

Quantum[®] 158

Product Description

Quantum[®] 158 is a single-component, Surface Insensitive cyanoacrylate instant adhesive specifically formulated for difficult to bond substrates or where low humidity causes slow curing of standard industrial grade instant adhesives.

Typical Applications

- Bonds wood, leather and foamed plastic or rubber.
- Acidic surfaces such as on dichromate or freshly plated surfaces.
- Rapid bonding of a wide range of metal, plastic, woods, rubbers, and leather

Product Benefits

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

Performance Requirements

Quantum[®] 158 meets the requirements of MIL-A-46050C, Type II Class 2, and CID A-A-3097 Type II Class 2.

Typical Properties (Uncured)

Property	Value
Chemical Type	Ethyl cyanoacrylate
Appearance	Clear liquid
Viscosity @ 25°C, cP	80-120
Specific gravity	1.05
Flash point	See SDS
Glass transition temperature, T _g , °C	122

Typical Properties (Cured)

Cured 24 Hours @ 22°C

Physical Properties

Property	Value
Temperature range, °C (°F)	-55 to 82 (-60 to 180)

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 22°C. Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Substrate	Fixture Time (seconds)
Steel	≤ 120
Phenolic	≤ 10

Cure Speed vs. Bond Gap

The rate of cure will depend on the bond line 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 @ 22°C - tested according to ASTM D1002.

Substrate	Shear Strength N/mm ² (psi)
Steel (grit blasted)	≥13.8 (≥2000)

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 Safety Data Sheet (SDS).

Directions for Use Surface Preparation

To ensure a good bond, the surface must be clean and free from rust inhibitors, mold release agents, grease, oil and other contaminants. Bond strength on painted parts

may be determined by how well the paint adheres to the substrates.

Adhesive Application

Optimum results with cyanoacrylate adhesives are obtained with the minimum quantity of adhesive needed to fill the joint. In general, one free-falling drop spreads over one square inch. Apply firm pressure to mated surfaces until adhesive sets.

Bond Durability

Bond durability is affected by surface conditions, bond areas, service temperatures, environment, and stress. Each application must be evaluated individually. Moisture and temperature resistance are dependent on the surfaces bonded.

Polyolefin Bonding

Hernon® Primers are single component materials, which dry rapidly at room temperature and make polyolefin and other low energy surfaces suitable for bonding with **Hernon®** cyanoacrylate adhesives. Primer may be applied by brushing, spraying or dipping. Excess primer should be avoided. When polyolefin substrates are bonded to other substrates only the polyolefin should be primed.

Disassembly and Cleanup

Excessive adhesive can be dissolved with **CA Remover 14**, nitromethane, or acetone.

Storage

Cyanoacrylate adhesives must be stored under refrigeration at a temperature of 40°F ± 5°F 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.

These suggestions and data are based on information we believe to be reliable and accurate, but no guarantee of their accuracy is made. HERNON MANUFACTURING®, INC. shall not be liable for any damage, loss or injury, direct or consequential arising out of the use or the inability to use the product. In every case, we urge and recommend that purchasers, before using any product in full scale production, make their own tests to determine whether the product is of satisfactory quality and suitability for their operations, and the user assumes all risk and liability whatsoever, in connection therewith. Hernon's Quality Management System for the design and manufacture of high-performance adhesives and sealants is registered to the ISO 9001 Quality Standard.