

Technical Data Sheet Fusionbond[®] 374

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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% solids, room temperature cure, versatile structural adhesive. 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	25,000 to 50,000
Specific gravity	0.94
Flash point	See MSDS

Typical Curing Properties

Property	Value
Ratio of use	Approximately 10:1 (Adhesive: Initiator)
Handling time	4 – 6 minutes
Full Cure	24 hours

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 **EF[®] Activator 56 or EF 15**.

Substrate	Fixture Time, minutes
Abraded Steel	<6
Abraded Aluminum	<6
Phenolic	<10
ABS	<10
Acrylic	<10

Typical Cured Performance

Shear Strength, ASTM D1002
Gritblasted lap-shear specimens

Substrate	Cure at 22°C	Value, psi
Steel	24 Hours	≥ 2000
	72 Hours	≥ 3000
Aluminium	24 Hours	≥ 3000

Impact Strength, ASTM D6110
Gritblasted lap-shear specimens

Substrate	Cure at 22°C	Value, Joules
Steel	24 Hours	≥ 40

Strength Properties at Different Temperatures

(0.25 mm gap and 1.0 inch overlap on grit-blasted steel)

Temperature	Shear Strength, (psi)
23°C	3,500 – 4,500
-55°C	5,000 – 6,000
80°C	5,500 – 6,500
120°C	5,000 – 6,000
155°C	1,000 – 2,000

T-peel Strength, ASTM D1876
Gritblasted lap-shear specimens

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

Typical Environmental Resistance

Cured for 24hrs @ 22°C
Steel lap-shear specimens (grit blasted)

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

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

Chemical/Solvent	Temp (°C)	% of Initial Strength	
		1000 h	2000 h
Motor Oil	66	75	90
Water/Glycol	66	75	50
Isopropanol	22	75	90
Salt Fog	35	75	60
Humidity, 100% RH	49	55	35

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 **EF® Activator 56 or 15** 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.

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).

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.