

Technical Data Sheet ReAct[®] 766

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Product Description

Hernon[®] ReAct[®] 766 is a tough acrylic adhesive designed primarily for bonding permanent magnets. **ReAct[®] 766** has also found wide acceptance in a variety of structural bonding applications due to its versatile performance capabilities.

ReAct[®] 766 provides high tensile strength while maintaining excellent product flexibility. This results in tough durable bonds with outstanding impact and peel resistance. Temperature resistance from -40°C (-40°F) to 204°C (400°F).

ReAct[®] 766 is a single component adhesive used in combination with **Hernon[®] EF[®] Activator 59** or **EF[®] Activator 63** for curing at room temperature. The adhesive may also be heat cured at 150°C.

Product Benefits

- High impact and shock resistance
- Good gap filling capabilities
- High temperature resistance
- Excellent adhesion to a variety of surfaces
- Consistent rate of cure in 60° to 100°F
- Consistent bond strength
- Eliminates need for mechanical clips
- Requires minimal clamping time
- Room temperature cure, eliminates high cost of energy needed for heat cured material

Typical Properties (Uncured)

Property	Value
Resin	Modified acrylic
Appearance	Clear-yellow liquid
Viscosity @ 25°C, cP	70,000 to 90,000
Specific gravity	1.00
Flash point	See MSDS

Typical Curing Performance

ReAct[®] 766 is designed to be used with **EF[®] Activator 59** or **63** and cured at room temperature. Cure characteristics are measured by determining fixture time (handling time) and speed of cure.

Fixture Time

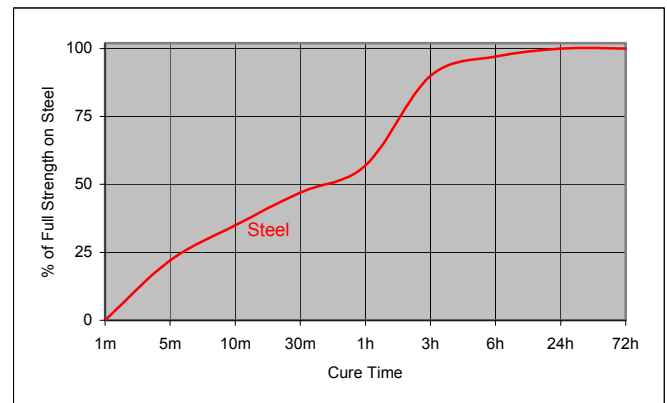
Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Fixture Time, ISO 4587, Steel, with **EF[®] Activator 59** on 1 side.

Gap, mm	Fixture Time, minutes
0.05	≤ 3
0.25	≤ 15
0.50	≤ 30

Cure Speed vs. Substrate

The graph below shows the shear strength developed with time on steel lap-hear specimens, tested according to ISO 4587 (**EF[®] Activator 59** applied to one surface).



Typical Properties (Cured)

Property	Value
Coefficient of thermal expansion, ASTM D696 (K ⁻¹)	8 x 10 ⁻⁶
Coefficient of thermal conductivity, ASTM C 177, W/(m·K)	0.10
Specific Heat, kJ/(kg·K)	0.30
Tensile Strength, ASTM D638, psi	2600
Elastic Modulus, ASTM D638, psi	138,000
Hardness, Shore D, ISO 868	69
Gap Fill, mm (in.)	0.508 (0.020)
Temperature Range, °C, °F	-40 to 177 (-40 to 400)

Typical Cured Performance**Shear Strength, ISO 4587, Steel**

Cure Type	Cure	N/mm ² (psi)
With EF® Activator 59	24h at 22°C	≥13.8 (≥2000)
Heat Cure	30m at 150°C	≥24.1 (≥3500)

180° Peel strength, ISO 8510-2, Steel

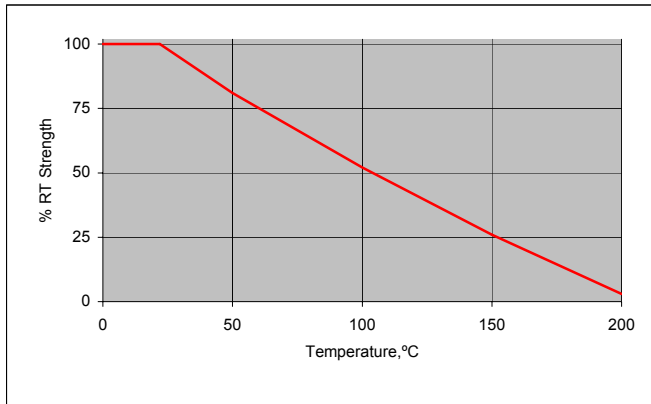
Cure Type	Cure	N/mm (pli)
With EF® Activator 59	24h at 22°C	≥3.5 (≥20)

Typical Environmental Resistance

Shear Strength, ISO 4587, Cured for 48 hours at 22°C, Steel, with EF® Activator 59 on 1 side.

Hot Strength

Tested at temperature

**Heat Aging**

Aged 1000 hours at temperature indicated, tested @ 22°C.

Temperature, °C	% of Initial Strength
90	110
120	115
150	130
175	125
200	85

Chemical/Solvent Resistance

Aged 30 days at 87°C in chemical/solvent indicated. Tested at 22°C.

Chemical/Solvent	% of Initial Strength
Air reference	100
Water/glycol 50/50	110
Phosphate ester	110
Unleaded gasoline	20
Motor oil	95
Automatic Transmission Fluid	95
Brake Fluid	5

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).

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics (particularly thermoplastic materials where stress cracking of the plastic could result). Users are recommended to confirm compatibility of the product with such substrates.

Directions for use

- For best performance bond surfaces should be clean and free from grease.
- EF® Activator 59 or 63 should be applied to one of the bond surfaces and the adhesive to the other surface. Parts should be assembled within two hours. Minimizing the on-part time of the activator maximizes the consistency of performance.
- Where bond gaps are large (up to a maximum of 0.5 mm), or faster cure speed is required, EF® Activator 59 or 63 should be applied to both surfaces. Parts should be assembled immediately.
- Excess adhesive can be wiped away with organic solvent.
- 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® 766 should be stored in a cool, dry location in unopened containers at a temperature between 46°F to 82°F (8°C to 28°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

Heron® offers a complete line of semi and fully automated dispensing equipment. Contact **Heron® 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. Heron's Quality Management System for the design and manufacture of high performance adhesives and sealants is registered to the ISO 9001 Quality Standard.