HERNON®
High Performance Adhesives and Sealants
ISO 9001:2008 Registered

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Technical Data Sheet
Quantum® 124

Product Description

Hernon® Quantum® 124 is a surface insensitive cyanoacrylate adhesive formulated to improve adhesion properties and fixture time as well as gap filling capabilities over conventional cyanoacrylate adhesives. This advanced formulation improves adhesion to difficult to bond plastics, wood, leather, ceramics, elastomers, and acidic surfaces such as freshly plated components.

Quantum® 124 is a state-of-art single component, solventless, room temperature curing adhesives that polymerize rapidly when pressed into a thin film between parts. The presence of surface moisture commences the cure of the adhesive. **Quantum® 124** will develop handling strength within seconds and full cure within a few hours.

Typical Applications

Bonding
Rubber bumpers
Permanent locking of plastic Fasteners
Speaker components
Shock mounts
Gears to shaft
Wiper blades
Acrylic windows
Name plates
Catheters
Honing stones
Security collars
O-rings
insulation pads

Fixturing
Filter caps
Jumper wires
Heat sinks
Gaskets
Golf club parts
Tennis racquet parts
P.C. boards
Wire tacking

Potting
Transistors
Tamper proofing
Adjustable components
Fiberglass molds

Product Benefits

- Single component.
- 100% Solventless.
- Instant setting.
- Improved gap filling capability.
- Improved adhesion to difficult to bond surfaces

Performance Requirements

Quantum® 124 meets the requirements of MIL-A-46050C, Type II Class 1, and CID A-A-3097 Type II Class 1.

Typical Properties (Uncured)

Property	Value
Chemical Type	Modified Cyanoacrylate Ester
Appearance	Clear Liquid
Specific Gravity	1.05
Viscosity, cP	30
Flash Point	See MSDS

Typical Curing Performance

Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The table below shows the fixture time achieved on different materials at 22ºC / 50% relative humidity. Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Substrate	Fixture (seconds)	Substrate	Fixture (seconds)
Steel (degreased)	15	Phenolic	10
Aluminum	5	PVC	7
Zinc Dichromate	60	Neoprene	5
ABS	7	Nitrile Rubber	5
Polycarbonate	35	Paper	5

Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. Thin bond lines result in high cure speeds, increasing the bond gap will decrease the rate of cure.

Cure Speed vs. Accelerator

Where cure speed is unacceptably long due to large gaps, applying accelerator to the surface will improve cure speed. However, this can reduce ultimate strength of the bond and therefore testing is recommended to confirm effect.

Typical Cured Performance

Shear Strength
Cured 24 Hours @ 22ºC - tested according to ISO 4587

Substrate	Shear Strength N/mm² (psi)
Steel (gritblasted)	17.9 to 26.2 (2600 to 3800)
Aluminum (etched)	11.0 to 19.3 (1600 to 2800)
Zinc Dichromate	6.0 to 14.0 (870 to 2030)
ABS	4.0 to 6.0 (580 to 870)
PVC	4.0 to 6.0 (580 to 870)
Polycarbonate	3.5 to 4.5 (510 to 650)
Phenolic	5.0 to 15.2 (730 to 2200)
Neoprene	5.0 to 15.2 (730 to 2200)
Nitrile	5.0 to 15.2 (730 to 2200)

Tensile Strength
Tested according to ISO 6922

Substrate	Cure Time @ 22ºC	Tensile Strength N/mm² (psi)
Buna-N	10 seconds	≥ 6.9 (≥ 1000)
	24 hours	5.0 to 15.2 (730 to 2200)
Steel	24 hours	12.1 to 25.2 (1750 to 3650)

General Information

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).
Directions For Use

For best performance bond surfaces should be clean and free from grease. This product performs best in thin bond gaps (0.05 mm).

Disassembly and Cleanup
Liquid Cyanoacrylate should not be wiped with rags or tissue. The fabric will cause polymerization and large quantities of adhesive will heat or cure causing smoke and strong irritating vapors. Always flood with excess water to clean up spill conditions.

Storage
Cyanoacrylate adhesives must be stored under refrigeration at a temperature of 40ºF ± 5ºF for extended shelf life. Before opening, the containers must be warmed to room temperature, otherwise, water may condense into the bottle and cause hardening of the adhesive. To prevent contamination of unused adhesive, do not return product to its original container.

Dispensing Equipment
Hernon® offers a complete line of semi and fully automated dispensing equipment. Contact **Hernon® Sales** for additional information.