HERNON® ISO 9001:2000
High Performance Adhesives and Sealants

121 Tech Drive
Sanford, FL 32771
(407) 322-4000
Fax: (407) 321-9700
www.hernonmfg.com

Technical Data Sheet
Quantum® 126

Product Description

Hernon® Quantum® 126 is a single component cyanoacrylate adhesive that cures to a tough polymer with excellent resistance to impact, peel, thermal shock and cleavage.

Typical Applications

- For parts that are exposed to shock and vibration
- For parts that will be exposed to thermal shock
- Bonds most rubber, plastic, and metal substrates
- For slower fixture and cure speed.

Product Benefits

- Single component: no mixing or measuring
- Good shock and impact resistance
- Cures at room temperature
- Easy to apply
- Adheres to a wide range of material

Typical Properties (Uncured)

Property	Value
Chemical Type	Ethyl Cyanoacrylate
Appearance	Clear liquid
Viscosity @ 77ºF (25ºC), cP	250 to 300
Specific gravity	1.06
Flash point	See MSDS

Typical Properties (Cured)

Cured 24 Hours @ 22ºC

Physical Properties

Property	Value
Coefficient of thermal expansion, K^{-1}, ASTM D696	100×10^{-6}
Coefficient of thermal conductivity, W/(m·K), ASTM C177	0.1
Temperature range, ºC, (ºF)	-54 to 110 (-65 to 230)
Gap Fill, mm (in.)	0.15 (0.006)

Electrical Properties

Property	Value
Dielectric Strength, kV/mm ASTM D149	25
Dielectric Constant @ 0.10 kHz ASTM D150 1 kHz 10 kHz	2.3 2.3 2.3
Dissipation Factor @ 0.10 kHz ASTM D150 1 kHz 10 kHz	< 0.02 < 0.02 < 0.02
Volume Resistivity, Ω·cm ASTM D257	1×10^{16}
Surface Resistivity, Ω ASTM D257	4×10^{16}

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 Time (seconds)
Steel	60 to 120
Aluminum	10 to 30
Neoprene	15 to 25
Nitrile Rubber	15 to 25
ABS	20 to 50
PVC	50 to 100
Polycarbonate	30 to 90
Phenolic	20 to 60

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 **Hernon® EF™ Accelerator 48 or 52** 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	26.1 (3780)
Aluminum	18.3 (2660)
ABS	>5.9 (>850)
PVC	>4.1 (>600)
Polycarbonate	>4.8 (>700)
Phenolic	>10.0 (>1450)
Neoprene	>10.0 (>1450)
Nitrile	>10.0 (>1450)

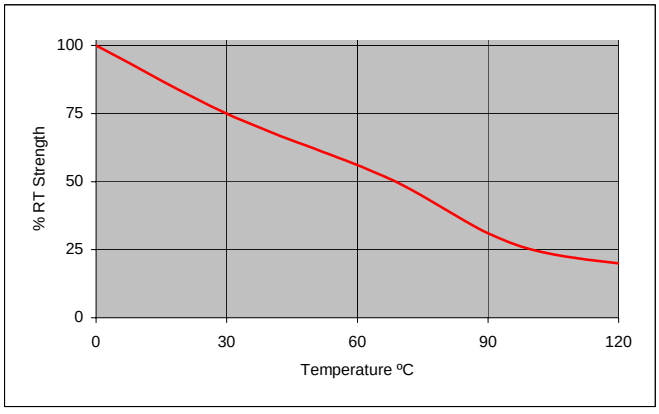
Tensile Strength
Tested according to ISO 6922

Substrate	Cure Time @ 22ºC	Tensile Strength N/mm² (psi)
Steel	24 hours	18.6 (2700)

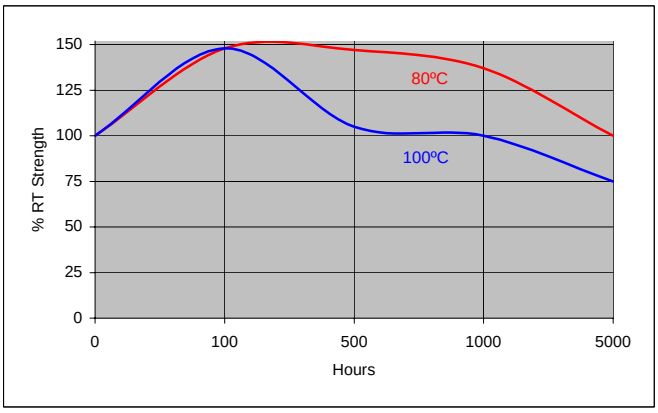
Typical Environmental Resistance

Cured for 1 week @ 22ºC
Shear Strength, ISO 4587
Steel lap-shear specimens

Hot Strength
Tested at temperature



Heat Aging
Aged at temperature indicated and tested at 22°C



Chemical/Solvent Resistance
Aged under condition indicated - Tested at 72ºF (22ºC).

Chemical/Solvent	Temp (ºC)	% of Initial Strength 100h	500h	1000h
Motor Oil	40	87	87	87
Gasoline	22	90	75	75
Ethanol	22	95	95	95
Isopropanol	22	75	75	75
1,1,1 Trichloroethane	22	80	70	55

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).

Stress Cracking
Uncured adhesive can cause stress cracking to some plastics in stressed conditions. Examples are polysulfides, acrylics and polycarbonates. This condition can be reduced by the following methods:

- Use of reinforced grades of plastics which are more resistant to chemical attack.
- Use accelerator to speed fixture/cure time of adhesive.
- Close joint quickly to avoid prolonged exposure to liquid adhesive.

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.