



CA7000

Medium-Viscosity, Medium Set-Time, Moisture-Resistant, Cyanoacrylate Adhesive for Bonding Metal

Description

Lord® CA7000 is a cyanoacrylate adhesive used to bond slightly dirty or oily metals to themselves and to joining plastic to metal. Lord CA7000 adhesive provides better moisture resistance than most cyanoacrylates. Lord CA7000 adhesive qualifies for Mil-A-46050C Type I, Class 2 approval.

Features and Benefits

Product Purity - contains no measurable trace of moisture contamination. Provides exceptionally consistent bond performance. Prevents settling, sedimentation and premature cure during storage.

Easy to Use - requires minimal user training. Provides consistent results from part to part, ensuring high quality production.

Excellent Temperature Resistance - provides good performance at temperatures -53°C to 93°C (-65°F to 200°F). Resists weathering and aging.

Fast Cure - minimizes set-up time and reduces overall process time. Sets in 3-4 seconds when bonding plastic; and 20 - 25 seconds when bonding metal.

Surface Preparation

Remove oil, grease, mold release, or other contaminants by pretreating with acetone, alcohol, ethyl acetate, or similar degreasing chemicals. Do not use any preparations which would cause the surface to become acidic, as this can slow adhesive cure.

Roughen metal and plastic surfaces with sandpaper or by sand blasting. Machining of plastics (i.e., milling, drilling, or grinding) will remove adhesive repellents such as mold lubricants. This will allow for better wetting of the parts with the adhesive.

Special surface treatments such as flame treating or sodium etching are necessary for plastics such as polyethylene, polypropylene, polytetrafluoroethylene, polyacetal, and other fluorinated hydrocarbons. In cases where pretreatment is impractical, test to determine if adhesive can be used without pretreatment.

Table 1: Typical Properties* of Uncured Lord CA7000 Adhesive

Appearance	Colorless liquid
Base Compound	Methyl
Viscosity, cP at 20°C (68°F)	90
Specific Gravity grams/cubic centimeter lb/gal	1.09 ± 3% 8.83 ± 3%
Flash Point (TCC)	85°C (185°F)
Time to Handling Strength Plastic Metal	3 - 4 seconds 20 - 25 seconds
Full Cure	24 hours
Shelf Life	6 months from date of shipment, @ 2°C - 7°C (35°F - 45°F), unopened container.

* Data is typical and not to be used for specification purposes.

Application

Apply Lord CA7000 adhesive by the drop. Maintain pressure while joining the parts. The adhesive film is determined by the square foot area covered by a 0.001 inch (0.00025 mm) film.

Coverage is determined on the basis of the number of drops dispensed by a specific container. Use the information below as a general guideline.

Bottle Size	Drops/Bottle	Square ft per 0.001 inch film
14 gm	900	0.45
28 gm	1,800	0.09
56 gm	3,600	1.81

Smaller bottles are equipped with a dispenser tip to facilitate drop-size application. Lord CA7000 adhesive 56-gram bottles are packaged with a unique safety-seal retaining ring. Follow these steps to prevent potentially dangerous spills.

1. Break cap's seal.
2. Remove cap. Save to reseal bottle.
3. Do not remove retaining ring.
4. Cut applicator tip to desired opening.
5. Apply adhesive.
6. Replace cap.

Do not expose components to be bonded with Lord cyanoacrylate adhesive to aliphatic hydrocarbons and ester solvents. They will not resist alkalis and

concentrated acids. Prolonged exposure to water or high humidity (>90% R.H.) will weaken the bond.

Curing

Actual setting times will be effected by factors such as temperature, humidity, glue line thickness and the mechanical and chemical nature of the surfaces to be bonded. Acidic surfaces retard polymerization, while alkaline surfaces accelerate polymerization.

Packaging

- Bottles: 14-gram, 28-gram, 56-gram

Automatic dispensing equipment is available from outside vendors. Contact your Lord representative for recommended suppliers.

Storage

Store Lord CA7000 adhesive at 2°C - 7°C (35°F - 45°F). Bring to room temperature before using.

Cautionary Information

Before using this or any Lord product, refer to the Material Safety Data Sheet (MSDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

Table 2: Typical Properties* of Cured Lord CA7000 Adhesive

Appearance	Colorless solid
Service Temperature Range	-53°C to 93°C (-65°F to 200°F)
Softening Point	165°C (329°F)
Refractive Index (ND 20)	1.49
Dielectric Strength KV/mm	12.9
Dielectric Constant @ 1Kc	5.4
Coefficient of Thermal Expansion (in/in/°F)	0.000126
Tensile Strength: Aluminum/Aluminum	3915 psi

*Data is typical and not to be used for specification purposes.

Values stated in this bulletin represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Service Department.

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