Product Datasheet

SP&S Specialty Polymers and Services

LIQUIDWELD™ 417

Multipurpose, Surface Insensitive, Low Viscosity Cyanoacrylate Adhesive

Product Description
LIQUIDWELD 417 is a one component, very low viscosity, wicking grade cyanoacrylate for close surface contact applications. It bonds to most surfaces without the need for a primer and sets quickly. The rapid setting reduces the chances of fumes or fogging compared to other cyanoacrylates. The cured adhesive is resistance to heat, moisture, vibration, and many chemicals including gasoline, motor oil, and alcohols.

LIQUIDWELD 417 is ideal for many industrial & electronic applications, marine, construction and appliance applications, and for HVAC, refrigeration, roofing, & plumbing applications.

Key Features
- 100% Reactive, no solvents
- Forms rapid, strong bonds to many surfaces
- Conforms to MIL-A-46050C Type II Class 2 & CID A-A-3097 Type II Class 2

Typical Properties

UNCURED PROPERTIES	
Appearance	Clear to light yellow Liquid
Viscosity	2 – 4 cps
Maximum Gap Fill	0.05 mm
Specific Gravity	1.1
Volatile Organic Content	27 grams / liter
Fixture / handling time* (0.3 N/mm² shear strength is achieved)	Steel - 7 seconds Buna N Rubber - 4 seconds ABS - 5 seconds
Full Strength at 25°C	24 hours

*Handling times can be affected by temperature, humidity and specific surfaces being bonded. Larger gaps or acidic surfaces will also reduce cure speed, but this can be overcome by the use of activators. Please contact us for assistance if this is a concern

CURED PROPERTIES:	
Shear Strength on Steel	2200 - 3200 psi (results will vary depending on the level of surface preparation and gap)
Shear Strength on Rubbers	Up to 3400 psi (results will vary depending on type of rubber and gap)
Shear Strength on ABS	>1500 psi (results will vary depending on surface (preparation and gap
Impact strength	1.4 – 2.5 ft-lb / in^2
Shore A Hardness	85D
Dielectric Constant at 10 kHz	2.5
Dielectric Strength	25 kV/mm
Coefficient of Thermal Expansion	90 ppm/°C
Thermal Conductivity	0.18 W/mK
Service Temperature Range	-60°C to 95°C

Note: Not for Product Specification Purposes – these are typical values and based on 24 cure time. Please contact SP&S for assistance in writing purchasing specifications.

Surface Preparation:

Surfaces should be clean, dry and grease-free before applying the adhesive. Use a suitable solvent (such as acetone or isopropanol) for the degreasing of surfaces. Some metals such as aluminum, copper and its alloys will benefit from light abrasion with emery cloth (or similar), to remove oxide layers prior to bonding. If this is done the bonding must be completed shortly after abrasion and cleaning or the oxide layer will reform.

Application Instructions:

Apply the adhesive sparingly to one surface. Bring the components together quickly and correctly aligned. Apply sufficient pressure to ensure the adhesive spreads into a thin film. Do not disturb or re-align until sufficient strength is achieved, at least a few seconds. Any surplus adhesive can be removed with acetone or LIQUIDWELD Debonder

For difficult to bond or porous surfaces using a surface activator is recommended. If bonding polypropylene, polyethylene, PTFE or silicone, priming with a suitable Primax primer will allow the LIQUIDWELD 417 to achieve a strong, durable bond. Contact us for primer and activator recommendation if this might apply to your application.

Shelf-life and Storage

Storage at 4°C – 10°C, in the tightly closed original containers, may prolong the shelf-life to 18 months or longer. If storing cold. Allow to warm to room temperature prior to opening to avoid condensation entering the container, which could ruin the product. Storage at 15°C - 30°C will allow for a minimum 12 month shelf-life.

FIRST AID

In case of contact:

Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.

Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

DISCLAIMER:

IMPORTANT: The following supercedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PURPOSE**. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended

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