

Technical Data Sheet ReAct[®] 767

December 2019

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Product Description

Hernon[®] ReAct[®] 767 is a high performance tough acrylic adhesive designed primarily for securing ceramic permanent magnet segments in motor magnet bonding applications. Used in conjunction with **Hernon[®] EF Activator 56/ Activator 47**, this structural adhesive is ideal for choke and transformer bonding, DC motor assembly, alternator and flywheel applications, tacking, unitizing, ruggedizing, sealing and shallow potting.

ReAct[®] 767 fixtures in seconds, is acrylic acid free and non-corrosive, non-flammable, and suitable for harsh environments. **ReAct[®] 767** exhibits good thermal shock, impact and peel resistance characteristics, and excellent adhesion to a wide variety of plated surfaces.

Product Benefits

Improved Reliability

- High impact and shock resistance
- Temperature resistance: -40 to 300°F (-40 to 149°C)
- Good gap filling properties.
- Excellent adhesion to a variety of surfaces.
- Consistent rate of cure from 60 to 100°F (18 to 38°C)
- Consistent bond strength
- Non-corrosive

Improved Processing

- Fast fixturing
- No pot life, no mixing
- No waste problems
- Low toxicity
- Low odor
- Thixotropic: facilitates dispensing/applying
- Non-migrating on vertical surfaces
- Increases productivity
- Requires minimal parts cleaning
- Easy clean-up

Cost Effective

- Requires minimal clamping time and tooling.
- Eliminates high energy cost needed for heat cured materials.
- Eliminates need for mechanical clips

Typical Applications

- DC motor assembly.
- Magnet bonding.
- Bonding pre-coated sheet metal.
- Bonding ferrites, plastic, and metal wear strips.
- Bonding metals with special surface treatments such as galvanized, phosphate, and dichromate surfaces.

Typical Properties (Uncured)

| Property | Value |
|-------------------------|------------------------|
| Base Resin | Modified Acrylic |
| Solids | 100% - No Solvents |
| Appearance | Off-White, Translucent |
| Specific gravity @ 25°C | 1.09 |
| Viscosity @ 25°C, cP | 50,000 – 70,000 |
| Flash point | See MSDS |

Typical Curing Performance

ReAct[®] 767 is designed to be used with **EF[®] Activator 56** and cured at room temperature. Cure characteristics are measured by determining fixture time (handling time) and speed of cure.

Fixture Time

Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Tested on steel lap-shear specimens, 2 sides primed with a minimal thin layer of **EF[®] Activator 56/ Activator 47**.

| Gap, mm | Fixture Time, seconds |
|---------|-----------------------|
| 0 | ≤ 25 |
| 0.20 | ≤ 60 |

Cure Speed

The table below shows shear strength developed with time using **EF[®] Activator 56** on steel lap-shear specimens and tested according to ISO 4587.

| Cured Time | Shear Strength, N/mm ² (psi) |
|------------|---|
| 30 min | ≥ 9.7 (1400) |
| 24 hours | ≥ 11.0 (1696) |
| 48 hours | ≥ 13.1 (1923) |

using EF® Activator 47

| Cured Time | Shear Strength, N/mm ² (psi) |
|------------|---|
| 30 min | ≥ 7.5 (1100) |
| 24 hours | ≥ 10.3 (1500) |
| 48 hours | ≥ 17.2 (2704) |

Typical Properties (Cured)

| Method | Property | Value |
|------------|--|-------|
| ASTM D2095 | Tensile Strength, psi | 2700 |
| ASTM D638 | Modulus of Elasticity, psi | 21000 |
| ASTM D638 | Elongation, % | 130 |
| ASTM D2240 | Durometer Hardness, Shore D | 62 |
| ASTM 6110 | Energy, G/B Aluminum, Cured at RT for 24 hours, Joules | ≥ 15 |
| ASTM 6110 | Energy, G/B Steel, Cured at RT for 24 hours, Joules | ≥ 15 |

Typical Cured Performance

Shear Strength

Tested on lap-shear specimens with 1 side primed with a minimal thin layer of EF® Activator 47 and tested according to ASTM D1002.

| Substrate | Gap, mm | RT Cure, hrs | Shear Strength N/mm ² (psi) |
|-----------|---------|--------------|--|
| Steel | 0 | 24 | ≥ 10.3 (1500) |
| Steel | 0 | 48 | ≥ 17.2 (2500) |
| Steel | 0.25 | 48 | ≥ 12.4 (1800) |
| Steel | 0.50 | 48 | ≥ 6.20 (900) |
| Aluminum | 0 | 24 | ≥ 15.17 (2200) |
| Aluminum | 0 | 48 | ≥ 14.48 (2100) |

Typical Environmental Resistance

Shear Strength, steel lap-shear specimens, 1 side primed with EF® Activator 56, cured for 48 hours at 22°C and tested according to ASTM D1002.

Heat Aging

Aged for 72 hours at temperature indicated and tested at 22°C.

| Temperature | Shear Strength, N/mm ² (psi) |
|-------------|---|
| 90°C | ≥ 20.7 (3000) |
| 120°C | ≥ 17.2 (2500) |
| 150°C | ≥ 15.2 (2000) |

Chemical/Solvent Resistance

Aged under conditions indicated and tested at 22°C.

| Chemical/Solvent | Temp (°C) | % of Initial Strength | |
|--------------------|-----------|-----------------------|------------|
| | | 720 hours | 1440 hours |
| Air Reference | 87 | 100 | 100 |
| Water Glycol 50/50 | 87 | 36 | 23 |
| Gasoline | 22 | 44 | 18 |
| Motor Oil | 87 | 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.
- To ensure a fast and reliable cure, EF® Activator 56 or EF® Activator 47 should be applied as a minimal thin layer to one of the bond surfaces and the adhesive to the other surface. EF® Activator 56 Adhesive to primer ratio is approximately 10:1. For EF 47 the ratio would be 15:1 up to 20:1 adhesive/primer ratio.

Parts should be assembled within 15 minutes.

- The recommended bondline gap is ≤ 0.1mm. Where bond gaps are large (over 0.1mm), or surfaces are porous, EF® Activator 56/ Activator 47 should be applied to both surfaces. Parts should be assembled immediately (within 1 minute).
- Excess adhesive can be wiped away with organic solvent.
- Bond should be held clamped until adhesive has fixtured.
- Product should be allowed to develop full strength before subjecting to any service loads (typically 24 to 72 hours after assembly, depending on bond gap, materials and ambient conditions).

Storage

ReAct® 767 should be stored in a cool, dry location in unopened containers at a temperature between 45°F to 85°F (7°C to 29°C) unless otherwise labeled. Optimal storage is at the lower half of this temperature range. 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.

Heron Technical Data Sheet

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