

Technical Data Sheet Instantbond[®] 66793

May 2011

Product Description

Hernon[®] Instantbond[®] 66793 is a very high viscosity, state-of-the-art, single component, solventless, room temperature curing cyanoacrylate adhesive that polymerizes rapidly when pressed into a thin film between parts. The presence of surface moisture commences the cure of the adhesive. Instantbond[®] 66793 develops handling strength within seconds and full functional strength in a few hours. Instantbond[®] 66793 can bond a wide variety of surfaces including metals, thermoplastics, elastomers, ceramics, leather, cork, and paper. Instantbond[®] 66793 is NOT recommended for long-term glass to glass bonding applications.

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

- Rapid Cure - forms a strong bond at room temperature in less than a minute with contact pressure.
- Surfaces - will bond almost any combination of similar or dissimilar materials.
- Easy Use - single component feature, eliminates any mixing.

Typical Properties (Uncured)

Property	Value
Chemical Type	Ethyl Cyanoacrylate
Appearance	Clear liquid
Viscosity @ 77°F (25°C), cP	3400 to 4800
Specific gravity	1.04
Flash point	See MSDS

Typical Properties (Cured)

Physical Properties

Shear Strength

Cured 24 Hours @ 22°C - tested according to ISO 4587

Substrate	Shear Strength N/mm ² (psi)
Steel (grit blasted)	>14 (>2000)
Aluminum (grit blasted)	12 to 19 (1,740 to 2,755)
PVC	6 to 20 (870 to 2900)
Polycarbonate	5 to 20 (725 to 2900)
Phenolic	5 to 15 (725 to 2175)

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 / 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	15 to 20
Aluminum	10 to 30
PVC	20 to 50
Polycarbonate	30 to 70
Phenolic	10 to 15

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.

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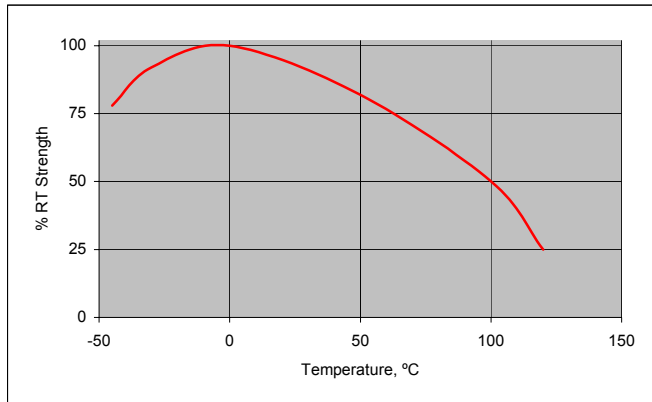
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Typical Environmental Resistance

Cured for 1 week @ 22°C
Shear Strength, ISO 4587
Steel lap-shear specimens (grit blasted)

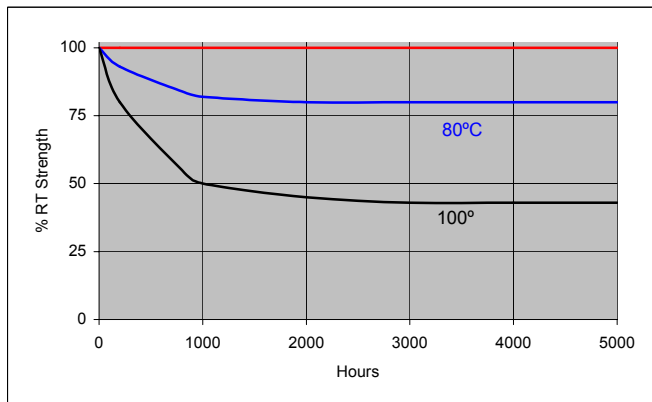
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested at 22°C



Chemical/Solvent Resistance

Aged under condition indicated - Tested at 72°F (22°C).

Chemical/Solvent	Temp (°C)	% of Initial Strength	
		100h	500h
Motor Oil	40	100	100
Gasoline	22	100	100
Ethanol	22	100	100
Isopropanol	22	100	100
Freon TA	22	100	100
1,1,1 Trichloroethane	22	100	100
Heat / 95% RH	40	80	75

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

Optimal Storage is between: 2 °C (36°F) to 8 °C (46°F).

Storage below 2 °C or greater than 8 °C can adversely affect product properties. Before opening, the containers must be warmed to room temperature. 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 ISO9001:2008 Quality Standard.