PERMABOND® 265

Cyanoacrylate

Ref. #: 010106PB265

FEATURES & BENEFITS

- Instant Setting
- Improved Gap Filling
- Faster Strength Development
- Improved Bonding to Difficult Surfaces
- High Shear Strength
- Easy to Apply
- One Part System

TYPICAL APPLICATION

Rubber bonding
Bonding of passivated metals

GENERAL DESCRIPTION

PERMABOND 265 is a medium viscosity cyanoacrylate ideal for intermediate gap fill application.

PERMABOND 265 provides faster set times and improved gap-filling capability compared to conventional cyanoacrylates. The adhesive bonds to a wide range of substrates including metals, ceramics, plastics and elastomers. It is excellent for bonding difficult-to-bond plastics such as polyacetals.

PHYSICAL PROPERTIES OF THE UNCURED ADHESIVE

Chemical Type	Ethyl
Color	Colorless
Viscosity, cP @ 25°C	400
Specific Gravity	1.05
Flash point, °C (°F)	83 (181)
Shelf Life stored at 2°C – 7°C (35°F – 45°F), months	12
Maximum gap fill; in (mm)	.008 (0.20)

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CURE RATE

The cure rates of cyanoacrylates are dependent on the substrate used, gap, and relative humidity. The table below shows the set time of various substrates. Cyanoacrylate adhesives have limited gap-filling capability. The speed of cure and the ultimate strength might decrease as the gap increases. The cure speed of cyanoacrylates will depend on the ambient relative humidity; the cure rate generally increases with increasing humidity. The cure rate of cyanoacrylates can be increase by applying activator **QFS16.** However, the application of the activator might decrease the ultimate strength of the bond.

CURE RATE at 25°C

Set time, seconds	
Steel	10
Buna N Rubber	10
Phenolic	10
Full cure, hours	24

PHYSICAL PROPERTIES OF THE CURED ADHESIVE

Hardness (Shore A)	85
Dielectric Strength (volts/mil), approx.	250
Operating Temperature, °C, (°F)	-60 (80°) to 82 (180°)
Soluble In	Nitroethane, Methyl, Ethyl, Ketone, Acetone

TYPICAL PERFORMANCE OF THE CURED ADHESIVE

Cured at 25°C for 24 hours

Shear Strength, psi (N/mm^2)	
Grit blasted steel	2900 (20)
Aluminum	1200 (8.3)
Impact Strength (ASTM D-950), $ft\text{-}lb/in^2$	3-7

CHEMICAL RESISTANCE

Cured **PERMABOND** adhesives have good resistance to many common solvents. However, the cured resistance is reduced as the polarity of the solvent increases. Non-polar solvents such as gasoline, motor oil, and dioctyl phthalate **(DOP)** have only a minimal effect but polar solvents cause severe bond deterioration. Alcohols will only deteriorate bonds over several months, but acetone is a good solvent for cyanoacrylate. Boiling water will destroy the bonds in less than 24 hours and this process is accelerated when the solution is alkaline. Amines tend to dissolve the bond rapidly. Most solvent washes will not affect the adhesive bonds due to the short exposure time.

THERMAL RESISTANCE

The cured cyanoacrylate is a thermoplastic material that soften at approximately 177°C (350°F), but it can safely be used at temperatures between –60°C (-80°F) and 82°C (180°F). Beyond this temperature, strength loss is relatively rapid. While the product may perform in certain situations, a general recommendation is not made for use above 82°C (180°F). All grades can resist short exposures up to 150°C (300°F).

SURFACE PREPARATION

The surface should be free of gross contamination such as dirt, dust, grease or oil. An alcohol wipe is suitable for cleaning most surfaces. Acetone is recommended for epoxies, polyesters, phenolics, melamine, urea formaldehyde, nylon and polyurethane. Optimum strength is obtained by abrading the surface followed by a solvent wipe to remove any loose particles.

APPLICATION

1. For best results the surface should be properly clean.
2. Apply the adhesive sparingly to one surface.
3. Assemble the parts making sure that they are correctly aligned.
4. Apply sufficient pressure to ensure that the adhesive spreads into a thin film.
5. Do not move parts until fixture strength is achieved.
6. When bonding polyethylene, polypropylene, PTFE or silicone, we recommend priming the surfaces with Permabond Polyolefin Primer before using the adhesive.

STORAGE & HANDLING

Cyanoacrylate adhesives are subject to an aging process and have a limited shelf life. When stored in the original unopened container in a refrigerator between 2°C and 7°C (35°F and 45°F), the shelf life is 12 months from the date of shipment from Permabond. It could be less when stored at ambient environment depending on conditions of temperature and humidity.

A note of caution: Before opening, the containers must be warmed to room temperature; otherwise water might condense into the bottle and cause hardening of the adhesive.

Avoid skin contact. Wear polyethylene gloves and safety glasses. Do not use rubber or cloth gloves. Cyanoacrylates can form strong bonds rapidly to skin. To break the bond, peel and flex the skin carefully. Immersion in soapy water aids in breaking the cyanoacrylate bond. Acetone or nail polish remover may also be used. **If cyanoacrylate should come in contact with the eyes, seek medical attention.**

Cyanoacrylate vapors are lachrymatory and can irritate eyes and mucous membranes. Use these materials with proper ventilation.

For additional information consult the Material Safety Data Sheet (MSDS).

VAPOR CONTROL RECOMMENDATIONS

1. Use adequate ventilation. Remove adhesive vapors with suitable exhaust ducting. Since cyanoacrylate vapors are heavier than air, place exhaust intake below work area. Activated charcoal filters using an acidic charcoal have been found effective in removing vapors from effluent air.

2. Avoid use of excess adhesive. Excess adhesive outside of the bond area will increase the level of vapors. Automatic dispensing equipment will prevent excess adhesive.

3. Assemble parts as quickly as possible. Long open times will increase level of vapors.

CLEAN UP OF SPILLED LIQUID

When large quantities of cyanoacrylate adhesives are accidentally spilled, the area should be flooded with water that will cause the liquid cyanoacrylate to cure. The cured material can then be scraped from the surface. **NOTE**: The liquid adhesive should not be wiped up with rags or tissue. The fabric will cause polymerization and large quantities of adhesive will generate heat on cure, causing smoke and strong irritating vapors. **ALWAYS FLOOD WITH EXCESS WATER TO CLEAN UP SPILL CONDITIONS.**

For additional information consult the Material Safety Data Sheet (MSDS).

FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN