	100 x 10 ⁻⁶
Coefficient of thermal conductivity, ASTM C177, Wm ⁻¹ K ⁻¹	0.1



Electrical Properties

Dielectric Strength, ASTM D149, kV/mm	25
Volume Resistivity, ASTM D257, Ohm.cm	1×10^{16}
Dielectric Constant, ASTM D150, 25°C	2.3

Chemical Resistance Properties:

Chemical	Temperature	%Initial Strength Retained	
		500 hrs	1000 hrs
Isopropanol	22°C	85	85
Petrol	22°C	80	75
Motor Oil	40°C	90	90
Mineral Spirit	22°C	90	90

Mechanical Properties

Glass Transition Temperature, ASTM E228	120°C
Dielectric Strength, ASTM D149, v/mil	625
Coefficient of thermal expansion, ASTM D696, K ⁻¹	100×10^{-6}
Coefficient of thermal conductivity, ASTM C177, Wm ⁻¹ K ⁻¹	0.1

Application Method:

- All surfaces must be clean, dry, dust and grease free. Best result will be achieved with surfaces that have been lightly abraded immediately prior to bonding.
- If using accelerator apply to one component surface only. Apply thin film of adhesive to the other surface and bring the pieces together immediately. Hold for few seconds without disturbing the joints.
- When bonding 'O'-rings, cut a fresh surface onto each end of the rubber to obtain the best possible strength.

Storage:

Anaerobic adhesives shall be ideally stored in a cool, dry place in unopened containers at a room temperature between 7°C to 28°C. Please do not return any unused material to its original container.

PRECAUTIONS: This product and the auxiliary materials normally combined with it are capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the material.

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