HERNON®
High Performance Adhesives and Sealants
ISO 9001 Registered

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

Technical Data Sheet
Instantbond 110

Product Description

Hernon® Instantbond 110 is a 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 110** develops handling strength within seconds and full functional strength in a few hours. **Instantbond 110** can bond a wide variety of surfaces including thermoplastics, elastomers, ceramics, leather, cork, and paper, but is particularly suited for bonding metal substrates. Notwithstanding the superior bonding capability of **Instantbond 110**, it 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.

Performance Requirements

Instantbond 110 meets the requirements of
MIL-A-46050C, Type I Class 2
and CID A-A-3097 Type I Class 2.

Typical Properties (Uncured)

Property	Value
Chemical Type	Methyl cyanoacrylate
Appearance	Clear liquid
Viscosity @ 77ºF (25ºC), cP	85 - 200
Specific gravity	1.05
Flash point	See MSDS

Typical Properties (Cured)

Cured 24 Hours @ 22ºC

Physical Properties

Property	Value
Temperature range, ºC, (ºF)	-55 to 82 (-65 to 180)
Gap Fill, mm (in.)	0.127 (0.005)

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	< 20
Aluminum	< 120
Zinc Dichromate	< 240
Nitrile Rubber	< 10
ABS	< 30
PVC	< 60
Phenolic	< 20

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 ASTM D1002

Substrate	Shear Strength N/mm² (psi)
Steel (grit blasted)	13.8 (≥ 2000)
Aluminum (grit blasted)	13.8 (≥ 2000)
Zinc Dichromate	6.8 (≥ 1000)
ABS*	3.8 (≥ 560)
PVC*	4.1 (≥ 600)

*Substrate Failure

Tensile Strength

Tested according to ASTM D1414

Substrate	Cure Time @ 22ºC	Tensile Strength N/mm² (psi)
Buna-N	30 seconds	≥2.0 (≥300)
	24 hours	≥10.3 (≥1500)

Tested according to ASTM D2095

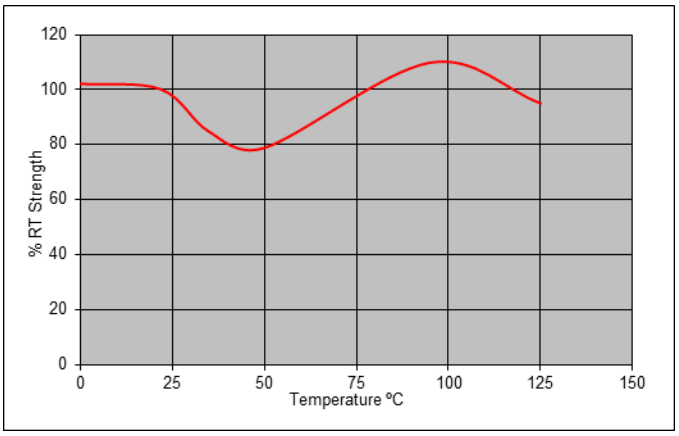
Substrate	Cure Time @ 22ºC	Tensile Strength N/mm² (psi)
Steel	24 hours	≥8.9 (≥1300)

Typical Environmental Resistance

Cured for 1 week @ 22ºC
Shear Strength, ASTM D1002
Steel lap-shear specimens (grit blasted)

Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested at 22°C

Temperature	Exposure Time	Shear Strength N/mm² (psi)
100 ºC	1000 hours	≥ 5.5 (≥ 800)

Chemical/Solvent Resistance

Aged under condition indicated - Tested at 72ºF (22ºC).

Chemical/Solvent	Temp (ºC)	% of Initial Strength 100h	500h	1000h
Motor Oil	40	100	100	100
Gasoline	22	100	100	93
Ethanol	22	100	100	100
Isopropanol	22	100	100	100

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.