HERNON®
High Performance Adhesives and Sealants
ISO 9001 Registered

121 Tech Drive
Sanford, FL 32771
(407) 322-4000
Fax: (407) 321-9700
www.hernon.com

Technical Data Sheet
ReAct® 727

Product Description

Hernon® ReAct® 727 is a tough acrylic adhesive designed primarily for securing of ceramic permanent magnet segments in motor magnet bonding applications. This adhesive has also found wide acceptance in a variety of structural bonding applications due to its versatile performance capabilities.

ReAct® 727 has demonstrated the ability to provide high tensile strength while maintaining excellent product flexibility. This results in tough, durable bonds with outstanding impact and peel resistance.

This tough acrylic is a room temperature curing adhesive which is used in conjunction with **Hernon® EF® Activator 56**.

Product Benefits

Improved Reliability

- High impact and shock resistance
- Good gap filling properties.
- Excellent adhesion to a variety of surfaces.
- Consistent rate of cure from 60 to 100°F (16 to 38°C)
- Consistent bond strength

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
Appearance	Off-White, Translucent
Specific gravity @ 25°C	1.08
Viscosity @ 25°C, cP	56,000 – 64,000

Typical Curing Performance

ReAct® 727 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

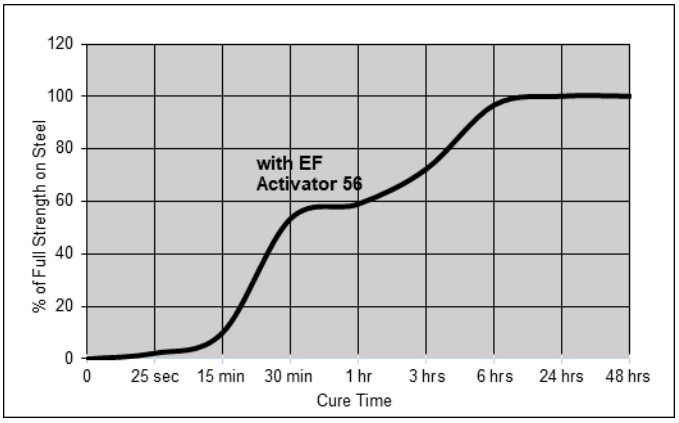
Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Tested on grit-blasted steel lap-shear specimens, one side primed with **EF® Activator 56** for gap.

Gap, mm	Fixture Time
0	≤ 25 secs
0.1	≤ 2 mins
0.25	≤ 7 min
0.50	≤ 25 mins

Cure Speed

The graph below shows shear strength developed with time using **EF® Activator 56** on steel lap-shear specimens and tested according to ASTM D1002.



Cure Speed vs. Temperature
Heat can be used to effect or accelerate cure when surface priming operations are undesirable. Optimum conditions for heat cure should be determined on the actual assemblies.

Shear Strength
Tested at RT according to ASTM D1002.

Temperature	Cure Time	Shear Strength N/mm² (psi)
150 ºC	3 min	≥10.3 (≥1500)
150 ºC	8 min	≥13.8 (≥2000)
120 ºC	10 min	≥10.3 (≥1500)

Typical Cured Performance

Shear Strength
Tested on lap-shear specimens with 1 side primed with **EF® Activator 56** and tested according to ASTM D1002.

Substrate	Gap, mm	Cure Time (hours)	Shear Strength N/mm² (psi)
G/B Steel	0	24	2500
G/B Steel	0.10	24	≥ 17.3 (2,500)
G/B Steel	0.25	24	≥13.8 (2,000)
G/B Steel	0.50	24	≥ 10.3 (1,500)
G/B Aluminum	0	24	≥ 10.3 (1,500)
G/B Aluminum	0	48	≥ 10.3 (1,800)
G/B Steel	0	48	≥ 17.3 (2,500)
Zinc dichromate	0	48	≥ 10.3 (1,800)

Typical Environmental Resistance

Lap shear Strength, ASTM D1002.
Cured for 48 hours at 22ºC,
Steel, with **EF® Activator 56** on 1 side.

Heat Aging
Aged 2000 hours at temperature indicated, tested at 22ºC.

Temperature, ºC	Shear Strength, N/mm² (psi)
95	≥ 17.2 N/mm² (≥ 2500 psi)
120	≥ 6.9 N/mm² (≥ 1000 psi)
150	≥ 3.4 N/mm² (≥ 500 psi)

Humidity Resistance

Conditioned in 45ºC and %95 humidity for time indicated and tested at 22ºC.

Exposure Time	Shear Strength, psi
4 weeks	1139
6 weeks	1013

Chemical/Solvent Resistance

Aged 720 hours at specified temperature in chemical/solvent indicated. Tested at 22ºC.

Chemical/Solvent	Temperature °C	Shear Strength N/mm² (psi)
Air Reference	87	≥ 20.7 (≥ 3000)
Motor Oil	87	≥ 20.7 (≥ 3000)

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
1. For best performance bond surfaces should be clean and free from grease.
2. To ensure a fast and reliable cure, **EF® Activator 56** should be applied to one of the bond surfaces and the adhesive to the other surface. Parts should be assembled within 15 minutes.
3. The recommended bond line gap is 0.1mm. Where bond gaps are large (up to a maximum of 0.5 mm), or faster cure speed is required, **EF® Activator 56** should be applied to both surfaces. Parts should be assembled immediately (within 1 minute).
4. Excess adhesive can be wiped away with organic solvent.
5. Bond should be held clamped until adhesive has fixtured.
6. 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® 727 should be stored in a cool, dry location in unopened containers at a temperature between 45ºF to 85ºF (7ºC to 29ºC) 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.