

Technical Data Sheet Fusionbond[®] 371

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Product Description

Hernon[®] Fusionbond[®] 371 is a two component methacrylate adhesive. It is specially formulated for structural bonding of thermoplastics, metal, wood and composite assemblies. **Fusionbond[®] 371** is an excellent choice for composite bonding applications in the marine, automotive and construction industries because it requires virtually no surface preparation. **Fusionbond[®] 371** provides superior toughness at temperatures from -67 to 250°F.

Product Benefits

- 100% solid
- Easy mixing ratio of 1:1 by volume
- Almost no surface preparation is needed
- Superior fatigue and impact resistance
- Outstanding environmental resistance
- Exceptional at bonding dissimilar substrates
- Excellent salt spray resistance and gap filling ability
- Dramatically reduces assembly cost

Bondable Substrates

ABS	Phenolics
Acrylics (PMMA)	Polycarbonate and blends
Aluminum	Polysulfone
Brass	Polyurea RIM
Ceramics	Polyurethanes ¹
Copper	PPO and PPO blends
Epoxy	PVC & Vinyls
E-Coat ¹	Rim urethane
Fiberglass	Rubber
Gel Coats	SMC ¹
LMR (Liquid Molding Resins)	Stainless steel
Nylon 6 or Nylon 6 Alloys ¹	Steel
PBT blends	Styrenics
PEEK	Titanium
PET blends	

¹ May need special treatment

Typical Properties (Uncured)

Property	Part A	Part B
Chemical Type	Methacrylate	Methacrylate
Appearance	White	Off-White
Specific gravity	1.04	0.97
Viscosity at 25°C, cP	40,000 to 64,000	40,000 to 64,000
Mix ratio (by weight)	1	1
Flash Point	See MSDS	See MSDS

Typical Properties (Cured)

Property	Value
Elongation, ASTM D638, %	20 to 40
Hardness, ASTM D2240, Shore D	75 to 80
Glass Transition Temperature, °C	95 to 100
Temperature Range, °C (°F)	-55 to 121 (-67 to 250)
Gap Fill, inches	0.380

Strength Properties at Different Temperatures

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

Temperature	Shear Strength, (psi)
23°C	6,500 – 8,000
-55°C	6,500 – 8,000
80°C	4,500 – 5,500
155°C	1,500 – 2,500

Typical Curing Performance

Property	Value
Working time, minutes	15 to 30
Fixture time, as received steel, mins.	15 to 30

Typical Cured Performance

Shear Strength, ASTM D1002
Gritblasted lap-shear specimens

Substrate	Cure at 22°C	Value, psi
Steel	1 Hour	≥ 1000
	24 Hours	≥ 3000
	72 Hours	≥ 3500
Aluminum	1 Hour	≥ 1000
	24 Hours	≥ 2000

Impact Strength, ASTM D6110
Gritblasted lap-shear specimens

Substrate	Cure at 22°C	Value, Joules
Steel	24 Hours	≥ 10

Block - Shear Strength, ASTM D4501
Block-shear specimens
Cured 24 hours at 22°C

Substrate	Value, psi
ABS	500 - 800
Epoxyglass	1,000 – 1,500
Phenolic	500 – 800
PVC	≥2,000*

* Substrate failure

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	≥ 3000
At -40 °C, cold strength	≥ 4500
At 95 °C, hot strength	≥ 2000

Impact Strength, ASTM D6110

Test Condition	Value, Joules
At 22 °C	≥ 10
At -40 °C, cold strength	2- 12
At 95 °C, hot strength	17- 27

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).

Handling and Application

Mixing: It is highly recommended that either meter mix equipment or cartridges with static mix nozzles be used to properly ratio and dispense the adhesive. For hand mixing, combine Part A and Part B in the correct ratio and mix thoroughly. Heat buildup during and after mixing is normal. To reduce the likelihood of exothermic reaction or excessive heat buildup, mix less than 100

grams at a time. Mixing smaller amounts will minimize heat buildup.

Applying: Bonding surfaces should be clean, dry, and free of contamination. Extensive surface preparation is not required for **Fusionbond® 371**, and good bonds can be formed on most substrates after a solvent wipe. To assure maximum bond strength, surfaces must be mated within the adhesive's open time. Use enough material to completely fill the joint when parts are clamped.

Curing: Parts should remain undisturbed during the interval between the adhesive's open time and fixture time. After the fixture time is achieved the material has reached handling strength. Cure temperatures below room temperature (70°F to 75°F) will slow the fixturing time. Temperatures above room temperature will shorten the open time and the fixturing time.

Clean Up: It is important to clean up excess adhesive from the work area and application equipment before it cures. Use **Hernon® EF® Cleaner 62** for removing uncured adhesive. **Fusionbond® 371** is flammable. Keep containers tightly closed after use. Keep away from heat, sparks, and open flames.

Storage

Fusionbond® 371 should be stored in a cool, dry location in unopened containers at a temperature between 45°F and 75°F (7°C and 24°C) unless otherwise labeled. Shelf life can be extended by refrigeration at 45°F to 55°F (7°C to 13°C). To prevent contamination of unused material, do not return any material 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.