PERMABOND® 739

Toughened Cyanoacrylate

Ref. #: 010104PB739

TYPICAL APPLICATIONS

Speaker Assembly
Bonding to Black Substrates
Black PVC Wire Bonding

FEATURES & BENEFITS

- Provides better impact and peel strength
- Bonds in 10 -15 seconds to most surfaces
- Color is suitable for matching dark surfaces
- Material is capable of curing through gaps as large as 0.020 inches

GENERAL DESCRIPTION

PERMABOND 739 is a toughened cyanoacrylate with improved impact and peel strength when compared to a conventional cyanoacrylate. It bonds rapidly at room temperature and its viscosity is stable over the shelf life of the product. This provides consistent performance. The product adheres to a variety of surfaces including steel, aluminum, galvanized steel, plastics and elastomers.

PHYSICAL PROPERTIES OF THE UNCURED ADHESIVE

Properties	
Solids, %	100
Color (1)	Black
Viscosity, cP, at 25°C, 2 rpm	10,500 – 13,500
20 rpm	7,000 – 10,000
Flash Point, °C (°F)	83(181)
Specific Gravity	1.1
Gap Filling, inches	0.020
Shelf Life stored at 2°C-7°C (35°F-45°F), months	12

(1) To obtain maximum opacity, the product should be refrigerated when not in use. Total time at room temperature is about 6 months before settling of the black additive occurs reducing black intensity. Shaking will not restore the original black intensity.

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PERFORMANCE OF THE CURED ADHESIVE

Set Time, Seconds	
Steel	10 -15
Aluminum	10 -15
Phenolic	10 -15
Buna Rubber	5 -10
Lap Shear Strength, psi	
(ASTM D1002)	
(5 minutes)	1,200
(24 hours at room temperature)	
Steel/Steel	2,000
PVC/PVC (rigid)	Substrate Failure
Acrylic/Acrylic	Substrate Failure
Polycarbonate/Polycarbonate	Substrate Failure
Peel Strength, pli	
180° Peel (ASTM D903)	
Steel/Steel[1]	13.0
[1]) Using sandblasted steel	
Impact Resistance, ft-lb/in^2	
(ASTM D950)	
Steel/Steel	8.0
PVC Plasticizer Resistance	
180° Peel Strength, pli (ASTM D903)	
aged 1 week at 70°C (158°F)	
Flexible PVC/Steel	Substrate Failure
T-Peel (ASTM D1876)	
aged 1 week at 70°C (158°F)	
Flexible PVC/PVC	Substrate Failure
Operating Temperature °C (°F)	-60 (-80) to 82 (180)

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 & DISPENSING

PERMABOND's Equipment Group has a complete line of PERMABOND dispensing equipment for all types of assembly and automated applications. Customized equipment can be designed to meet the specific application requirements. Contact your local PERMABOND Sales Engineer for a complete systems approach to dispensing PERMABOND 739.

STORAGE & HANDLING

Cyanoacrylate adhesives are subject to an aging process and have a limited shelf life. The shelf life is 12 months when stored in a refrigerator. 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 eye, seek medical attention.

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

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 easily 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 INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.