

## Technical Data Sheet Fusionbond<sup>®</sup> 37784

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### Product Description

**Heron<sup>®</sup> Fusionbond<sup>®</sup> 37784** is a two component methacrylate adhesive. It is specially formulated for structural bonding of thermoplastics, metal, wood and composite assemblies. **Fusionbond<sup>®</sup> 37784** is an excellent choice for composite bonding applications in the marine, automotive and construction industries because it requires virtually no surface preparation. **Fusionbond<sup>®</sup> 37784** provides superior toughness at temperatures from -100 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 <sup>1</sup> |
| Copper                      | PPO and PPO blends         |
| Epoxy                       | PVC & Vinyls               |
| E-Coat <sup>1</sup>         | Rim urethane               |
| Fiberglass                  | Rubber                     |
| Gel Coats                   | SMC <sup>1</sup>           |
| LMR (Liquid Molding Resins) | Stainless steel            |
| Nylon 6 or Nylon 6 Alloys   | Steel                      |
| PBT blends                  | Styrenics                  |
| PEEK                        | Titanium                   |
| PET blends                  |                            |

<sup>1</sup> May need special treatment

### Typical Properties (Uncured)

| Property              | Part A       | Part B       |
|-----------------------|--------------|--------------|
| Chemical Type         | Methacrylate | Methacrylate |
| Appearance            | White        | Blue         |
| Specific gravity      | 1.03         | 0.95         |
| Viscosity at 25°C, cP | 7000 to 9000 | 7000 to 9000 |
| 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<br>(-67 to 250) |
| Gap Fill, inches                 | 0.380                      |

### Typical Curing Performance

| Property                               | Value    |
|--|----------|
| Working time, minutes                  | 5 to 10  |
| Fixture time, as received steel, mins. | 10 to 15 |

### Typical Cured Performance

Shear Strength, ASTM D1002  
Gritblasted lap-shear specimens

| Substrate | Cure at 22°C | Value, psi |
|-----------|--------------|------------|
| Steel     | 1 Hour       | 5000       |
|           | 24 Hours     | 6200       |
| Aluminum  | 1 Hour       | 3000       |
|           | 24 Hours     | 4440       |

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

| Substrate  | Value, psi |
|------------|------------|
| ABS        | 620        |
| Epoxyglass | 1340       |
| Phenolic   | 680        |
| PVC        | 2520*      |

\* Substrate failure

## 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® 37784, 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® 37784 is flammable. Keep containers tightly closed after use. Keep away from heat, sparks, and open flames.

## Storage

Fusionbond® 37784 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.