

Fusionbond® 374

Product Description

Hernon® has taken the excellent bond strength of Fusionbond adhesive family and merged it with the simplicity of a two-component, no-mix curing system to create **Fusionbond® 374**. **Fusionbond® 374** is a 100% solid, room temperature cure, versatile structural adhesive which is used in conjunction with **Hernon® Activator 56, 15 or 16**.

This formulation will offer rapid, high strength and high impact resistant bonds to a variety of substrates within minutes. Designed for a wide variety of substrates, **Fusionbond® 374** offers excellent temperature and chemical resistance. The two-component, no-mix system allows controlled assembly ideal for production and repair applications. A structural bond develops within minutes.

Typical Properties (Uncured)

Property	Value
Resin	Methacrylate ester
Appearance	Clear liquid
Viscosity @ 25°C, cP	35,000 to 50,000
Specific gravity	0.95

Typical Curing Properties

Property	Value
Ratio of use	Approximately 10:1 (Adhesive: Initiator)

Product Benefits

- Bonds to an exceptionally large variety of substrates including metals, plastics, composites, ceramics, glass, wood, leather, rubber and marble.
- Halogen Free
- Convenient two-component, no-mix system for rapid production applications
- Minimal or no surface preparation.
- 100% solid system
- Excellent chemical resistance

- Excellent environmental resistance.
- Excellent temperature resistance.
- No pot life
- Simple and inexpensive dispensing equipment.
- Rapid room temperature cure.

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.

One side primed with a minimal thin layer of **Activator 15 or 16**.

Substrate	Fixture Time, minutes
Steel	4-6
Aluminum	2-5
ABS	3-5

Typical Cured Performance

One side of specimens primed with a minimal thin layer of **Activator 15**,
Cured 24 hours at 22°C.

Shear Strength, ASTM D1002
Grit-blasted lap-shear specimens

Substrate	Cure at 22°C	Value, psi
Steel	1 Hour	2600
	3 Hours	2500-3000
	24 Hours	3000-4000
	72 Hours	3000-4000
Aluminum	24 Hours	2500-4000

Impact Strength
Gritblasted lap-shear specimens, 1 in overlap

Substrate	Cure at 22°C	Value, Joules
Steel	1 Hour	>10
	3 Hours	>10
	24 Hours	≥ 30
Aluminum	24 Hours	≥ 20

Hernon® Technical Data Sheet

Brake Bonder 374

Block-shear Strength, ASTM D4501
Block-shear specimens

Substrate	Value, psi
ABS	≥ 350
Acrylic	≥ 1000
Polycarbonate	≥ 450
Epoxy glass	500-1000
PVC	450-900

T-peel Strength, ASTM D1876
Grit-blasted lap-shear specimens

Substrate	Cure Time at 22°C	Value
Aluminum	24 hours	15 - 40 PIW

One side of specimens primed with a minimal thin layer of **Activator 16**,
Cured 24 hours at 22°C.

Shear Strength, ASTM D1002
Grit-blasted lap-shear specimens

Substrate	Cure at 22°C	Value, psi
Steel	24 Hours	3000-4500
Aluminum	24 Hours	2500-3500
Stainless Steel	24 Hours	≥ 2500

Impact Strength, ASTM D6110
Grit-blasted lap-shear specimens

Substrate	Cure at 22°C	Value, Joules
Steel	24 Hours	≥ 30
Aluminum	24 Hours	≥ 30

Typical Environmental Resistance

Cured for 24hrs @ 22°C,
Steel lap-shear specimens (grit-blasted),
One side of specimens primed with a minimal thin layer of **Activator 15**.

Cold & Hot Strength
Shear Strength, ASTM D1002

Test Condition	Value, psi
At 22°C	≥ 2000
At -40°C, cold strength	≥ 3500
At 95°C, hot strength	≥ 1500

Impact Strength, ASTM D6110

Test Condition	Value, Joules
At 22°C	≥ 40
At -40°C, cold strength	≥ 45
At 95°C, hot strength	≥ 32

Chemical/Solvent Resistance
Shear Strength, ASTM D1002

Chemical/Solvent	Temperature °C	% of initial strength
Motor Oil	95	66
Water/Glycol (50:50)	95	66
Isopropanol	22	76
Humidity, 95% RH	45	101

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

- Fusionbond® 374** is useable on a wide variety of surfaces. Substrates should be clean, dry and free of heavy grease. Acid etching or abrading the surface to be bonded may enhance the adhesive properties.
- Apply a minimal thin layer of **Hernon® Activator** to one surface.
- Apply adhesive to the other surface to be bonded.
- Join surfaces using sufficient force to spread adhesive thinly. Join parts within two hours of applying primer. Minimizing the on-part time of the primer maximizes consistency in performance.
- Maintain pressure until handling strength is achieved. Handling strength varies with part geometry, substrate, surface area, tolerances, etc.
- Release pressure and allow 24 hours for adhesive to fully cure.

Storage

Fusionbond® 374 should be stored in a cool, dry location in unopened containers at a temperature between 0°F to 85°F (-18°C to 29°C) unless otherwise labeled. Bring material stored at the lower half of this temperature range to room temperature before use. To prevent contamination of unused material, do not return any material to its original container.

Hernon® Technical Data Sheet

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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.