

# HERNON® MANUFACTURING, INC.

High Performance Adhesives, Sealants and Precision Processing Solutions

# PRODUCT GUIDE

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- Surface Preparation Products
- Threadlockers
- UV Cure Adhesive Systems
- Specialty Kits
- Wire Tacking Systems
- Military Specification
- Adhesives & Sealants
- Dispensing and UV Cure Equipment

HERNON®
MANUFACTURING, INC.
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Distributor: ASA Environmental Products, Inc.



# **Adhesives Revolution**

A revolution in the development of high-performance engineering adhesives occurred in the past few years. Technological advances in the chemistry of locking, sealing, retaining and structural adhesives brought us to an era of rapid innovation in the assembly and maintenance of mechanical components.

HERNON® offers a complete product line of adhesives including anaerobics, cyanoacrylates, high-performance epoxies and specialty ultraviolet curable structural adhesives. We specialize in standard and custom adhesive formulations to meet your exact specifications and to help reduce your production costs.

HERNON<sup>®</sup> adhesives, epoxies and sealants are offered in a wide range of grades and strengths, viscosities and curing cycles to meet your specific assembly or maintenance criteria. Our adhesives work in applications with various materials such as metals, glass, ceramics, plastics and reinforced composites.

HERNON® manufactures more than 5000 grades of high-performance military and industrial grade adhesives, sealants, coatings and related equipment. HERNON's products are being used successfully in countless demanding industries such as: aerospace, automotive, ammunition, electronics and marine.

HERNON<sup>®</sup> also provides many solutions in diverse applications such as: ammunition, appliances, audio, costume jewelry, toys, defense, electrical, electronics, heavy vehicles and weapons.

Using state-of-the-art HERNON® products will result in reduced costs (both assembly and maintenance) along with increasing the reliability and productivity of your assembly line.



At HERNON® our goal is to provide the highest quality products at the most competitive prices through our international network of corporate sales partners and stocking distributors.

Your selection is not limited – we manufacture a broad range of high-performance adhesives, sealants and coatings that meet and/or exceed the requirements of stringent military specifications.

HERNON® offers many products such as:

- · Anaerobic Adhesives & Sealants
- Cyanoacrylates
- Structural Adhesives
- Environment Friendly® Primers, Accelerators, and Activators
- Epoxies (Both One & Two Component Types)
- Ultra-Violet Cure Adhesives & Coatings
- Impregnation Resins
- Silicones
- Pre-applied Sealants
- Custom Formulations
- · Equipment for:
  - Dispensing
  - Impregnating
  - Ultra-Violet Curing

Contact your local HERNON® representative or our corporate headquarters for customized formulations to solve your unique application or production needs.



Hernon® Is Your "Total Solutions" Expert

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# 2015

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	Adhesive	e Categor	У	
Performance Considerations	Acrylics	Cyanoacrylates	Epoxies	Silicones
Benefits	Good impact resistance/flexibility	Excellent adhesion to rubber or plastics	Wide range of formulations	Excellent temperature resistance
Limitations	Primer required	Low solvent resistance	Mixing required	Low strength
Temperature Resistance Typical for the category	-65°F to 300°F	-65°F to 180°F	-65°F to 180°F	-65°F to 400°F
Highest Temperature Resistance	400°F	250°F	275°F	600°F
	Environme	ental Resistance		
Polar Solvents (ex, H20, Ethylene Glycol, IPA, Acetone)	Good	Poor	Very Good	Good
Non-Polar Solvents (ex, Motor Oil, Toluene, Gasoline, ATF)	Very Good	Good	Excellent	Poor
	Adhesion	to Substrates		
Metals	Excellent	Very Good	Excellent	Good
Plastics	Fair	Excellent	Fair	Fair
Glass	Excellent	Poor	Excellent	Very Good
Rubber	Poor	Very Good	Fair	Good
Wood	Good	Good	Very Good	Fair
Overlapping Shear Strength	High	High	High	Low
Peel Strength	Medium	Low	Medium	Medium
Tensile Strength	High	High	High	Low
Elongation/Flexibility	Medium	Low	Low	Very High
Hardness	Semi-Rigid	Rigid	Rigid	Soft
	Process (	Considerations		
Number of Components	2	1	2	1
Cure Temperature	Room Temp.	Room Temp.	Room Temp.	Room Temp.
	Fixt	ure Time		
Average	10 min.	60 sec.	35 min.	25 min.
Fastest	30 sec.	10 sec.	3-5 min.	10 min.
Full Cure Time	24 hours	24 hours	12-24 hours	24 hours
	G	ap Fill		
Ideal	0.002"004"	0.001" - 0.003"	0.004" - 0.006"	0.004" - 0.006"
Maximum	0.040"	0.010"	0.125"	0.240"
Dispensing/Mixing Equipment Required	No	No	Yes	No
Light Cure Versions Available?	Yes	Yes	Yes	Yes
For more information on each Adhesive Category, refer to pages	3 - 8	15-22	13-14	27-28

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# ReAct® & Dissipator® Structural Acrylic Adhesive Systems Bonding • Thermal Conductivity

HERNON® offers a complete line of structural acrylic adhesives including our ReAct® family of bonding systems and our Dissipator® family of thermally conductive acrylics. These systems are two-part, no mix, and reactive adhesives. Each acrylic adhesive has two components: the adhesive base or resin, and the Activator.

Structural acrylic adhesives are termed "reactive" cure systems. The adhesive base reacts upon contact with the Activator layer to initiate the curing mechanism. The key word is layer – Activator is applied as a thin film or layer to one or both surfaces to be bonded. Adhesive base resin is applied to one surface and parts mated to start the cure reaction. Unlike epoxies acrylics require no direct mixing.

Acrylics offer unique performance capabilities. High peel and high impact strengths are combined to deliver tough, durable, shock resistant bonds. Acrylics withstand weathering effects well. Acrylic adhesives do not require extensive surface preparation and bond well to dirty and oily surfaces.

Other acrylic features include the ability to bond a wide range of materials, excellent gap fills and fast fixturing times.

# Dissipator® & ReAct® Benefits

- Increased Profitability:
   Lower Costs, Design Efficiency
- Lower Cost less costly than mechanical assembly.
- Easy Use no mixing of components, cure when mated.
- Superior Reliability assembly integrity assured.



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# ReAct® Bonding Acrylics

# ReAct® 727

(Amber Liquid)

Fast Fixture Times
High Temperature
High Impact & Peel

ReAct<sup>®</sup> 727 is a structural acrylic designed to bond magnets, ferrites, plastic and metal wear strips as well as metals with special surface treatments such as galvanized, phosphate and dichromate surfaces.

# ReAct® 730

(Pale Yellow Liquid)

Quick Fixture Times
High Strength
High Impact & Peel
General Purpose

ReAct<sup>®</sup> 730 is a general-purpose structural acrylic designed to bond porous and non-porous surfaces in applications subject to bending and flexing.

Use 730 to bond: plastic, metal, cardboard, ceramic, concrete, cork, fabric, fiberglass, glass, leather, marble, nylon, particle board, phenolic, polycarbonate, wood, vinyl, and more.

### **#730 Applications:**

- Fuel pump parts
- Speaker magnets to housings and frames
- Wood, metal, and plastic signs to concrete
- Composites like graphite fibers, honeycomb
- G lass and metal combinations: greenhouses, solar collectors, etc.
- Aluminum Decorative trim

# ReAct® 761

(Pale Yellow Liquid)

Quick Fixture Times
High Strength
High Impact, Peel
High Temperatures

ReAct<sup>®</sup> 761 is a fast curing high viscosity structural acrylic adhesive with extended high temperature performance to 400°F. Excellent choice for parts subjected to paint bake cycles after assembly.

ReAct<sup>®</sup> 761 is an ideal production line adhesive providing quick cures on glass, metal and thermoplastics. It can reach handling strengths within 180 seconds of mating parts with EF<sup>®</sup> Activator 63.

Quicker fixturing can be obtained with closer part tolerances and smaller gaps.

Faster fixturing reduces in-process "float" times with shorter clamping and fixturing phases. This product delivers the highest tensile shear strength and excellent impact resistance.

# **#761 Applications:**

- · Firearm parts, grips
- · Magnets for motors
- · Speaker magnets
- · Utensil handles, grips

# ReAct® 766

(Clear-Yellow Liquid)

High impact and shock resistance

Good gap filling capabilities

High temperature resistance

Excellent adhesion to a variety of surfaces Hernon® ReAct® 766 is formulated to bond permanent magnets and a wide variety of other substrates. ReAct® demonstrates excellent impact and peel resistance which results in tough, durable structural bonds. Temperature resistance is from –40°F (-40°C) to 400°F (204°C).

# ReAct® Benefits

- No-Mix, Single-Component for Production Ease
- On-Demand Cure When Parts Assembled
- Allows Preparation of Parts in Production Environment
- Superior Reliability and Strength



# ReAct® 767

### (Translucent)

High temperature resistance High impact and shock resistance Good gap filling properties

Excellent adhesion to a variety of surfaces.

> **Fast fixture times** No pot life, no mixing **Thixotropic**

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, this structural adhesive is ideal for choke and transformer bonding, DC motor assembly, alternator and fly wheel 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.

### **#767 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.

# ReAct® 784

(White Liquid)

Bonds to an exceptionally large variety of substrates including metals, plastics, composites, ceramics, glass, wood, leather, rubber and marble

Convenient two-component, nomix system for rapid production applications

Minimal or no surface preparation

### 100% solid system

Hernon® has taken the excellent bond strength of Fusionbond® structural adhesive and merged it with the simplicity of ReAct® two-component, no-mix curing system to create ReAct® 784. ReAct® 784 is a 100% solid system, room temperature cure, versatile structural adhesive. This formulation will offer rapid, high-strength and high-impact resistant bonds to a variety of substrates within minutes.

	ReAct Typical Values							
Grade	Color	Viscosity cP	Temperature Range, °C (°F)	Fixture Time at 22°C *	Gap Fill mm (in.)	Recommended EF® Primer / Activator		
727	Off-White	55,000 to 65,000	-40 to 149 (-40 to 300)	15-25 seconds	0.508 (0.020)	EF® Activator 56		
730	Light yellow	45,000 to 90,000d	-51 to 121 (-60 to 250)	≤ 3 minutes	0.762 (0.030)	EF® Activator 56 or 59		
761	Pale yellow	75,000 to 130,000	-40 to 204 (-40 to 400)	≤ 3 minutes	0.508 (0.020)	EF® Activator 59 or 63		
766	Clear-yellow	70,000 to 90,000	-40 to 204 (-40 to 400)	≤ 3 minutes	0.508 (0.020)	EF® Activator 59 or 63		
767	Off-White	50,000 to 70,000	-40 to 149 (-40 to 300)	≤ 25 seconds	0.508 (0.020)	EF® Activator 56		
784	White	18,000 to 30,000	-55 to 121 (-65 to 250)	≤ 4 minutes	0.508 (0.020)	EF® Activator 15		

<sup>\*</sup> With Activator

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# Dissipator® 745

(Blue Paste)

### Self-Shimming Insulates to 500 Volts Broad heat Sink Use

Dissipator<sup>®</sup> 745 is a self-leveling or self-shimming thermally conductive adhesive. The leveling action reduces the adhesive to a uniform layer thickness of .005 - .007" on each application. Gap control assures predictable dissipation of heat.

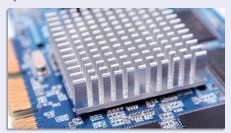
# Dissipator® 746

(White paste)

Field Serviceable Heat Sink Components Printed Circuits

Dissipator<sup>®</sup> 746 is a specialized acrylic adhesive for bonding heat sensitive components to heat sinks and circuit boards.

The Dissipator® 746 offers controlled bond strength to facilitate field service of components. Parts can be removed and/or replaced with relative ease.





# **Dissipator® Thermally Conductive Acrylics**

Dissipator® structural acrylics provide specific adhesion for bonding electrical heat sink components with high thermal conductivity. Heat trapped and not dissipated by the components can lead to premature component failure and costly repair and replacement. Thermal conductivity is assured and electrical shorting is prevented by the insulation characteristics of the adhesives.

The acrylic adhesives replace mechanical devices and silicone greases that can trap contaminants.

Dissipator® Typical Values								
Grade	Color	Viscosity	Temperature Range, °C (°F)	Fixture Time, Minutes	Shear Strength, N/mm² (psi)	Thermal Conductivity, W/(m·K)	Recommended EF <sup>®</sup> Activator	
745	White	Thixotropic Paste	-55 to 150 (-65 to 300)	< 5	> 5.5 (> 800)	0.808	63	
746	White	Thixotropic Paste	-55 to 150 (-65 to 300)	< 5	> 6.9 (> 1000)	0.760	63	

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# Hernon® Fusionbond®



Hernon® Fusionbond® structural adhesive offers bonds stronger than steel.

Fusionbond<sup>®</sup> is a two-component, methacrylate adhesive that is specially formulated to bond many diverse substrates and offer unparalleled chemical resistance. It is also resistant to fatigue and impact and maintains the ability to fill gaps.

Fusionbond<sup>®</sup> offers shear strength not found in other adhesives. Tests to ASTM D1002 have demonstrated shears strengths over 5000 psi on abraded steel and up to 3660 psi on abraded aluminum. ASTM D4501 standard tests have show strengths up to 1340 psi on epoxy glass. In the same testing standard PVC failed before Fusionbond® at 2520 psi. Elongation is up to 40% and hardness is up to 80 Shore D.

Fusionbond® excels in bonding various hard-to-bond substrates including phenolics, polycarbonate and blends, polyurethanes, ABS, and PVC. Other bondable substrates include steel, stainless steel, styrenics, titanium, and others. Fusionbond® is resistant to many chemicals including kerosene, hydrocarbon oil, mineral spirits, and ethylene glycol. In testing, Fusionbond® maintained integrity in unleaded gasoline for more than 1000 hours. The temperature range of Fusionbond® is from –55° to 121°C (-67° to 250°F).

Fusionbond<sup>®</sup> is a 1-to-1 ratio, easy to dispense adhesive. It can easily be dispensed from dual cartridges using a static mixer or larger containers in production applications. The working time is 5 to 10 minutes with a fixture time on received steel in 10 to 15 minutes.



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# Fusionbond® 370

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

Hernon<sup>®</sup> Fusionbond<sup>®</sup> 370 is a two component methacrylate adhesive specially formulated for structural bonding of thermoplastics, metal, wood, and composites.

# Fusionbond® 371

100% solid

Easy mixing ratio of 1:1 by volume

Almost no surface preparation is
needed

Hernon<sup>®</sup> Fusionbond<sup>®</sup> 371 provides superior toughness on a wide variety of substrates. An excellent choice for composite bonding applications in marine, automotive, and construction industries.

# Fusionbond® 372

Superior impact and peel strength
Halogen free

Excellent temperature and chemical resistance

### Bonds to most substrates

Hernon<sup>®</sup> Fusionbond<sup>®</sup> 372 is the strongest structural adhesive available on the market today. It is halogen free and bonds to a wide variety of substrates with extremely high impact and heat resistance.

# Fusionbond® 375

Non-sagging gaps filled to 0.375 inch Superior impact and peel strength

Rapid room temperature cure

Hernon<sup>®</sup> Fusionbond<sup>®</sup> 375 is formulated for bonding PVC, acrylic, ABS, stainless steel, and some type of fiberglass. Fusionbond<sup>®</sup> 375 fixtures quickly in 7 to 10 minutes at room temperature to form a resilient and high-strength bond.

# Fusionbond® 376

**Outstanding environmental resistance** 

Excellent at bonding dissimilar substrates

Dramatically reduces assembly costs

Develops good strength after 15 min.

# Fusionbond® 37784

Outstanding environmental resistance Exceptional at bonding dissimilar substrates

Excellent salt spray resistance and gap filling ability

Dramatically reduces assembly cost

Hernon<sup>®</sup> Fusionbond<sup>®</sup> 37784 offers a lower viscosity, and is specially formulated for structural bonding of thermoplastics, metal, wood, and composite assemblies. Fusionbond<sup>®</sup> 37784 requires virtually no surface preparation.

Fusio	nbono	d <sup>®</sup> Typic	al Value	es						
	С	olor	Viscos	sity, cP			Mixed 1:1			
Grade	Part A	Part B	Part A	Part B	Temp. Range, °C (°F)	Fixture Time, Minutes	Gap Fill, mm (in.)	Shear Strength, N/mm² (psi)	Working Life, Min.	Hardness, Shore D
370	White	Blue	40,000 to 64,000	40,000 to 64,000	-55 to 121 (-67 to 250)	10 to 15	9.65 (0.38)	≥ 3000	10 to 15	75 to 80
371	White	Off-white	40,000 to 64,000	40,000 to 64,000	-55 to 121 (-67 to 250)	10 to 15	9.65 (0.38)	≥ 3000	15 to 30	75 to 80
372	White	Blue	30,000 to 50,000	30,000 to 50,000	-55 to 121 (-67 to 250)	10-12	9.65 (0.38)	≥ 3000	15 to 20	60 to 70
375	Yellow	Blue	40,000 to 64,000	40,000 to 64,000	-55 to 121 (-67 to 250)	7 to 10	9.65 (0.38)	≥ 3000	4 to 6	75 to 80
376	White	Blue	35,000 to 60,000	35,000 to 60,000	-55 to 121 (-67 to 250)	3-5	9.65 (0.38)	≥ 3000	3 to 5	40 to 50
37784	White	Blue	7,000 to 9,000	7,000 to 9,000	-55 to 121 (-67 to 250)	10 to 15	9.65 (0.38)	≥ 3000	5 to 10	75 to 80

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# HASA ~ HERNON® Anaerobic Structural Adhesive • Bonding



HERNON® offers a complete line of anaerobic structural adhesives - the HASA family of products. These adhesives are 100% active single component adhesives that cure upon the exclusion of air.

HASA adhesives have been highly engineered to meet specific design criteria combining high tensile, impact, temperature, and peel strengths for specific assembly requirements.

HASA materials have excellent gap filling abilities (up to .040") and offer temperature stability (to 350°F). They are easily dispensed bonding agents which will ultimately reduce assembly time and related costs for many structural bonding needs.

Cure is accomplished by applying HASA between mating surfaces including metals, glass, ceramics, thermoset plastics, and filled thermoplastics. Use surface primers to achieve fast fixturing times and high production rates. Cured HASA materials are highly cross-linked structural thermoset plastics with excellent properties over a broad range of operational conditions.

# **HASA®** Benefits

- Increased Profitability: Lower Costs, Design Efficiency
- Lower Cost less costly than mechanical assembly.
- Lower Energy Cost parts bond at room temperature.
- Superior Reliability assembly integrity assured.

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# **HASA Grade Details**

# **HASA 716**

(Amber Liquid)

Very Fast Cure
Maximum Strength
General Purpose

HASA 716 is a fast curing moderate viscosity structural anaerobic adhesive with gap filling capability to 0.015".

HASA 716 is an ideal production line adhesive providing quick cures on glass, ceramics, metal and thermoplastics, reaching handling strengths in 30 seconds with primer application. Quick curing reduces in-process "float" times with shorter clamping and fixturing phases.

This product delivers the highest tensile shear strength, excellent impact resistance and temperature integrity to 250°F.

# **#716 Applications:**

- Metal to thermoplastic
- Speaker magnets to housings and frames
- Wood and plastic components, arrowheads
- Fans to shafts (motors)
- Stemware
- Repair of cracked or broken ferrite magnets

# **HASA 722**

Hernon® HASA 722 is a single-component, anaerobic, structural adhesive designed for bonding rigid assemblies. HASA 722 cure is accomplished when mating surfaces including metal, glass and ceramics are joined together.

Accelerated cures are possible with the application of primers or by a short, low temperature heat cycle. Upon cure, HASA 722 is a highly cross linked thermoset plastic with excellent properties over a wide range of conditions.

### **#722 Applications**

- Bonding ferrite to plated metals in electric motors and loud speakers.
- · Bonding of glass and ceramics.
- Where fast setting of adhesives with high structural properties is required.

# **HASA 66071**

Hernon® HASA 66071 is a single component structural anaerobic adhesive formulated for bonding rigid assemblies at high temperatures. HASA 66071 cures when it is confined between mating surfaces. Hernon EF® Primer 50 accelerates the cure.

### #66071 Applications

- Bonding ferrite to plated metals in electric motors and loud speakers.
- · Bonding of glass and ceramics.
- Where fast setting of adhesives with high structural properties is required.



	HASA Typical Values								
Grade	Color	Viscosity cP	Temp. Range, °C (°F)	Fixture Time at 22°C	Gap Fill, mm (in.)	Shear Strength, N/mm² (psi)	Recommended EF <sup>®</sup> Primer / Activator		
716	Amber	3,000	-55 to 121 (-65 to 250)	≤ 30 seconds	0.381 (0.015)	>10.3 (>1500)	EF® Primer 50		
722	Amber	10,000	-55 to 105 (-65 to 221)	≤ 30 seconds	0.508 (0.020)	>10.3 (>1500)	EF® Primer 50		
66071	Amber	16,000	-55 to 121 (-65 to 240)	≤ 20 seconds	0.381 (0.015)	>10.3 (>1500)	EF® Primer 50		

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# Hernon® Supertacker®



Hernon® Supertacker® is one of the most versatile elastomeric adhesives available. Supertacker® exhibits excellent bonding characteristics while providing a tough, waterproof bond that will not crack or become brittle. It outperforms silicones, acrylics, and rubber cements with greater strength, durability, and surface versatility.

Supertacker® is resistant to a wide-variety of chemicals and environments. It is impervious to dilute acids and dilute caustics and can be submerged in fresh or salt water once it is completely cured. Supertacker® is great for bonding objects subject to wear due to abrasion resistance. The temperature environmental range is from -40°C to 150°C (-40°F to 300°F). Supertacker® remains flexible in all weather conditions, and it can be painted to match surrounding surfaces.

Supertacker® offers advanced strength characteristics including tensile strength up to 3500 psi according to ASTM D412 test standard. Peel strength is also superior ranging from 30 psi on thermoplastic rubber to 40 psi on glass (ASTM D903). Electric dielectric strength is up to 400 volts/mil (ASTM D149).

Applications for Supertacker® range from bonding lead wires to loudspeakers to sealing tanks and pipes as well as repairing conveyor belts.

# **SUPERTACKER® Benefits**

- Single-Component Easy to Use
- Exceptional Flexibility Does Not Become Brittle
- Waterproof in Salt and Fresh Water Applications
- Excellent Resistance to Dilute Acids and Caustics

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# Supertacker® Grade Details

# Supertacker® 351

(Clear Liquid)

Exceptional flexibility – Does not become brittle in cold weather, can bond items subject to vibration.

### Waterproof

Abrasion resistance

Non-flammable

**Paintable** 

# Excellent resistance to dilute acids and dilute caustics

Hernon® Supertacker® 351 is a single component, high performance elastomeric adhesive that exhibits exceptional bonding characteristics to a broad range of materials including metals, glass, plastic composites, rubber, leather, wood and vinyl. Supertacker® 351 provides a tough, waterproof bond that won't crack or become brittle. Supertacker® 351 out-performs silicones, acrylics, and rubber cement because it bonds to more surfaces with greater strength and durability.



# Supertacker® 352

(Black Liquid)

Viscosity 50,000 cP

Exceptional flexibility – Does not become brittle in cold weather, can bond items subject to vibration

Waterproof – Can be submerged in fresh and salt water after complete cure

Abrasion resistance – Great for bonding objects subject to wear

Non-flammable

Paintable – Paint to match surrounding area or make UV-resistant

Excellent resistance to dilute acids and dilute caustics

Hernon® Supertacker® 352 is a single-component, high performance elastomeric adhesive for bonding metals, glass, plastic composites, rubber, leather, wood, and vinyl. Supertacker® 352 will form a waterproof bond that will not crack or become brittle.

# Supertacker® 353

(Clear Liquid)

Viscosity ~ 13,000 cP

Exceptional flexibility – Does not become brittle in cold weather, can bond items subject to vibration

Can be used as a bullet primer sealant

Paintable – Paint to match surrounding area or make UV-resistant

Excellent resistance to dilute acids and dilute caustics

# Supertacker® 357

(Clear Liquid)

Viscosity 100,000 cP

Exceptional flexibility – Does not become brittle in cold weather, can bond items subject to vibration

Waterproof – Can be submerged in fresh and salt water after complete cure

Abrasion resistance – Great for bonding objects subject to wear

Non-flammable

Paintable – Paint to match surrounding area or make UV-resistant

Excellent resistance to dilute acids and dilute caustics

Hernon® Supertacker® 357 is a single-component, high performance elastomeric adhesive for bonding metals, glass, plastic composites, rubber, leather, wood, and vinyl. Supertacker® 357 is thicker, high viscosity sealant for vertical and overhead applications.

# Supertacker® Typical Values

Grade	Color	Viscosity, cP	Temperature Range, Continuous, °C (°F)	Tack Free Time/ Full Cure at 75°F	Hardness, Shore A	% Elongation
351	Clear	50,000	-40 to 66 (-40 to 150)	< 30 min / 24 hours	80	900
352	Black	50,000	-40 to 66 (-40 to 150)	5 min / 24 hours	80	900
353	Clear	~ 13,000	-40 to 66 (-40 to 150)	< 20 min / 24 hours	80	900
357	Clear	100,000	-40 to 66 (-40 to 150)	5 min / 24 hours	80	900

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# Hernon<sup>®</sup> Tuffbond<sup>™</sup>



# Tuffbond™ epoxies offer substantial moisture, chemical, and heat resistance.

Use for bonding: wood, metal, ceramic, glass, plastic, masonry, stone, concrete, rubber, etc. Provides high shear strength for tough and durable bonds. Surfaces to be bonded must be clean and free of oil. Tuffbond™ epoxies are 100% solids and can be customized for specific applications.

# Tuffbond™ 394

Hernon<sup>®</sup> Tuffbond<sup>™</sup> 394 is a single component, high temperature resistant, heat activated epoxy. It cures to a high performance thermoset system with excellent adhesion properties to a wide variety of substrates. The rapid curing mechanism of 1.5 minutes at a bondline temperature of 150°C makes it ideal for production line use. Tuffbond<sup>™</sup> 394 will change from amber-yellow to a reddish brown upon cure.

# Tuffbond™ 395

Hernon® Tuffbond™ 395 is a single component, high temperature resistant, heat activated epoxy. It cures to a high performance thermoset system with excellent adhesion properties to a wide variety of substrates. The rapid curing mechanism of 1.5 minutes at a bondline temperature of 150°C makes it ideal for production line use. Tuffbond™ 395 will change from amber-yellow to a reddish brown upon cure.

# Tuffbond™ Benefits

- Multiple Cure Options
- 100% Solid Solvent Free
- Wide Range Of Fixture Times

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# **Tuffbond™ Grade Details**

# Two-Part Tuffbond™

# Tuffbond™ 302

Hernon<sup>®</sup> Tuffbond™302 is a modified epoxy adhesive that provides a very fast room temperature cure. Tuffbond™ 302 exhibits very good moisture chemical and heat resistance. This very fast cure epoxy adhesive is specially formulated for rapid in-line assembly of loud speakers. Tuffbond™ 302 is also recommended for bonding metals, wood, ceramics, etc., and can be used for potting and encapsulation of electrical and electronic components.

# Tuffbond™ 305

General-purpose two-part epoxy. Fixtures in 4-6 minutes at room temperature. Full cure in 1 hour. Use to 220°F.



# Tuffbond™ 313

Hernon<sup>®</sup> Tuffbond<sup>™</sup> 313 is a two component, one-to-one mix ratio adhesive system. Tuffbond<sup>™</sup> 313 is a 100% solid adhesive that cures at room temperature. The working time of a 100 gram mass is 40 to 60 minutes. Tensile Strength is up to 7100 psi according to ASTM D638 testing. Hardness is 70 Shore D. Temperature resistance is from −65°F (-53°C) to 300°F (149°C).

# Tuffbond™ 314

Hernon<sup>®</sup> Tuffbond<sup>™</sup> 314 is a flexible and resilient twopart epoxy adhesive system. Due to its versatile and convenient working characteristics, it should be considered for any room temperature curing application where elevated temperature curing cycles can be used. By changing the ratio of resin and hardener, the cured adhesive can change from a tough and flexible to a hard and rigid system.

Tuffbond™ 314 is recommended for bonding metal, glass, wood, concrete, and rubber, and can be used for potting and encapsulation of electrical and electronic components.

# Tuffbond™ 315

Hernon<sup>®</sup> Tuffbond<sup>™</sup> 315 is a modified epoxy adhesive that provides a fast room temperature cure. Tuffbond<sup>™</sup> 315 exhibits very good moisture chemical and heat resistance. This fast cure epoxy adhesive is specially formulated for rapid in-line assembly of loud speakers.

Tuffbond™ 315 is also recommended for bonding metals, wood, ceramics, etc., and can be used for potting and encapsulation of electrical and electronic components.

### Tuffbond™ 316

Hernon<sup>®</sup> Tuffbond<sup>™</sup> 316 is a two component, variable-ratio adhesive. The mix ratio can be adjusted from a tough and flexible adhesive to a hard and rigid adhesive. The working time of a 100 gram mass is 80 to 100 minutes. Temperature resistance is from −65°F (-54°C) to 275°F (135°C). Tuffbond<sup>™</sup> 316 offers shear strength up to 2300 psi.

# Tuffbond™ 317

Two-part epoxy with variable mix ratio — cured bonds can be tough and flexible or hard and rigid — depending on ratio. Fixtures in 40 minutes. Clamp parts during cure. Full cure in 24 hours. Temperature limit is 275°F

# Tuffbond™ 323

Hernon<sup>®</sup> Tuffbond<sup>™</sup> 323 is a flexible, low viscosity, general purpose resin system used for casting, potting, and encapsulating of electrical and electronic components. This unique product has been formulated to combine ease in handling with optimum physical, thermal and electrical insulation properties.

### Tuffbond™ 3661

Hernon<sup>®</sup> Tuffbond<sup>™</sup> 3661 is a unique room temperature curing, two component epoxy adhesive for high temperature bonding and potting applications. It is formulated to cure at room temperature, with a convenient mixing ratio of 1:1. Tuffbond <sup>™</sup> 3661 produces high strength bonds whose strength is maintained even after long exposure to temperatures in the 250° to 300°F range. The hardened adhesive is electrically insulative and heat conductive.



Tuffbo	Tuffbond™ Typical Values							
Grade	Color	Viscosity cP	Temperature Range, °C (°F)	Hardness, Shore D	Shear Strength, N/mm² (psi)			
394	Amber	50,000	-54 to 177 (-65 to 350)	80-85	>10.34 (>1500)			
395	Light Amber	320,000	-54 to 177 (-65 to 350)	85-90	>10.34 (>1500)			

Two-l	Part Tuf	fbond™	Typical Values			
Grade	Color	Viscosity cP	Temperature Range, °C (°F)	Working Life (100g), Minutes	Hardness, Shore D	Shear Strength, N/mm² (psi)
			Mixed 1:1	Mixed 1:1	Mixed 1:1	Mixed 1:1
302A	White	55,000	-54 to 135 (-65 to 275)	5	85-90	> 10.34 (> 1500)
302B	Lt. Amber	55,000	-54 to 135 (-65 to 275)	5	85-90	16.6 (2400)
305A	Clear	15,000	-54 to 82 (-65 to 180)	3	86	16.6 (2400)
305B	Yellow	15,000	-54 to 82 (-65 to 180)	3	86	16.6 (2400)
313A	Clear	21,500	-54 to 149 (-65 to 300)	50	79	22.1 (3200)
313B	Amber	21,500	-54 to 149 (-65 to 300)	50	79	22.1 (3200)
315A	Clear	13,000	-54 to 135 (-65 to 275)	15	75	>13.78 (>2000)
315B	Yellow	9,000	-54 to 135 (-65 to 275)	15	75	>13.78 (>2000)
316A	Black	12,000	-54 to 135 (-65 to 275)	90	82	15.9 (2300)
316B	Amber	10,000	-54 to 135 (-65 to 275)	90	82	15.9 (2300)
317A	Clear	12,000	-54 to 135 (-65 to 275)	90	82	15.9 (2300)
317B	Amber	10,000	-54 to 135 (-65 to 275)	90	82	15.9 (2300)
323A	Black	1,500	-51 to 122 (-60 to 250)	35	65	7.58 (1100)
323B	Pale Yellow	800	-51 to 122 (-60 to 250)	35	20-40 ShA	3.44 (500)

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# Instantbond & Quantum® Cyanoacrylate • Adhesives Bonding



Hernon® offers a very complete selection of cyanoacrylate adhesives. Two different categories are offered: Instantbond & Quantum®. The Instantbond grades offer "classic" performance, while the Quantum® grades deliver "special" or "advanced" performance. The differences between the two categories are the result of formulation, modification, and molecular engineering.

# Cyanoacrylate Benefits

- Near Instant Cure Speeds Production
- Simple No-Mix, Single-Component Application
- Cost Savings Over Mechanical Fasteners

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# Instantbond Grade Details

# Instantbond Cyanoacrylates

Classic cyanoacrylates are represented by the ethyl and methyl chemistries. Generally, the methyls offer better bond strengths on metals while the ethyls provide better strengths on virtually everything else. Substrate selection and bond line configuration directly influence adhesive performance.

For example, two polished bare metal surfaces are best bonded with a methyl grade. By comparison, better results would be generated by an ethyl grade when bonding a single bare metal surface, such as an emblem to an automobile fender. Why? The automobile fender is painted, and while composed of metal, the adhesive is in contact with the acrylic paint layer, a plastic surface. To summarize; use methyls when bonding bare metal-to-metal, ethyls for everything else.

Surface chemistry plays an important role in the cure of the classic cyanoacrylate adhesives.

Instantbond grades cure as the result of contact with trace amounts of moisture. The reaction is called ionic polymerization. Any surface capable of absorbing moisture is a good surface for bonding.

The water molecule is V-shaped and orients itself so that the two halves represent two OH- or "weak" hydroxyl groups. Instantbond cyanoacrylates require sufficient atmospheric moisture to cure or catalyze the liquid adhesive.

The Instantbond formulations cure best when surface pH is slightly alkaline or over 7.0. Poor bonding performance results on acidic surfaces such as: plastics and rubber covered by mold release gents, platings, wood and leather. These surface conditions should be viewed as limitations for the Instantbond cyanoacrylate types. HERNON®'s Quantum® cyanoacrylates, discussed later, are formulated to overcome such limitations.

Adhesive viscosity plays a vital role in the fixture time of cyanoacrylates. The lower the viscosity, the quicker the adhesive will fixture. The higher the viscosity, the slower the bonding action. Water has a viscosity of 1 centipoise (cP), and very thick maple syrup has a viscosity of approximately 2,500cP. Fillers can be added to the adhesive to create a "gel" or jelly-like consistency. Gels do not flow like liquids and can be easily used on vertical or overhead surfaces without migration.

Gap fill ability is directly related to the viscosity of the adhesive. Low viscosity adhesives have small gap filling capabilities. High viscosity adhesives have greater gap filling abilities. Gel grades have excellent gap filling properties. Use of cyanoacrylate accelerators can enhance gap-filling abilities.

Cyanoacrylates are 100% adhesive and contain no solvents. However, cyanoacrylate particles can become airborne and can settle on surfaces during cure leaving a white residue. The action is called "blooming". Blooming is minimized by adequate ventilation at the bond line, selection of special chemistries, and the use of Accelerators.

Less is better. Always use cyanoacrylates sparingly. One drop is sufficient for bonding approximately one square inch of surface.



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# Instantbond Grade Details

# **Instantbond 109**

Viscosity 2-12cP Medium Viscosity General Bonding

A general-purpose grade with .005" gap filling capabilities. Apply to one surface, and then mate parts. Provides quick fixturing times.

# **Instantbond 110**



Viscosity 80-120cP Medium Viscosity General Bonding

A general-purpose grade with .005" gap filling capabilities. Apply to one surface, and then mate parts. Provides quick fixturing times.

# **Instantbond 112**



Viscosity 2-16cP Very Low Viscosity Fast Fixturing "Wicking" Action

Used to penetrate into bond line between clamped or fixtured metal parts. Water thin viscosity adhesive is drawn into joint by capillarity. Very fast tacking action.

# **Instantbond 113**



Viscosity 50-65cP Low Viscosity General Purpose

This thin liquid is suitable for close tolerance bonding of a wide variety of materials. parts by capillary action.

# **Instantbond 117**



Viscosity 1,300-1700cP High Viscosity Slow Setting Porous Materials

This grade offers extra gap filling ability along with a very slow cure action. Well suited for bonding open cell foams (rubber, urethane), natural sponge, porous ceramics, insulators.

### **Instantbond 119**



Viscosity 5-12cP Very Low Viscosity Fast Fixturing "Wicking Action"

Water thin viscosity permits this grade to penetrate into tightly fitting or clamped parts by capillary action.

# **Instantbond 121**



Viscosity 2,000-2,800cP High Viscosity Slow Cure

Provides gap-filling ability to .010". This thick liquid with slower fixturing allows extra time for alignment of parts.

### **Instantbond 122**



Thixotropic Gel Non-Migrating Gel High Temperature Maximum Gap Fill

Gel formulation with heat resistance to 225°F

# Typical Applications Ethyl Grades:

- · Plastic and metal combinations
- Electronic components
- Toys, sporting goods
- · Components of cosmetics packaging
- Speaker sub assembly
- Coil termination
- Attachment of rubber feet, grommets, bumpers
- Permanent locking of plastic fasteners
- Attachment of weather stripping, air seals

# **Instantbond 123**



Viscosity 110cP Moderate Viscosity Hard to Bond Plastics

Specially formulated for hard to bond plastics like vinyl, EPDM, and urethane.



# Instantbond Grade Details

# **Instantbond 127**



Thixotropic Gel Non-Migrating Gel General Purpose Maximum Gap Fill

A general-purpose gel formulation that stays where applied without migration. Use on rubber, metal, plastics.

# **Instantbond 66793**



Viscosity 3,500-4,500cP Medium Viscosity

Formulated to bond to metals, plastics, ceramics, rubber and leather.

# Approximate Number of Free-Fall Drops per milliliter from Standard Packaging

Viscosity (cP)	Drops/mL	Drops/lb.
1-100	100	42,800
100-1,000	70	29,960
1,000-5,000	50	21,400
5,000-10,000	30	12,840

Instan	tbond	Typical \	/alues				
Grade	Color	Viscosity cP	Temperature Range, °C (°F)	Fixture Time at 22°C, Seconds	Shear Strength, N/mm² (psi)	Gap Fill mm (in.)	Resin Base
109	Clear	2-12	-55 to 82 (-65 to 180)	≤ 30	≥ 17.2 2500	0.050 (0.002)	Ethyl
110	Clear	80-120	-55 to 82 (-65 to 180)	20 to 40	≥ 17.2 2500	0.127 (0.005)	Methyl
112	Clear	2-16	-55 to 82 (-65 to 180)	20 to 40	≥ 17.2 2500	0.050 (0.002)	Methyl
113	Clear	50-65	-55 to 82 (-65 to 180)	10 to 30	≥ 17.2 2500	0.102 (0.004)	Ethyl
117	Clear	1300-1700	-55 to 82 (-65 to 180)	20 to 50	≥ 17.2 2500	0.203 (0.008)	Ethyl
119	Clear	5-12	-55 to 82 (-65 to 180)	10 to 30	≥ 17.2 2500	0.050 (0.002)	Ethyl
121	Clear	2000-2800	-55 to 82 (-65 to 180)	20 to 50	≥ 17.2 2500	0.203 (0.008)	Ethyl
122	Clear	Gel	-55 to 107 (-65 to 225)	50 to 100	≥ 17.2 2500	0.254 (0.010)	Ethyl
123	Clear	100-120	-55 to 82 (-65 to 180)	15 to 30	≥ 17.2 2500	0.152 (0.006)	Ethyl
127	Clear	Gel	-55 to 82 (-65 to 180)	50 to 100	≥ 17.2 2500	0.254 (0.010)	Ethyl
66793	Clear	3500-4500	-55 to 82 (-65 to 180)	≤ 30	≥ 17.2 2500	0.203 (0.008)	Ethyl

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# Quantum<sup>®</sup> Grade Details



# **Special Performance Cyanoacrylates**

The Quantum® group of HERNON® cyanoacrylates offers specialized performance attributes. This range of grades has been engineered to provide solutions to specific cyanoacrylate challenges. Three categories are offered: surface insensitive, toughened, and low odorlow blooming.

# Low-Odor; Low-Blooming Grades

These products have specially modified formulations to eliminate vapor transmission and adhesive residue that can settle on parts during cure. Use in poorly vented assemblies.

# Quantum® 132

# Viscosity 1000 cP Pale Yellow Liquid

Hernon<sup>®</sup> Quantum<sup>®</sup> 132 is an advanced, odorless, and non-blooming high-performance cyanoacrylate adhesive. Quantum<sup>®</sup> 132 develops handling strength within seconds and full-functional strength in hours. Quantum<sup>®</sup> 132 can be used on metals, thermoplastics, elastomers, ceramics, leather, and cork.

# Quantum® 136

# Viscosity 40-60 cP Pale Yellow Liquid

Hernon<sup>®</sup> Quantum<sup>®</sup> 136 is an advanced, odorless, and non-blooming high-performance cyanoacrylate adhesive. Quantum<sup>®</sup> 136 develops handling strength within seconds and full-functional strength in hours. Quantum<sup>®</sup> 136 can be used on metals, thermoplastics, elastomers, ceramics, leather, and cork.

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# Quantum<sup>®</sup> Grade Details

### **Surface Insensitive Grades**

Surface insensitive grades function in environments hostile to "classic" cyanoacrylates. These formulations will bond acidic, freshly plated, leather, and wooden surfaces.

Plastic and rubber parts not bondable with "regular" cyanoacrylates are bonded with surface insensitive types. Porous materials respond well to this category of adhesives.

Best choice for bonding composite and exotic combinations of materials.

Atmospheric moisture can be near zero when working with these products.

# Quantum® 124



Viscosity 20cP Low Viscosity Quick Cure Difficult Rubber

Offers aggressive bonding on rubber compounds that are difficult to bond. Excellent O-ring bonder.

# Quantum® 134



Viscosity 600cP Medium Viscosity Alignment Time Better Gap Fill

This heavier bodied, general use adhesive provides excellent results on porous materials like cork, wood, cardboard, etc.

# Quantum® 135



Viscosity 100cP Medium Viscosity General Purpose All Surfaces

Possesses broad range capabilities for general purpose bonding. Provides .005" gap filling abilities and fast fixturing times.

# Quantum® 138



Thixotropic Gel Non-Migrating Gel Long Fixture Times Maximum Gap Fill

This gel formulation provides maximized gap filling along with longer working times to complete final adjustment and alignment after mating parts.

# Quantum® 143



Viscosity 5-15cP Fast Curing

Quantum<sup>®</sup> 143 is a single component, fast curing cyanoacrylate adhesive specially formulated for difficult to bond substrates.

# Quantum® 149

(Clear Liquid)

### Viscosity 2000 to 2800 cP

Bonds a wide variety of substrates including metals, thermoplastics, elastomers, ceramics, cork, leather, and paper. Temperature resistance to 250°F (121°C).





# Quantum<sup>®</sup> Grade Details

# Quantum® 156

(Clear Liquid)

# Viscosity 1500 to 2500cP Good shock and impact resistance Cures at room temperature

Quantum® 156 is a single-component cyanoacrylate adhesive formulated for impact, thermal shock and peel resistance. Excellent at bonding parts that require a higher humidity resistance than regular cyanoacrylates.

For use on most rubber, plastic or metal substrates. Use on parts subjected to shock, vibration and/or thermal cycling.

# **Quantum® 73421**



(Clear Liquid)

# Viscosity 80 to 150cP Good for hard-to-bond plastics

Quantum® 73421 is a state-of-the-art, single component, solventless, room temperature curing cvanoacrylate adhesive that polymerizes rapidly when pressed into a thin film between parts. The presence of surface moisture commences the cure of the adhesive. Quantum® 73421 develops handling strength within seconds and full functional strength in a few hours. Quantum® 73421 can bond a wide variety of surfaces including metals, thermoplastics, elastomers, ceramics, leather, cork, and paper, but is particularly suited for bonding hard-to-bond plastics.

# Quantum® 80122



(Clear Liquid)

### Viscosity 1300 to 2000cP

Rapidly bonds a wide range of metal, plastic and/or elastomeric materials

Quantum® 80122 is a single component, fast curing cyanoacrylate adhesive specially formulated for difficult to bond substrates. Can also be applied to acidic surfaces such as on dichromate or freshly plated parts.

# **Quantum® Benefits**

- Withstand Severe Thermal Cycling
- Suited For Dissimilar Substrate Joints
- High Impact Resistance
- · High Humidity Resistance
- Specially formulated for many types of challenging bonds
- Surface insensitive options for tough-to-bond substrates
- Low-odor, low-blooming grades available
- Toughened for flexible bonds



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# **Approximate Number of Free-Fall Drops per milliliter from Standard Packaging**

Viscosity (cP)	Drops/mL	Drops/lb.
1-100	100	42,800
100-1,000	70	29,960
1,000-5,000	50	21,400
5,000-10,000	30	12,840

Quantum <sup>®</sup> Typical Values								
Grade	Color	Viscosity cP	Temperature Range, °C (°F)	Fixture Time at 22°C, Seconds	Shear Strength, N/mm² (psi)	Gap Fill mm (in.)	Resin Base	
124	Clear	20	-55 to 79 (-65 to 175)	10 to 30	≥ 17.2 (2500)	0.203 (0.008)	Ethyl	
132	Clear	1000	-55 to 100 (-65 to 212)	30 to 60	≥ 17.2 (2500)	0.203 (0.008)	Beta- Methoxyethyl	
134	Clear	600	-55 to 82 (-65 to 180)	10 to 30	≥ 17.2 (2500)	0.203 (0.008)	Ethyl	
135	Clear	100	-55 to 82 (-65 to 180)	5 to 20	≥ 17.2 (2500)	0.203 (0.008)	Ethyl	
136	Clear	50	-55 to 120 (-65 to 248)	20 to 60	≥ 17.2 (2500)	0.203 (0.008)	Beta- Methoxyethyl	
138	Clear	Gel	-55 to 82 (-65 to 180)	10 to 30	≥ 17.2 (2500)	0.203 (0.008)	Ethyl	
143	Clear	5-15	-55 to 120 (-65 to 248)	20 to 30	≥ 17.2 (2500)	0.203 (0.008)	Ethyl	
149	Clear	2400	-55 to 120 (-65 to 248)	20 to 50	≥ 17.2 (2500)	0.203 (0.008)	Ethyl	
156	Clear	1500-2500	-55 to 82 (-65 to 180)	60 to 120	≥ 17.2 (2500)	0.203 (0.008)	Ethyl	
73421	Clear	80-150	-55 to 82 (-65 to 180)	20 to 30	≥ 17.2 (2500)	0.203 (0.008)	Ethyl	
80122	Clear	1300-2000	-55 to 82 (-65 to 180)	20 to 30	≥ 17.2 (2500)	0.203 (0.008)	Ethyl	





# Gasket Replacer • Anaerobic Sealants • Flange Sealing

HERNON Gasket Replacer anaerobic adhesives are single component, 100% active, ready-to-use gel-like materials that cure at room temperature. Gasket Replacer products cure only after confinement (the nature of anaerobic adhesives) between mating surfaces. They remain wet during assembly. After curing and filling all imperfections, HERNON Gasket Replacer products form a thin, tough, resilient, solvent, and temperature resistant seal.

Gasket Replacer adhesives are superior to other gasketing methods. They contain no solvents and do not shrink, stretch, split, rot, distort, wear-out, or relax. Joints never need retorquing.

Because the gasket is formed when parts are made-up (bolted together), the plastic shim formed is truly a "custom" gasket seal. Gel not forced out cures to a shim as an exacting match of the surface irregularities. The shim mirrors and fills all the voids, nicks and scratches present in even the best-machined flanges.

These compounds also improve the performance of the mechanical clamping of flanges. Flange loading is more uniformly distributed when rigid metal faces are in intimate contact, as opposed to clamping with a cork or rubber gasket sandwiched between the parts. Greater load distribution is synonymous with greater seal integrity over time and vibration.

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# Gasket Replacer Grade Details

# Gasket Replacer 907

(Red Gel)

High Temperature Rigid Assemblies

Gasket Replacer 907 forms a high temperature seal between mated parts. Use on rigid, close fitting parts, operating to 400°F continuous duty. Fills gaps to .010" unprimed and gaps to .020" with primer.

Suitable for application by tracing, screen printing, and roll coating. Excellent for dressing gaskets in rigid assemblies.

### **Gasket Replacer 907 Applications:**

- High temperature dimensional or spacer gaskets
- Outboard engine water jacket covers
- Split crankcases on two-cycle engines

# **Gasket Replacer 910**

(Purple Gel)

Multi-Purpose Stays Flexible

Gasket Replacer 910 is a general purpose product. It is a smooth gel that is easily applied and cures after confinement into a thin, tough, flexible, resilient and reliable seal. It flexes with flanges during pressure and/or thermal cycling, and withstands vibration effects. Fills gaps to .010" unprimed, .050" primed.

Excellent supplement to dress hard or soft precut gaskets. Assures adequate gasket performance on less than optimum flange faces. Suitable for application by tracing, screen-printing, and roll coating. Use to replace all gaskets up to .030" thick.

### **Gasket Replacer 910 Applications:**

- Gearbox covers
- · Vacuum pump flanges
- Fuel and water pumps
- · Automotive and truck axle covers
- Pump couplings
- · Fuel tanks on chain saws
- · Power-take-off covers

# **Gasket Replacer 916**

(Red Gel)

### For Aluminum Parts

Stays Flexible

Gasket Replacer 916 is specially formulated for use on mating aluminum flanges, without requiring primer. Instant seal integrity is provided.

# **Increased Profitability:**

- Lower Costs, Less Down Time
- Reduced Inventories- no need for "special" gaskets
- Reduced Maintenance-flanges maintain seal, clamp
- Superior Reliability- tougher than regular gaskets

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# Hernon® Chemical Stripper Grade Details

# Hernon® Chemical Stripper

General purpose gasket remover and chemical stripper. Foaming action lifts off gaskets in minutes. Eliminates excessive scraping and potential damage to flanges. Use to remove old gasket cements, adhesives, shellac, or sticky compounds from flange faces prior to use of Gasket Replacer compounds.

Note: Not for use on painted, plastic, or synthetic surfaces. Flammable.

# **Application Tips**

- Removal of cured Gasket Replacer compound is easy. Old material scrapes off cleanly and easily with putty knife.
- Use HERNON's Chemical Stripper to remove old gasket cements, adhesives, shellacs, or sticky compounds from flange faces prior to Gasket Replacer applications.
- Use Gasket Replacer compounds to replace (form-in-place) conventional precut hard or soft gaskets. Save the day when that critical gasket is needed.
- Use Gasket Replacer compounds to "dress" conventional precut gaskets when leakage is probable due to rough, worn, porous, or pitted surfaces. Smear product on both sides of the precut gasket and assemble with confidence.

Gasket Replacer Typical Values								
				Cure Speed, Hours		Gap Fill, mm (in.)		
Grade	Color	Viscosity cP	Temperature Range, °C (°F)	Unprimed	Primed	Unprimed	Primed	Recommended EF® Primer
907	Red	165,000 to 500,000	-55 to 204 (-65 to 400)	4 to 24	0.5 to 4	0.254 (0.010)	0.508 (0.020)	49 or 50
910	Purple	700,000 to 1,700,000	-55 to 150 (-65 to 300)	1 to 12	0.25 to 2	0.254 (0.010)	1.27 (0.050)	49 or 50
916	Red	500,000 to 1,000,000	-55 to 150 (-65 to 300)	4 to 24	0.5 to 4	0.254 (0.010)	1.27 (0.050)	49 or 50

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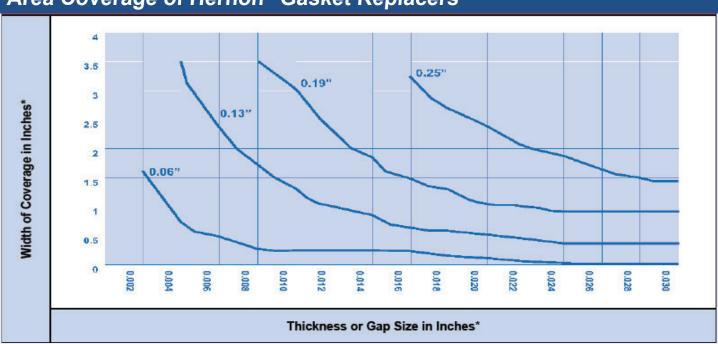


Bead Size and Length for Hernon <sup>®</sup> Gasket Replacer Package Sizes							
Container Size	Bead Diameter*	Bead Length*					
	.250	62					
50ml Tube	.130	250					
	.060	1,000					
	.250	125					
100ml Tube	.130	500					
	.060	2,000					
	.250	310					
250ml Tube	.130	1,250					
	.060	10,000					
	.250	375					
300ml Cartridge	.130	1,500					
	.060	6,000					
	.250	21,250					
850ml Cartridge	.130	4,250					
	.060	17,100					
	.250	12,400					
10 Liter Pail	.130	50,000					

.060

400,000

# Area Coverage of Hernon<sup>®</sup> Gasket Replacers™



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Wobsite: borroog com



# Silastomer® • Silicone Rubber Adhesives/Sealants • Sealing & Bonding

HERNON Silastomer® sealants are high-performance, single component, moisture curing RTV (room temperature vulcanizing) silicone gasketing materials that cure into a strong, silicone rubber that maintains long term durability and flexibility. They have a non-slumping, paste-like consistency, which cures when exposed to moisture in the air. Gap filling is excellent with these systems.

Silastomer® adhesives are 100% silicone compounds and are excellent for weatherproofing. They offer excellent resistance to moisture, temperature extremes, vibration, weathering effects, ozone, ultraviolet radiation, freeze-thaw cycles, and most airborne chemicals. The adhesives can be applied to sub-zero weather with no loss in performance. Fully cured Silastomer® can be used for extended periods at temperatures up to 500°F; and for shorter periods as high as 600°F.

The high viscosity of Silastomer® sealants allows application to vertical, horizontal and overhead joints without sagging or running off. The Silastomer® adhesives will adhere to clean metals, glass, most types of wood, silicone resin, vulcanized silicone rubber, natural and synthetic fibers, ceramics, many plastics and other non-porous surfaces.

Silastomer® adhesives begin curing immediately upon contact with air.

High humidity accelerates the cure of the Silastomer® adhesives. Parts should be mated and the sealant worked (tooled) before the adhesive surface "skins over", or becomes tack free, normally within 30 minutes at 50% relative humidity and 75°F.

Part surfaces should be clean and dry. Best bonding results are obtained by wiping surfaces with solvents. HERNON EF Cleaner™ 62 is recommended.

When working with plastic substrates verify the suitability of prep solvents prior to application.

# **Increased Profitability:**

- Lower Costs, Less Down Time
- Reduced Inventories- no need to stock precut gaskets
- Less Maintenance- seals do not deteriorate with age
- Superior Reliability- tough, resilient seals



# Silastomer<sup>®</sup> Grade Details

# **General Purpose Grades**

# Silastomer® 333

(Clear)



# Silastomer® 334

(White)

# Silastomer® 336

(Black)



Form-in-place gaskets Temperatures to 400°F General Bonding

Silastomers® 333,334 and 336, differ by color alone. These grades offer performance to 400°F continuous operation, and gap filling capability to .250 inch.

# Silastomer® 333, 334 336 Applications:

- Differential, junction box, axle housing, and flange gaskets
- Bonding trim strips, name plates, and sealing appliances
- · Bonding outdoor signs

### Silastomer® 340



# High Temperature Severe Service

Silastomer® 340 is our high temperature silicone gasketing compound designed for severe service. Continuous operating temperature to 500°F and intermittent exposure to 600°F is tolerated by the adhesive.

### Silastomer® 340 Applications:

- · Pump and compressor gaskets
- Gasketing oven doors, furnace windows, kiln "peep holes"
- Air conditioner & heat pump gaskets ovens, heat treat units, dust collectors
- Humidifier gaskets
- Seal thermocouples, probes, elements

# **Advanced Chemistry Grades:**

# Silastomer® 337

(Clear)



Excellent High and Low Temperature Resistance

Designed for use around electronics

# Silastomer® 343



# Advance Chemistry Non-Corrosive No Vinegar Odor

Hernon® Silastomer® 343 is a special advanced chemistry silicone adhesive. This grade does not have a vinegar odor like general-purpose silicones.

Silastomer® 343 is superior to other silicone compounds for use on electrical and electronic applications. The unique non-acidic chemistry does not attack or discolor copper or copper containing alloys. These grades offer compatibility with a wide range of surfaces, including: stone, masonry, ceramics, marble, wood, glass, copper, brass, bronze, steel aluminum, and many plastics.

### Silastomer® 343 Applications:

- Electronics & Electrical Applications
- Mount & seal meters and movements
- Seal and insulate circuit boxes, junction
- Weatherproofing circuit boards and electrical motor components

# Silastomer<sup>®</sup> Grade Details

Shactomer State Details								
Grade	Color	Viscosity	Temperature Range, °C (°F)	Tack Free Time/ Full Cure at 75°F	Gap Fill, mm (in.)	Cure Type	Hard- ness, Shore A	% Elongation
333	Clear	Thixotropic Paste	-71 to 232 (-95 to 450)	30 minute / 24 hours	6.35 (0.250)	Acetoxy	30	600
334	White	Thixotropic Paste	71 to 232 (-95 to 450)	30 minutes / 24 hours	6.35 (0.250)	Acetoxy	30	600
336	Black	Thixotropic Paste	-74 to 204 (-95 to 400)	30 minutes / 24 hours	6.35 (0.250)	Acetoxy	30	600
337	Clear	Thixotropic Paste	-56 to 204 (-70 to 400)	30 minute / 24 hours	6.35 (0.250)	Oxime	33	≥400
340	Red	Thixotropic Paste	-71 to 316 (-95 to 600)	30 minutes / 24 hours	6.35 (0.250)	Acetoxy	33	370
343	Black	Thixotropic Paste	-71 to 232 (-95 to 450)	20 minutes / 24 hours	6.35 (0.250)	Oxime	33	300

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# Hernon® Conebonder

Hernon® Conebonder adhesives are designed for the voice coil to cone bond on audio speakers. The heat-cure Conebonder adhesives overcome the obstacles associated with using two-component adhesives in production applications including mixing ratio, cure speed, and potential solidification in equipment. Temperature resistance is up to 400° F (204°C) for today's high-powered audio loudspeakers.

Conebonder adhesives can be cured with an inline infrared or convection oven. Cure speeds can be as fast as 30 seconds with a bondline temperature of  $300^{\circ}$ F ( $150^{\circ}$ C). Cure temperature can be as low as  $212^{\circ}$ F ( $100^{\circ}$  C) for slower cure applications.

Shear strength according to test method ISO 4587 is up to 2000 psi on steel and 1800 psi on aluminum. Elongation is  $6.1\,\%$ .

Conebonder adhesives offer excellent chemical resistance from 97% initial strength retained in methanol to 100% when exposed to water. They are also resistant to sulfuric acid, ammonia (25%), and xylene.

Conebonder also offers process verification that the bondline is cured by turning from amber-yellow to reddish brown.

# Conebonder 394

Viscosity:
44,000 to 56,000 cP
High temperature resistance
Single component, no-mix
Solventless
Cures on demand
Will not slip during cure

Hernon® Conebonder 394 is a single component, heat-activated epoxy primarily designed for loudspeaker applications. The rapid cure time of 1.5 minutes at a bondline temperature of 150°C is optimum for production line applications. Conebonder 394 changes from amber-yellow to reddish brown when it is fully cured.

### Conebonder 395

Viscosity:
340,000 to 370,000 cP
High gap fill
Fast setting
Change color upon cure
High shear strength

Hernon® Conebonder 395 is a single component, heat-activated epoxy primarily designed for loudspeaker applications. The rapid cure time of 1.5 minutes at a bondline temperature of 150°C is optimum for production line applications. Conebonder 395 changes from amber-yellow to reddish brown when it is fully cured.

Conebonder <sup>®</sup> Typical Values									
Grade	Color	Viscosity	Specific Gravity	Cure Time, Minutes	Heat Resistance	Elongation %	Shear Strength psi (steel)		
394	Amber- Yellow	44,000 to 56,000	1.19	0.5 to 6	204 (400)	6.1	2000		
395	Amber- Yellow	340,000 to 370,000	1.23	0.5 to 6	204 (400)	6.1	2000		

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# Hernon® Voice Coil Bonder

Hernon® Voice Coil Bonder is a single-component heat cure adhesive designed for bonding and coating loudspeaker voice coil components. Voice Coil Bonder offers excellent resistance to high temperatures, chemicals, and water.

Voice Coil Bonder is applied to loudspeaker voice coil wire and ran through an oven for approximately 30 seconds to stabilize the product. When wire is ready to be coiled onto the former, acetone or MEK can be used to make Voice Coil Bonder tacky again. This system allows for more flexibility in a high speed-manufacturing environment.

Voice Coil Bonder is suitable for coating aluminum, copper-clad, and copper wire coils. Voice Coil Bonder can coat a wide-variety of form materials including Kapton® H, HN, HPPST, NTB, fiberglass composite, aluminum, and Nomex®.

Cure Voice Coil Bonder can withstand temperatures exceeding 600°F (316°C) for today's high-powered, small loudspeaker designs. Peel strengths of 9 pounds per square inch width have been obtained in bonding Kapton® film to steel and aluminum. Flexibility is maintained through thermal shock resistance.

# **Voice Coil Bonder 360**

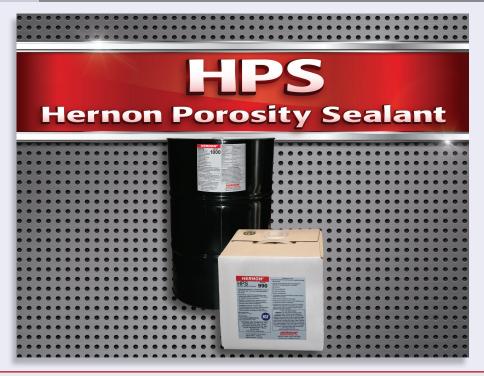
Viscosity: 4000 to 6000 cP
Single component
High temperature resistance
Excellent adhesion

Hernon® Voice Coil Bonder 360 offers > 3000 psi on grit-blasted steel according to ISO 4587. The cured bond withstands temperatures up to 600°F (316°C).

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# HERNON Porosity Sealant (HPS) Vacuum Impregnation Adhesive Systems • Internal Porosity Sealing

HERNON Porosity Sealant (HPS) is the solution to leak proofing parts. HPS offers improved machinability and surface quality for painting and plating. The hardened resins exhibit superior chemical resistance and elevated temperature stability.

The microscopic voids in the parts where potential leaks occur are filled by the low viscosity resin and sealed permanently. The parts leave the impregnating process without surface residue and can then be used in production. When used in preparation for plating or painting processes, the impregnation process also eliminates absorption of plating materials, like acids, or painting rep solvents, that could later bleed out of the pores causing finishes to discolor, blister, pit or peel.

Porosity problems cause castings, powder metal parts, plastics, ceramics and other porous substrates to leak through the body. Production management is challenged to solve this problem due to increased production demands, soaring scrap costs and quality control.

Inherently, powdered metal parts have high percentages of voids. After sintering and loss of the wax binders, impregnation improves the machinability of sintered parts.

HPS promotes consistent, rather than intermittent, tool contact on the filled surfaces. Less shock translates into greater tool life and better dimensional control on impregnated parts.

HERNON Porosity Sealant systems offer superior stability and predictability during the impregnation process. Comparison to "classic" sealing materials like sodium silicate shows the clear performance superiority of HPS impregnation. Full and complete sealing without limitations is the norm.

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# **HPS Grade Details**

# **HPS 990**





High speed processing Economical Reliability

Simplified processing of treated parts MIL-I-17563C, Class 1 and Class 3

Hernon® HPS 990 is an anaerobic-cure polymer impregnation resin. HPS 990 cures once it reaches the inner porosity of metal components. HPS 990 is certified to ANSI/NSF Standard 61 for use in commercial and residential potable water systems not exceeding 82°C (180°F).



# NSF International

Certified to ANSI/NSF Standard 61 for use in commercial and residential potable water systems not exceeding 82°C (180°F).



# Typical Applications:

- Pneumatic tool castings
- Automotive carburetors
- Engine blocks
- · Water and fuel pumps
- Plastic molds
- Valves, manifolds
- · Railway, truck brake parts
- Hydraulic pumps
- Steering gear components
- Compressor parts
- Powdered metal gun parts
- Regulators

### **HPS 991**



Single component Cost effective

Provides superior stability and reliability

High speed processing, parts are ready in 30 minutes from floor to floor

Reliability

MIL-I-17563C, Class 1 and Class 3

Hernon® HPS 991 is a heat cure impregnation resin. HPS 991 does not leave a residue during the impregnation process so plating or painting is not inhibited afterwards. HPS 991 offers advanced solvent and chemical resistance to water, oil, hydraulic fluid, lubricating oil, ethylene glycol, and many others.

### **HPS 1000**

Single component Excellent wash-ability

The most cost effective method of resin impregnation sealing on the market

Provides superior stability and reliability

Hernon® HPS 1000 is a heat cure impregnation resin. HPS 1000 offers unprecedented wash-ability which leaves virtually no residue on processed parts. HPS 1000 replaces less effective and more costly methods of sealing cast and powered metal parts.

# **HPS 1200**

UV fluorescence for in-process inspection

Flexibility – Polymerizes to form a tough, flexible, thermoset polymer

High speed processing – impregnation cycles of 25 minutes with 1 to 3 hour room temperature full cures

Economical – quick room temperature cures coupled with efficient utilization of resin allows for excellent process economics

Hernon® HPS 1200 is designed for sealing interfacial leak paths in flexible electronic assemblies. HPS 1200 can also enhance dielectric strength or seal porosity in passive materials. Better wash-ability means that parts are not cosmetically and dimensionally changed by the impregnation process.

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# **HPS Equipment**

Turnkey solutions

Designed to fit your parts and production workflow

On-site setup and training

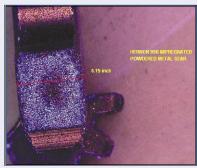
After installation, on site service

# **Increased Profitability:**

- Lower Costs, Greater Yields
- Reduced Scrap- leaky castings repaired, salvaged
- Lower Plating Costs smoother, more durable finishes
- Lower Tool Cost powdered metal parts machine better



Close-up of an impregnated gear



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#### **Hernon® Weld Sealant**

Hernon® Weld Sealant is a single component anaerobic penetrating adhesive and sealant. It is designed for sealing weld seams against leakage as well as locking threaded metal fasteners that are already assembled. Weld Sealant can fill seams up to 0.127 mm wide. The anaerobic sealant seeps into voids and then cures in the absence of air to a hard thermoset plastic. The excess surface Weld Sealant can easily be wiped away.

Weld Sealant can retain fluids and pressure on welded seams up to 400°F (240°C). Weld Sealant is impervious to most solvents. Welds, castings, and powder metal parts can be sealed to their rupture pressure.

Weld Sealant can also be used to lock assembled metal fasteners. The adhesive penetrates the threaded components and cures to prevent vibration loosening. According to ISO 10964 testing Weld Sealant has a breakaway torque greater than 60 psi, and a prevailing torque greater than 170 psi.

Weld Sealant is an economical choice. Only 3 milliliters are required to cover 254 cm of weld when using a 12.7 mm wide brush.

#### **WELD SEALS**

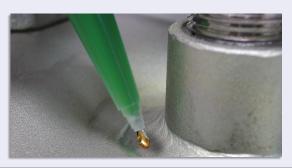
\*3mL of low viscosity Threadlocker will cover 100 linear inches of weld when applied with a  $\frac{1}{2}$  inch brush.

#### Weld Sealant 433 \*

Amber Fluorescent Liquid Fill Seams Up To 0.127 mm Temperature Resistant Up To 400°F (204°C) Also A Thread Sealant

Hernon® Weld Sealant 433 is a single component anaerobic penetrating adhesive and sealant. The primary use for Weld Sealant 433 is sealing welded metal joints, but it can also be used to lock threaded metal fasteners. Benefits include fluid and pressure retention as well as corrosion and contamination protection.

\* See page 62 for Grade 433 details & specifications



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#### Cylinlock® • Anaerobic Adhesives & Sealants • Retaining Compounds

Assembly of cylindrical parts, such as rotors, gears, bushings, collars and bearings, can be effectively and reliably accomplished with HERNON's line of Cylinlock® Retaining Compounds. Cylinlock® high strength products eliminate the need for mechanical methods of assembly while decreasing production and assembly cost.

Cylinlock® Retaining Compounds are highly engineered, 100% active, high strength anaerobic liquids that cure to a tough plastic when air is excluded. The plastic shim formed when Cylinlock® cures fills the voids present in even the best shrink or press fits. These compounds also find utility in improving the performance of mechanical retaining methods such as splines, keyways and setscrews.

The reliability of cylindrical assemblies is determined by the frictional force between the male and female parts of the assembly. All surfaces under magnification exhibit waviness and surface variations, even the most brightly ground and polished. A good analogy is to picture these irregularities as a series of high and low points, like the knuckles of the hand. Bearing and shaft assemblies are subject to pounding forces in operation such that the high points rub and wear away at each other. Anaerobic adhesives increase the force required to initiate sliding and wearing of surfaces on each other. Cylinlock® retaining compounds create mechanical anchoring

within mating surfaces. These anchors must first be overcome by the operational forces before any sliding or wearing can occur.

Cylinlock® retaining compounds provide 100% contact between mating surfaces when cured. Cylinlock® retaining compounds can be used between worn shafts or bearing housings, quickly restoring these otherwise useless assemblies without extensive and expensive restoration processes such as metal-flame spraying, rechroming, grinding, etc.

### **Application Note:**

 Application of Cylinlock® retaining compounds should be to oil free, cleaned surfaces. Any primer used should be allowed to dry before applying Cylinlock®. Assemble immediately after primer solvent has evaporated.

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## Cylinlock<sup>®</sup> Grade Details

#### Cylinlock® 822



(Green Liquid)

**General Purpose** 

**Low Viscosity** 

**Quick Cure Time** 

Cylinlock® 822 is a quick curing anaerobic for cylindrical assemblies that increase strength by providing 100% contact of mating surfaces. It is a free flowing green compound with excellent resistance to corrosion and solvents.

#### Cylinlock® 822 Applications:

- Pins, bushings
- · Keyways, press fits
- · Knobs on shafts
- Oil impregnated bushings
- · Gears, pulleys, fans
- Rotors to shafts

#### Cylinlock® 823

(Green Fluorescent Liquid)

## Bonds oily surfaces Rapid fixture time

Cylinlock® 823 is specially designed for bonding cylindrical fitting parts where clean surfaces cannot be assured such as oil impregnated bushings. Cylinlock® 823 cures between components in the absence of oxygen.

#### Cylinlock® 823 Applications:

- · Oil pumping equipment
- · Emergency repairs

#### Cylinlock® 824



(Green Liquid)

High Viscosity
High Strength
Excellent Gap Filling

Cylinlock® 824 is a thick liquid retaining compound capable of delivering 4,000 psi shear strengths (steel to steel) to assemblies. The heavy bodied adhesive cures slowly to permit readjustment of parts during the assembly process.

#### Cylinlock® 824 Applications:

- · Pulleys, collars
- · Rotors, flywheels
- · Sprockets, gears

#### Cylinlock® 826



(Green Liquid)

Medium Viscosity
High Strength

Temperatures to 400°F

Cylinlock® 826 offers high strengths in the realm of 3,000psi shear strength (steel) and service temperature integrity to 400°F. The medium viscosity offers moderately fast cure times without primers.

#### Cylinlock® 826 Applications:

- · Bushing & sleeves
- · Rotors & shafts

#### **Application Note:**

- Disassembly: Cylinlock® compounds form permanent bonds. There are no solvents to dissolve the cured adhesive. Mechanical force or heat is required.
- Application of the necessary mechanical force needed to overcome the shear strength of the material will permit removal using a press or hydraulic ram. For example, a 3 inch diameter x 1inch wide bearing installed with grade 844 (3,500psi shear) requires approximately 32,986 pounds of force to dislodge the cup or outer ring from a housing. Yes, over 16 tons.
- Parts can also be removed by the application of heat, usually in the range of 500-600°F. Press out or drive assemblies apart while at temperature and while the adhesive is softened. Electric strip heaters or torch flame are the most commonly used practice for large assemblies, ovens or furnaces for smaller parts.

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#### Cylinlock® Grade Details

#### Cylinlock® 840



(Green Liquid)

Low Viscosity

Medium Strength

Cylinlock® 840 is recommended to supplement press fits. The low viscosity of this retaining compound provides good wetting action.

#### Cylinlock® 840 Applications:

- · Pressed metal bearings, bushings
- · Drill bushings
- · Morse taper fits

#### Cylinlock® 842

(Green Liquid)

**High Viscosity** 

**High Strength** 

**High Temperature Use** 

Cylinlock® 842 is a viscous green retaining compound specifically engineered for high temperature applications (continuous service to 450°F). Cylinlock® 842 cures at room temperature providing superior heat and chemically resistant bonds.

#### Cylinlock® 842 Applications:

- Heat exchanger tubes
- · Brazed or soldered joints
- Engine cylinder liners

#### Cylinlock® 843



(Green fluorescent liquid)

**High strength** 

**Fast curing** 

Cylinlock® 843 is a fast curing, high strength anaerobic adhesive yielding higher shear strengths with temperature resistance up to 300°F (149°C) It provides relatively quick cures, outstanding solvent resistance, and improved reliability for metal service



applications. Flexible and good for use on brass.

#### Cylinlock® 843 Applications:

- Pipe fittings, threaded assemblies
- Bushings
- · Pins, wheels, gears, pulleys



#### **NSF International**

Certified to ANSI/NSF Standard 61 for use in commercial and residential potable water systems.

#### Cylinlock® 844

(Green Liquid)

Low Viscosity High Strength

**Fast Fixturing** 

Cylinlock® 844 is a specialized retaining compound that yields shear strengths of 3,500psi after full cure combined with an extremely fast fixturing time. Can be used for applications that operate up to 350°F.

#### Cylinlock® 844 Applications:

- Bushings, sleeves
- · Bearings, pulleys

#### Cylinlock® 846



(Green Liquid)

Moderate Viscosity
High Strength
Severe Service

Cylinlock® 846 is the high-strength analog of grade 822, yielding shear strengths of 4,000psi. Provides relatively quick cures, outstanding solvent resistance, and improved reliability for severe service applications.

#### Cylinlock® 846 Applications:

- Keys in worn keyways
- Bushings
- · Pins, wheels, gears, pulleys, etc.

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#### Cylinlock® Typical Values

#### Cylinlock® 34323



(Green fluorescent liquid)

High strength Fast curing

#### High temperature resistant

Cylinlock® 34323 is a fast curing, highstrength anaerobic adhesive which yields higher shear strengths and temperature resistance up to 300°F (149°C). It provides relatively quick cures, outstanding solvent resistance, and improved reliability for metal service applications.

#### Cylinlock® 52631

(Green fluorescent liquid)

High strength Fast curing

#### High temperature resistant

Cylinlock® 52631 is a single component, anaerobic retaining adhesive designed for the bonding of cylindrical parts. The product cures when confined in the absence of air between close fitting metal surfaces.

#### **Metal Cement 850**

(Silver Paste)

Fast Repairs (Fixtures in 10-20 minutes)

Fast Cures at Room Temperature (1-3 hours without primers)

Fills Gaps to .020" (diametric)

A True "Have-to-Have" Product

HERNON® Metal Cement 850 is a single component, silver color paste designed for the quick repairing of worn machinery parts. The compound develops a high-strength polymer with superior compression strength and excellent chemical and temperature resistance. The bonded assembly often doubles the strength of press fitted parts.

#### Cylinlock® 850 Applications:

- Repairs worn metal parts like bushings, shafts.
- Repairs worn housings, end bells, salvage severely worn parts.
- Repairs wallowed keyways in shaft and spline assemblies.
- · Refits worn couplings.
- · Refits loose screws, spun bearings.
- Use on new installations to prevent backlash, wear.
- On new installations, corrosion is minimized (no air pockets).

#### **Special Physical Properties**

- Superior Ultimate Compression Strength; Greater than 46,000psi
- Shear Strength = 3,000psi (steel), 600psi on unetched aluminum

\*Note: use of EF® Primer 50 will significantly reduce cure time, but, may reduce ultimate strength. Gently heat the assembly so that the bondline is subjected to a temperature of 250°F for 30 minutes for full cure. Primer is recommended to restore cure speed when used at temperatures below 50°F, and when gaps exceed .010 inches, diametrically.



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Cylinlock <sup>®</sup> Typical Values										
Grade	Color	Viscosity cP	Temperature Range, °C (°F)	Fixture Time at 22°C, Minutes	Gap Fill, mm (in.)	Shear Strength N/mm2 (psi)	Recommended EF® Primer			
822	Green	125	-55 to 150 (-65 to 300)	10 to 15	0.127 (0.005)	≥ 17.2 (2500)	49 or 50			
823	Green	150	-55 to 150 (-65 to 300)	1 to 5	0.127 (0.005)	≥ 17.2 (2500)	49 or 50			
824	Green	2000	-55 to 150 (-65 to 300)	30 to 40	0.254 (0.010)	≥ 17.2 (2500)	49 or 50			
826	Green	600	-55 to 204 (-65 to 400)	10 to 15	0.177 (0.007)	≥ 17.2 (2500)	49 or 50			
840	Green	150	-55 to 150 (-65 to 300)	10 to 30	0.127 (0.005)	≥ 17.2 (2500)	49 or 50			
842	Green	7000	-55 to 232 (-65 to 450)	45 to 60	0.381 (0.015)	≥ 17.2 (2500)	49 or 50			
843	Green	2500	-55 to 150 (-65 to 300)	1 to 5	0.254 (0.010)	≥ 17.2 (2500)	49 or 50			
844	Green	600	-55 to 150 (-65 to 300)	20 to 50	0.203 (0.008)	≥ 17.2 (2500)	49 or 50			
846	Green	1200	-55 to 150 (-65 to 300)	15 to 30	0.152 (0.006)	≥ 17.2 (2500)	49 or 50			
850	Silver	Gel	-55 to 150 (-65 to 300)	50 to 100	0.254 (0.010)	≥ 17.2 (2500)	49 or 50			
34323	Green	2000	-55 to 150 (-65 to 300)	10 to 15	0.254 (0.010)	≥ 17.2 (2500)	49 or 50			
52631	Green	7000	-55 to 150 (-65 to 300)	10 to 30	0.381 (0.015)	≥ 17.2 (2500)	49 or 50			



#### EF® Activator 15

Hernon<sup>®</sup> EF<sup>®</sup> Activator 15 is designed to be used with Hernon<sup>®</sup> ReAct<sup>®</sup> two-component, no-mix adhesives.

#### EF® Activator 47

Light Amber Liquid

Hernon® EF® Activator 47 is a solvent-free and environmentally friendly activator designed for Hernon® toughened acrylic adhesives such as ReAct®. Since EF® Activator 47 does not contain solvents there is no waiting time for evaporation.

#### EF® Accelerator 48



Light Amber Liquid

Hernon® EF® Activator 48 is a solvent-based accelerator for instant adhesives. The accelerator is designed to speed the cure of Hernon® cyanoacrylate adhesives. EF® Accelerator 48 is used where increased cure speed of Hernon® cyanoacrylate adhesives is required. Especially recommended for applications involving printed circuit board wire tacking and tamper proofing of adjustable components.

#### EF® Activator 56

Light Yellow Liquid

Hernon<sup>®</sup> EF<sup>®</sup> Activator 56 is a non-CFC solvent based activator to enhance the cure speed of Hernon<sup>®</sup> HASA anaerobic structural adhesives. EF<sup>®</sup> Activator 56 is especially recommended on inert or passive metals or where large gaps are present.

#### EF® Accelerator 58



Transparent, Colorless Liquid

Hernon® EF® Accelerator 58 is a non-CFC solvent based Instantbond and Quantum® adhesive accelerator. EF® Accelerator 58 increases the cure speed of these Hernon® cyanoacrylate adhesives. The 24-hour on-part life allows for the pretreatment of bond substrates.

#### EF® Activator 59

Amber-Light Yellow Liquid

Hernon® EF® Activator 59 is a solvent based product, specially formulated to promote the cure of Hernon® adhesives. Fixture time and cure speed achieved as a result of using EF® Activator 59 depends on the adhesive used, the substrate bonded, surface cleanliness and whether one or two surface activation is needed.

#### EF® Activator 63

Light Yellow Liquid

Light Yellow Liquid Hernon<sup>®</sup> EF<sup>®</sup> Activator 63 is a solvent-based activator for the two-component, no-mix ReAct<sup>®</sup> adhesive system.

Activators / Accelerators									
Grade	Color	Viscosity, cP	Base	Drying Time	On-Part Life				
15	Yellow- Amber	80-200	Non-Solvent	None	2 hours				
47	Light Amber	25-50	Monomer	None	2 hours				
48	Light Amber	< 5	Isopropanol	≤ 30 seconds	≤ 1 min.				
56	Light Yellow	< 5	Acetone	3 min.	2 hours				
58	Clear	< 5	Heptane	60 seconds	24 hours				
59	Light Yellow	< 5	Heptane/Alcohol	2 min.	2 hours				
63	Light Yellow	< 5	Heptane/Alcohol	None	2 hours				

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#### EF® Adhesion Promoter 42

Hernon® EF® Adhesion Promoter 42 is a single-component surface preparation to improve the adhesion of low surface energy plastics including polyethylene, polypropylene, and Santoprene\*. EF® Adhesion Promoter 42 is formulated for use with Hernon® Quantum® and Instantbond cyanoacrylate adhesives.

\*Santoprene is a trademark of ExxonMobile Chemical

#### EF® Primer 50



Green Liquid

Hernon® EF® Primer 50 is designed to increase the cure speed of Hernon® anaerobic adhesives and sealants including Nuts N' Bolts®, Dripstop®, and Cylinlock®. Long-term pretreatment is available with an on-part life of up to 30 days. EF® Primer 50 is especially recommended for large gap bonds and inert metals.

#### EF® Primer 46

Blue-Green Liquid

Hernon® EF® Primer 46 is a solvent-free primer to enhance the cure speed of Hernon® anaerobic adhesives and sealants including Nuts N' Bolts®, Dripstop®, Cylinlock®, and HASA®.

EF® Primer 46 speeds the cure on passive metals or inert surfaces as well as with large bond gaps. It is recommended for use when the ambient temperature is under 15°C (59°F).

#### EF® Primer 57

Green Liquid

Hernon® EF® Primer is a single-component, solvent-free cure speed promoter. EF® Primer 57 is designed for use with Hernon® anaerobic adhesives and sealants to enhance cure speeds without the use of solvents.

#### EF® Primer 49



Amber Liquid

Hernon® EF® Primer 49 is a non-CFC solvent based primer to enhance the cure speed of Hernon® anaerobic adhesives and sealants such as Nuts N' Bolts®, Dripstop®, and Cylinlock®.

#### EF® Primer 64

Light Green Liquid

Hernon<sup>®</sup> EF<sup>®</sup> Primer 64 is a solvent based product, specially formulated to promote the cure of Hernon<sup>®</sup> Adhesives.

Primers					
Grade	Color	Viscosity, cP	iscosity, cP Base		On-Part Life
42	Clear	< 5	Heptane	30 sec.	30 min.
46	Blue-Green	10-30	Monomer	None	1 hour
49	Amber	< 5	Acetone	30 to 70 sec.	7 days
50	Green	< 5	Acetone	30 to 70 sec.	30 days
57	Light Blue	10-30	Monomer	None	1 hour
64	Light Green	< 5	Acetone	30 to 70 sec.	2 hours

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# HERNON Amountylate Amountylat

#### **Cyanoacrylate Remover 14**

Clear Liquid

Hernon® Cyanoacrylate Remover 14 is designed to remove cured Hernon® Instantbond and Quantum® cyanoacrylate adhesives from parts, clothing, and dispensing equipment.

Cyanoacrylate Remover 14 can also be used for reworking bonded substrates.



#### EF® Cleaner 62

Clear, Colorless Liquid

Hernon® EF® Cleaner 62 is a non-aqueous, non-CFC industrial cleaner to remove oil and grease. EF® Cleaner 62 is suited to prepare contaminated surfaces to enhance adhesion of Hernon® adhesives and sealants.

#### EF® Waterproofer 25

Black Liquid

Hernon® EF® Waterproofer 25 is a high-performance synthetic rubber based protective coating for adhesive bond lines. It provides tack-free touch in 3 to 4 minutes and cures to a tough, flexible seal with superb environmental, chemical, and temperature resistance.



#### **Equipment Flushing Solvent 11**

Clear Liquid

Hernon® Equipment Flushing Solvent 11 is designed for cleaning and flushing dispensing equipment, reservoirs, valves, and feed lines

#### Rust Eliminator™ 32

Light Yellow to Amber Liquid



Chemically changes rust to a tough protective coating and primes the surface for painting. A single treatment can last for years. Wire brush and apply two or three coats. No need to sandblast or prime surfaces. Coating withstands constant temperatures to 200°F, and intermittent exposure to 250°F. Makes easy work of routine maintenance on machinery.

#### **EF® Tamper Proof 610**

Bright Blue Liquid

Hernon® Tamper Proof is a water-based masking product designed for tamper proofing applications. Tamper Proof can prevent or show evidence of adulteration on fasteners or other surfaces. It can be applied either by brush or dispensing equipment, and is dried either

at room temperature or via an oven for a faster cure. To save application time Tamper Proof can be applied to oily surfaces, which saves surface preparation time.

Apply a thin coat of Tamper Proof from .002 to .004 inches by brush, dip, or flow. Tamper Proof can be diluted with water as needed. A thin coat will cure at room temperature in approximately 45 minutes, or as fast as 10 minutes in a 180°F (82°C) oven.



#### Area Coverage for Hernon® Primers, Activators, Accelerators and Support Products

Package Size	Area Covered (in2)*
1 oz Bottle	900
1.75 oz Bottle	1,575
2 oz Bottle	1,800
3 oz Bottle	2,700
40g Spray Can	1,200
4 oz Bottle	3,600
6 oz Spray Can	5,185
16 oz Container (Pint)	16,400
18 oz Spray Can	9,000
32 oz Can (Quart)	28,800
1 Gallon	115,200

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#### **Handy Kit Set**

A general assortment of our most widely used adhesives. Includes: threadlocking, retaining, pipe sealing, gasketing, bonding and surface primer items.

#### **Kit Contains:**

- Nuts N' Bolts® 423
- Nuts N' Bolts® 425
- Metal Cement 850
- Gasket Replacer
- 916, Silastomer® 346
- Quantum® 138
- EF® Primer 50



#### **O-Ring Splicing Kit**

Fabricate O-Rings as needed. Avoid stocking special sizes. Unique cutting fixture assures perfect face squareness at the correct O-Ring diameter during cutting to yield perfect circles when bonded. Stress-free geometry.

#### **Kit Contains:**

- · Slicing Fixture & Cutting Blade
- Instantbond 123
- Waterproofer
- Equipment Flushing Solvent
- · Cord Stock, 3 feet each:
- 3/32, 1/8, 3/16, and 1/4 inch

#### **Dissipator Kit**

#### **Kit Contains:**

Contains:

- · Dissipator 746-25ml
- EF Activator 63 -1.75oz

#### ReAct Kit 25ml

#### **Kit Contains:**

Contains:

- ReAct 730-25ml,
- EF Primer 56-1.75oz

#### ReAct Kit 250ml

#### **Kit Contains:**

- Contains:
- ReAct 730-250ml
- EF Primer 56-4oz

#### **HASA Kit**

#### **Kit Contains:**

Contains:

- HASA 714-50ml
- EF Primer 56-1.75oz

#### **Gasket Kit**

#### **Kit Contains:**

Contains:

- Gasket Replacer 916-300ml\
- EF Primer 50-4oz

#### **Needle Evaluation Kit**

#### **Kit Contains:**

Contains a variety of dispensing needles & plastic tips with different gauges

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#### HERNON® Wire Tacking Heavy Duty General Purpose Kit

Instantbond 115 Adhesive 20gm EF® Accelerator 52 1.75fl oz. pump

#### HERNON® Wire Tack Heavy Duty Kit

Instantbond 140 Adhesive 20gm EF® Accelerator 52 1.75fl. Oz. Pump

#### **Increased Profitability:**

- · Modify Existing Circuit Boards
- Fast, Reliable Assembly & Repairs
- Multipurpose Bonding System
- Replaces Mechanical Devices like clamps, clips, wire ties
- Superior to hot melts, silicones, epoxies, contact tapes

#### **ACCELERATOR GUIDELINES**

- · Accelerator Sequence
- Accelerator may be used before or after adhesive is applied.
   Sequence of use affects bond strength:
- Accelerate BEFORE for lower strength bonds.
- Adhesive cures "away" from accelerator catalyst layer

   less "surface" bonding occurs, lower strength adhesion.

   Use for more temporary tacking.
- · Accelerate AFTER for HIGHER strength bonds.
- Adhesive wets contact surfaces when applied first and then misted with accelerator high specific adhesion, excellent bond strength.

#### **CAUTION: EXOTHERM**

- Significant heat is generated by Accelerator/Adhesive reaction.

  Do not touch activated adhesive.
- · Use "sparingly".
- A gentle "mist" to the surface of the liquid CA is adequate to start the cure process.
- Excessive spraying will cause the CA to "shatter" or "popcorn" (white, crumbly appearance) – this result is a very low strength, inferior polymer density.
- · Less is better.

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47 - Distributor: ASA Environmental Products, Inc.





#### Dripstop® • Anaerobic Sealants • Pipe Thread Sealant

HERNON®'s line of Dripstop® sealants for plumbing, refrigeration and hydraulics are engineered with many advantages over conventional pipe dopes. These materials harden without shrinkage in the joints and create a tough, insoluble, vibration proof seal that will not leak even if threads are damaged.

Dripstop® sealants are 100% active containing no solvents to evaporate. They do not shred like tape dope and they are not subject to cold flow, pressure and temperature phenomena like non-hardening dopes.

Grade numbers 920, 940, and 427 have been tested and classified by the Underwriters Laboratory's (UL) File Number MH14222.

Anaerobic pipe sealants/adhesives are superior to other sealing methods. They contain no solvents and do not shrink, stretch, split, rot, distort, wear-out, or relax and joints never loosen under vibration. Pressure cycling does not weaken or loosen the sealant path.

Because the sealant path is formed when parts are made-up, that is, threaded together, the plastic shim formed during cure is truly a "custom" seal. Sealant not forced out cures to a helical path in the thread roots to form an exacting match of the surface irregularities. The shim mirrors and fills all the voids, scratches, and thread nicks present in even the best machined straight or pipe threads. Unlike Teflon® tape, any non-confined or excess sealant material does not cure and pose the threat presented by shredded tape fouling valves or circuit elements.

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#### Dripstop® 920



(White Paste)

**General Purpose** 

Teflon® Filled

#### Temperatures to 400°F

Dripstop® 920 is a general-purpose plumbers' aid which seals moderate pressures instantly while sealing to 250psi steam pressure in 24 hours. It is a highly reliable sealant that resists the attack of chemicals and solvents. Dripstop® 920 is used for all types of threaded pipe, pipe plugs, hydraulic and pneumatic fittings, and steam lines up to 400°F (204°C).

Dripstop® 920 is superior to tapes and non-hardening dopes while resulting in money savings from reduced leakage and reduced assembly cost.

The Teflon® content in Dripstop® lubricates the threads during make-up and prevents galling and assures smooth disassembly.

#### Dripstop® 920 Applications:

- Fuel line fittings
- · Air compressor hoses
- Steam lines to 250 psig
- Pneumatic lines
- Electrical conduits
- · Air conditioning lines
- Machine tool fittings
- · Railroad equipment
- Fluid connections



#### UL Classification File MH14222

Classified by Underwriters Laboratories Inc.® as to fire hazard only. 920 Pipe Sealant with Teflon®. Fire hazard is small. No flash point in liquid state. Ignition temperature 455°C (851°F). For use in devices handling gasoline, petroleum oils, natural gas (pressure not to exceed 300 psig), butane and propane not exceeding 2 in. pipe size. 29R9.

#### Dripstop® 921

(Yellow gel)

General Purpose Teflon® Filled

#### Temperatures to 400°F

Dripstop® 921 is a single component multiple purpose anaerobic adhesive gel for locking, lubricating and sealing threaded fasteners and pipe fittings.

#### **Dripstop® 921 Applications:**

- Seals and locks most hydraulic and pneumatic fittings up to a 1" diameter.
   Seals and locks pipe threads and fittings up to a 1" diameter.
- Seals and locks fasteners subject to vibration and shock or corrosive and harsh environments.

#### Dripstop® 923



(White Paste)

For Tapered Threads
Teflon® Filled

**Controlled Strength** 

Dripstop® 923 is specially formulated for use on tapered threads and provides a lower break-loose torque than Dripstop® 940. Tapered threads "cone" together, so Dripstop® 923 is formulated for easier disassembly. Dripstop® 923 delivers temperature integrity to 300°F continuous and intermittent exposures to 375°F are tolerated.



#### **NSF International**

Certified to ANSI/NSF Standard 61 for use in commercial and residential potable water systems not exceeding 82°C (180°F).

#### Dripstop® 927

(White Paste)

Designed for electrical power plants

Lubricated for decreased galling

Anaerobic cure

Dripstop® 927 is a high-performance sealant for tapered pipe threads. This creamy paste-like anaerobic compound is designed for sealing threaded fittings in fossil fuel, solar, and hydropower plant plumbing systems.

#### **Dripstop® 927 Applications:**

Electrical power generation plants



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#### Dripstop® 929



(White Paste)

**General Purpose** 

Seals against liquid and gas leaks
Lubricates parts for easy assembly
Instant seal

**Dripstop® 929** is a general purpose anaerobic pipe sealant. It has superior sealing and mild locking performance compared to tapes and non-hardening dopes. **Dripstop® 929** reduces costs by eliminating leakage and increasing the assembly line speed.

**Dripstop® 929** seals to moderate pressure immediately and to 250 psig steam pressure in just 24 hours. This sealant also lubricates threads during make-up, prevents galling and assures smooth disassembly.

#### **UL Classification - File MH14222**

Classified by Underwriters Laboratories, Inc.® as to fire hazard only. 929 Pipe Sealant with Teflon®. For use in devices handling gasoline, petroleum oils, natural gas (pressure not to exceed 300 psig), butane and propane not exceeding 2 in. pipe size.

#### **Dripstop® 929 Applications:**

- Hydraulic line fittings
- Pneumatic line fittings
- Fuel line fittings
- · Steam lines up to 250 PSI.
- Fluid connections
- · Pipe plugs

#### Dripstop® 930

(White Paste)

## Designed for electrical power plants Lubricated for decreased galling Anaerobic cure

Dripstop® 930 is a single component high performance pipe sealant. The product is a white creamy compound with high lubricating properties that prevents galling on stainless steel, aluminum, and all other pipe threads and fittings.

Dripstop® 930 provides instant low pressure sealing and cures to 100% solid resin for a leak-proof seal that out performs traditional pipe dopes and threaded tape. Cured compound is solvent resistant and can withstand temperatures to 204°C (400°F).

#### **Dripstop® 930 Applications:**

- Hydraulic line fittings
- Pneumatic line fittings
- Fuel line fittings
- Steam lines up to 250 PSI.
- Valves
- Pipe plugs

## Dripstop® Benefits

- Increased Profitability:
   Lower Costs, Less Down Time
- Reduced Inventories: No Pipe Dopes, Paints Needed
- Reduced Maintenance: Hydraulics and Pneumatics Do Not Become Fouled With Shreds of Teflon Tape
- Superior Reliability: 10,000 PSI-Tough Integrity

#### Dripstop® 940



(White Paste)

Dripstop 940 is approved for DEF industry High-Performance Stainless Steel Sealing Teflon® Filled Temperatures to 400°F

Dripstop® 940 is a high-speed thread sealant for use on inactive metals such as stainless steel and monel used in chemical process piping. Normally, inactive materials like stainless would require a primer to assure predictable cure. Dripstop® 940 is formulated to cure without the necessity of a primer but priming does reduce cure time. The enhanced chemistry of Dripstop® 940 delivers super fast cure speeds on conventional materials like carbon steel, brass, etc.

Dripstop® 940 withstands high pressures, sealing up to 250psig steam at 400°F (204°C) continuous service while maintaining its chemical inertness.

#### **Dripstop® 940 Applications:**

- Plated flare fittings
- Pulp and paper mills
- Refinery piping
- · Instrumentation fittings
- · Waste treatment plants
- Textile equipment
- · Piping for chlorine & caustic sodas

## Third Party Approved ISO 22241-2

Dripstop 940® is approved for DEF industry



## UL Classification File MH14222

Classified by Underwriters Laboratories Inc. as to fire hazard only. 940 Pipe Sealant with Teflon®. Fire hazard is small. No flash point in liquid state. Ignition temperature 455°C (851°F). For use in devices handling gasoline, petroleum oils, natural gas (pressure not to exceed 300 psig), butane and propane not exceeding 2 in. pipe size. 29R9.

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#### Dripstop® 943



(Yellow Fluorescent Liquid)

Effectively seals a wide-range of industrial fluids and gases

Does not shrink or crack due to solvent evaporation

(100% solid system)

Ready to use; single component Room temperature cure

Dripstop® 943 is a specially formulated sealant for sealing and mildly locking hydraulic and pneumatic threaded components. Dripstop® 943 is safe for sealing all pipe threads, standard nuts and bolts, and fittings in hydraulic, pneumatic, air conditioning, and refrigeration systems. Dripstop® 943 is also chemical and temperature resistant for use in chemical processing and steam up to 300°F.

#### **Dripstop® 943 Applications:**

- Hydraulic systems
- Pneumatic fittings
- Chemical processing systems
- Air conditioners

#### Dripstop® 944



(Brown Liquid)

Designed for electrical power plants Lubricated for decreased galling

Anaerobic cure

Dripstop® 944 is designed for the locking and sealing of metal tapered threads and fittings. The product cures when confined in the absence of air between close fitting metal surfaces and prevents loosening and leakage from shock and vibration.

#### **Dripstop® 944 Applications:**

- Replaces the fastener locking device of all kinds
- · Sealing and locking tapered threads

#### Dripstop® 945

(Brown Liquid)

Seals a wide-range of industrial fluids and gases

Does not shrink or crack due to solvent evaporation

Ready to use, single component

Room temperature cure

Safely and completely disperses in most hydraulic fluids

Dripstop® 945 is a high performance sealant specifically formulated for sealing and mildly locking hydraulic and pneumatic threaded components. Safe for most hydraulic systems, Dripstop®' 945 disperses to prevent system contamination.

#### **Dripstop® 945 Applications:**

- Hydraulic systems
- Pneumatic systems
- Refrigeration equipment
- Steam fittings up to 350°F

#### Dripstop® 946

(Brown Liquid)

Effectively seals a wide range of industrial fluids and gases

Does not shrink or crack due to solvent evaporation

Ready to use, single component

Room temperature cure

Dripstop® 946 is a sealant specially formulated for sealing and mildly locking hydraulic and pneumatic threaded components. Dripstop® 946 seals pipe threads, standard nuts and bolts, fittings for hydraulic and pneumatic systems, air conditioners, and refrigeration systems. It is chemical and temperature resistant up to 300°F. This thixotropic sealant will prevent leakage and loosening from shock and vibration.

#### **Dripstop® 946 Applications:**

- · Hydraulic systems
- Air conditioners
- Refrigeration components
- Chemical processing valves

### Dripstop® Usage Economy

Fitting Size (NPT)	Fittings per 50 ml Tube
1/8"	400
1/4"	200
3/8"	135
1/2"	100
3/4"	65
1"	50



#### Dripstop® 947

(Brown Liquid)

## Hydraulic & Pneumatic Sealant Thick Liquid

Dripstop® 947 is a filler-free sealant for all hydraulic fluids. It will not contaminate hydraulic systems while sealing against fluid loss due to shock, pulsing and vibration. This product is designed for "fluid-power" hydraulic and pneumatic service.

#### **Dripstop® 947 Applications:**

- All valve assemblies
- · Fork lift hydraulics
- · Mobile power trucks
- Machine tools
- · Hydraulic cylinders

#### Dripstop® 950

(Light Green Liquid)

Chemically inert Nonflammable Nontoxic

## Temperature resistant to 450°F Non-migrating

Dripstop® 950 is designed for pipe threads in the harshest environments including oxygen and aggressive chemicals such as chlorine or powerful oxidizers. Dripstop® 950 is ideal for applications where repeated disassembly and reassembly are required. Seals up to 10,000 psi on ½" NPT threads.

#### **Dripstop® 950 Applications:**

- Fluorination systems
- · Water treatment systems
- Diving equipment
- · Oxygen delivery systems

#### Treating Pipe Fittings with Hernon® Dripstop®

Number of milliliters required to treat 1,000 pipe fittings

Fitting Size*	Tumble Applied	Manual Application
1/8	25	40
1/4	45	60
3/8	60	90
1/2	90	130
3/4	190	250
1	360	440

\*Measured in inches

### Dripstop<sup>®</sup> Typical Values

Grade	Color	Viscosity cP	Temperature Range, °C (°F)	Pressure Resistance, psi	Breakaway Torque N•m (in-lbs)	Recommended EF® Primer
920	White	350,000	-55 to 204 (-65 to 400)	10,000	>0.6 (5)	49 or 50
921	Yellow	70,000	-73 to 149 (-100 to 300)	10,000	11.3 (100)	49 or 50
923	White	300,000	-55 to 150 (-65 to 300)	10,000	>2.8 (25)	49 or 50
927	White	450,000	-55 to 204 (-65 to 400)	10,000	5.6 (50)	49 or 50
929	White	400,000	-55 to 204 (-65 to 400)	10,000	> 5.6 (50)	49 or 50
930	White	130,000	-55 to 204 (-65 to 400)	10,000	> 2.8 (25)	49 or 50
940	White	1,000,000	-55 to 204 (-65 to 400)	10,000	>1.7 (15)	49 or 50
943	Yellow	175	-55 to 150 (-65 to 300)	10,000	>2.3 (20)	49 or 50
944	Browm	2,000	-55 to 150 (-65 to 300)	10,000	> 2.8 (25)	49 or 50
945	Brown	500	-55 to 150 (-65 to 300)	10,000	>2.8 (24)	49 or 50
946	Brown	600	-55 to 150 (-65 to 300)	10,000	15 (130)	49 or 50
947	Brown	14,000	-55 to 150 (-65 to 300)	10,000	2.3 (20)	49 or 50
950	Light Green	4,000,000	-240 to 204 (-400 to 400)	10,000	Non-curing	Non-curing

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Powerseal 932 is a non-curing, single component pipe thread sealant designed for instant seal ability to 600 psi. This versatile sealant is also unaffected by exposure to water, oil, ammonia, glycerin, steam, and all type of gases. Powerseal withstands extreme environmental conditions including temperatures from –55°C (-65°F) to 232°C (450°F).

The increased lubricity of Powerseal 932 assists with tightening and the adjustment of pipe threads and prevents galling of threads. Powerseal is safe to use with all metals and on plastics without any concern of crazing. This non-hardening pipe sealant will not shred and threaten delicate pneumatic and hydraulic systems. Powerseal 932 also prevents corrosion which could lead to seizing of mated components. Powerseal 932 will not shrink, crack, or crumble.

Powerseal 932 a low-odor sealing solution that is non-volatile, non-toxic, non-flammable, and non-conductive.

In addition to threaded components, versatile Powerseal 932 can also seal flanges where traditional custom-cut gaskets would be utilized.

#### **Powerseal 932**

(Gray Paste)

#### Prevent galling

Never shreds or contaminates Seals instantly to more than 600 psi (1" std. NPT pipe fittings at 60 ft-lb torque)

Surface insensitive
Safe to use on plastic and metal

Powerseal 932 is a single component, non-hardening, non-curing pipe sealant that lubricates and seals threaded connections. Powerseal 932 is unaffected by water, oil, ammonia, glycerin, steam, and all types of gases. It will not shrink or crack in temperature and pressure extremes. Powerseal 932 remains pliable to allow for easy disassembly and repair.

#### **Powerseal 932 Applications:**

- O-rings
- Flanges
- Threaded fittings less than one-inch diameter

Powers	Powerseal Typical Values									
Grade	Color	Viscosity, cP	Temperature Range, °C (°F)	Pressure Resistance, psi	Breakaway Torque N•m (in-lbs)	Recommended EF® Primer				
932	Gray	540,000	-55 to 232 (-'65 to 450)	10,000	Non-curing	Non-curing				

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#### SelfSealer® 604





(White Liquid)
Viscosity: 6,000cP

SelfSealer® 604 is a low viscosity, tough, preapplied, non-hardening threaded sealant. Provides an instant seal on different pipe threads and can be used up to 8 times without recoating.

## SelfSealer® • Preapplied Dry Film Adhesive System • Thread Sealing

HERNON® SelfSealer® products are tough, preapplied, non-hardening thread sealants, They provide instant seal on different pipe threads and can be used up to eight (8) times without recoating.

SelfSealer® products are water based, non-toxic, and safe and can be applied easily without special handling precautions. SelfSealer® products provide resistance to vibrational loosening, because of their prevailing torque characteristics. Therefore, they are very effective on locking applications.

#### The key features of the SelfSealer® products are:

- No cure time is required. The preapplied film provides instant sealing for NPT threads up to 4 inches in diameter immediately upon installation.
- 2. Mechanically, the dry film generates prevailing torque characteristics approximately 75 inch lbs. On 3/8 16 fasteners makes threaded parts resistant to vibrational loosening after installation. (The system also imparts a slight increase in the break-loose torque of parts).
- Corrosion is inhibited between mating threads. The threads are safely sealed from contact with the atmosphere by the coating.

	rnon <sup>®</sup> SelfSeale	er®
lina Siza*	Coating Width*	

Pipe Size*	Coating Width*	mL/1,000 Parts		
1/16	5/16	30		
1/8	3/8	50		
1/4	7/16	112		
3/8	1/2	155		
1/2	9/16	285		
3/4	5/8	400		
1	3/4	725		
1 1/4	13/16	980		
1 1/2	7/8	1,150		
2	1 1/16	1,525		
2 1/2	1 1/8	3,225		
3	1/8	4,000		

<sup>\*</sup>Values are based on machine treating fasteners with Hernon Self-Locker with a bond width of 1.5" X Diameter

<sup>\*</sup>Usage is based on grams per 1,000 fasteners

<sup>\*</sup>Hernon Self-Locker is sold by the pound (454 g)



#### SelfSealer® 615





(Burnt Orange Liquid)

Viscosity: 30,000 cP

Seals NPT threads up to 4-inches in diameter

Generates prevailing torque to resist loosening from vibration

Limits corrosion of components
Safe for plastics

Hernon® SelfSealer® 615 is a high viscosity, tough, preapplied, non-hardening threaded sealant. When dried, it becomes a resilient, tight clinging, non-curing sealant for tapered or straight threads. It provides an instant seal on different pipe threads and can be used up to eight (8) times without recoating. SelfSealer® 615 is water based, non-toxic, safe and can be applied easily without special handling precautions. It provides resistance to vibrational loosening because of its prevailing torque characteristics. Therefore, it is very effective on non-locking applications.



## UL Classification File MH14222

MH14222 Classified by Underwriters Laboratories Inc.® MH14222 as to fire hazard only. SelfSealer® 615. Classified 0 to 10 less hazardous than paraffin oil in respect to fire hazard. For use in devices handling gasoline, petroleum oils, natural gas (pressure not over 100 psig), butane and propane, not exceeding 2 in. pipe size. Suitable for single assembly ("insertion") use when applied and dried prior to assembly in accordance with the manufacturer's instructions.



#### **NSF International**

Certified to ANSI/NSF Standard 61 for use in commercial and residential potable water systems not exceeding 82°C (180°F).

#### SelfSealer® 616





(White Liquid)

Viscosity: 30,000 cP

Seals NPT threads up to 4-inches in diameter

Generates prevailing torque to resist loosening from vibration

Limits corrosion of components

Safe for plastics

Hernon® SelfSealer® 616 is a high viscosity, tough, preapplied, non-hardening threaded sealant. When dried, it becomes a resilient, tight clinging, non-curing sealant for tapered or straight threads. It provides an instant seal on different pipe threads and can be used up to eight (8) times without recoating. SelfSealer® 616 is water based, non-toxic, safe and can be applied easily without special handling precautions. It provides resistance to vibrational loosening because of its prevailing torque characteristics. Therefore, it is very effective on non-locking applications.



## **UL Classification** File MH14222

Classified by Underwriters Laboratories Inc.® MH14222 as to fire hazard only. SelfSealer®616. Classified 0 to 10 less hazardous than paraffin oil in respect to fire hazard. For use in devices handling gasoline, petroleum oils, natural gas (pressure not over 100 psig), butane and propane, not exceeding 2 in. pipe size. Suitable for single assembly ("insertion") use when applied and dried prior to assembly in accordance with the manufacturer's instructions.



#### **NSF** International

Certified to ANSI/NSF Standard 61 for use in commercial and residential potable water systems not exceeding 82°C (180°F).

#### SelfSealer® 618





(Burnt Orange Liquid)

#### **Low Viscosity Types**

Apply by Tumbling, Hand Application, or Brush "Flow", SelfSealer® 604 and 618 are essentially the same with the exception of color. White is chosen for a "pipe sealant" look, and orange selected for an obvious indication of the presence of the special coating. The difference is strictly cosmetic.

With the low viscosity grades, parts can be effectively tumbled with the SelfSealer® as a simple means of coating the threads. Similarly, parts can be placed into plastic bags and shaken to apply the coating. Low viscosity types can be hand applied and brushed onto the thread path.



## UL Classification File MH14222

Classified by Underwriters Laboratories Inc.® MH14222 as to fire hazard only. SelfSealer® 618. Classified 0 to 10 less hazardous than paraffin oil in respect to fire hazard. For use in devices handling gasoline, petroleum oils, natural gas (pressure not over 100 psig), butane and propane, not exceeding 2 in. pipe size. Suitable for single assembly ("insertion") use when applied and dried prior to assembly in accordance with the manufacturer's instructions.



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#### SelfSealer® Grade Details

#### SelfSealer® 622

(Gray Liquid)

Viscosity: 30,000 cP

Seals NPT threads up to 4-inches in diameter

Generates prevailing torque to resist loosening from vibration

Limits corrosion of components

Safe for plastics

Hernon® SelfSealer® 622 is a tough, preapplied, nonhardening threaded sealant. SelfSealer® 622 provides an instant seal on different pipe threads and can be used up to eight (8) times without recoating.

SelfSealer® 622 is water based, non-toxic, safe and can be applied easily without special handling precautions. SelfSealer® 622 provides resistance to vibrational loosening because of its prevailing torque characteristics. Therefore, it is very effective on nonlocking applications.



#### SelfSealer® Benefits

- The preapplied coating eliminates liquid and paste migration problems and concerns during installation.
- Precoated fittings can be stored for immediate delivery at assembly.
- The preapplied coating is tough, resilient and will resist shredding and peeling during assembly.
- Ideal for field assembly precoated parts are always there and ready for the task.
- Precoated parts have a shelf life of several years. No special handling or storage required.
- Increased Profitability: Lower Costs, Less Down Time
- Reduced Inventories- no need to supply separate bottles of sealant with your products for assembly.
- Reduced Warranty claims- parts installed as engineered, prevents operator errors.
- Superior Reliability- field installations go smoothly, no costly repeat installations.
- · Allows several reuses.

Typical Values				
Grade	Color	Viscosity, cP	Temperature Range, °C (°F)	Pressure Resistance, psi
604	White	6,000	-55 to 150 (-65 to 300)	10,000
615	Orange	30,000	-55 to 150 (-65 to 300)	10,000
616	White	30,000	-55 to 150 (-65 to 300)	10,000
618	Burnt Orange	6,000	-55 to 150 (-65 to 300)	10,000
622	CharCoal	6,000	-55 to 150 (-65 to 300)	10,000

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#### Nuts N' Bolts® • Anaerobic Adhesive & Sealants • Thread Locking

HERNON® offers a complete line of Nuts N' Bolts® adhesives & sealants. These anaerobic adhesives are designed for use with assemblies having threaded fasteners. They are single component, 100% active liquids that are self-hardening when air is omitted as between the mating surfaces of a nut and bolt, while remaining a stable liquid in its container.

A wide selection of Nuts N' Bolts® adhesives & sealants are available to provide specialized performance to meet your product specification and maintenance requirements. Adhesive properties such as maximum gap filling, cure time, shear strength (breakaway and prevailing torque), and viscosities can be matched to meet your specific needs.

Nuts N' Bolts® adhesives & sealants replace lock washers and other expensive methods to prevent vibration and loosening of parts, thus improving machine reliability. These adhesives also seal against leakage eliminating internal corrosion for the life cycle of the assembly.

All fasteners have manufacturing tolerances varying by the "class of fit" specified for the threads. Application of Nuts N' Bolts® adhesives allows uniform distribution of the adhesive material into the voids between thread pressures – flanks and thread roots. The statistical variability of each thread path is filled with liquid adhesive, which cures into a tough helical path, and prevents

leakage past the seal of the polymer and prevents self-loosening of the mated parts due to transverse vibration. Before the fastener pressure flanks can move, the cured adhesive in the thread roots must be overcome by the magnitude of vibration. Adhesives with greater "strength" possess greater mechanical shear strengths to resist greater magnitudes of vibration.

#### **Nuts N' Bolts® Benefits**

- Increased Profitability: Lower Costs, Less Down Time
- Reduced Inventories: No Need For "Special" Fasteners
- Reduced Maintenance: Parts Don't Vibrate Loose
- Superior Reliability: Assembly Integrity Assured

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#### Nuts N' Bolts® Grade Details

#### Nuts N' Bolts® 128

(Blue Liquid)

Specially Modified Cyanoacrylate

Medium Strength

Plastic Fasteners

Fasteners in Plastics

Fast Fixturing Time

Nuts N' Bolts® 128 is a unique thread locking concept. A plasticized cyanoacrylate is applied to threads and parts mated. The quick cure system delivers excellent breakaway torques and rapidly reducing prevailing torques.

Because the 128 is non-anaerobic it is safe for use on plastic fasteners, fasteners threading into plastics, and threaded inserts molded into plastics. No chemical attack or crazing of the plastic occurs.

#### Nuts N' Bolts® 128 Applications:

- Electronic parts, housings, coils, components, trim
- Consumer electronics, decorative trim, toys, hobbies
- Repair of stripped-out holes in plastic

#### Nuts N' Bolts® 418

(Blue fluorescent liquid)

Nuts N' Bolts® 418 is a single component anaerobic adhesive/sealant that is formulated for applications where a low viscosity, medium strength thread locker is desired.

#### Nuts N' Bolts® 419

(Purple Fluorescent Liquid)

Single component

Will not cure outside the joints

Cures without cracking or shrinking

No mixing

Prevents rusting of threads

Seals against leakage

Prevents movement of screw threads and eliminates self loosening

Nuts N' Bolts® 419 is a single component, no-mix, anaerobic-cure adhesive/sealant for small fasteners. It provides a controlled low-strength prevailing and locking torque on metal fasteners. It only cures once it is confined between mating surfaces. Nuts N' Bolts® 419 prevents loosening from vibration and leakage of threaded fasteners.

#### Nuts N' Bolts® 419 Applications:

- Adjustment screws
- Machine screws
- Setscrews

#### Nuts N' Bolts® 420



(Purple Liquid)

Small Diameter Fasteners Low Strength for Easy Adjustments or Disassembly

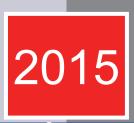
> Easy Removal with Simple Hand Tools

Nuts N' Bolts® 420 is engineered to eliminate vibrational loosening of setscrews, cap screws and machine screws while allowing for easy disassembly or adjustment. It is recommended for fasteners with engagement L/D ratios of one or greater. This grade replaces expensive mechanical locking devices. The low-strength characteristic of Nuts N' Bolts® 420 allows easy adjustments of assembled parts with simple hand tools. It is non-migrating with predictable torque/tension and lubricity characteristics.

#### **Nuts N' Bolts® 420 Applications:**

- Adjustment screws
- Machine screws
- · Calibration screws
- Setscrews
- Control mechanisms
- Tool holder screws
- Thermostat screws





## Nuts N' Bolts<sup>®</sup> Grade Details

#### Nuts N' Bolts® 422



(Blue Fluorescent Liquid)

#### **High Temperature Resistance**

#### Prevents Movement of Screw Threads and Eliminates Self Loosening

#### **Seals Against Leakage**

#### **Prevents Rusting of Threads**

#### **Cures Without Cracking or Shrinking**

Nuts N' Bolts® 422 is a medium strength, general-purpose threadlocking adhesive. It is ideal for all nut and bolt applications, but it is especially suited for  $\frac{1}{4}$ " or larger fasteners. Removable with hand tools. Curing occurs only when adhesive is confined between two mating surfaces. The cured adhesive is a thermoset plastic suitable for temperatures up to 300°F (149°C) and exposure to solvents.

#### Nuts N' Bolts® 422 Applications:

- Hydraulic piston nuts
- Rocker nuts
- · Railroad bolts on wear plates
- Carburetor adjusting screws
- Machinery keys
- · Machine tool access bolts
- Conveyer roller bolts
- · Gear box bolts
- · Bearing cover cap screws
- Drive shaft fasteners
- · Mounting bolts on motors, pumps, etc

#### Nuts N' Bolts® 423



(Blue Liquid)

#### **All Fasteners**

#### Medium Strength for General Applications

Nuts N' Bolts<sup>®</sup> 423 is formulated to meet the requirements of 75% of all fastener assemblies. This product is non-migrating for easy assembly line application while reliably replacing more expensive jam nuts, lock washers or other mechanical devices.

Nuts N' Bolts® 423 is 100% active anaerobic material that cures quickly to produce a resilient seal with predictable torquing characteristics. Treated fasteners are vibration and shockproof and resist solvents, lubricants and other foreign agents that might damage internal parts.

#### Nuts N' Bolts® 423 Applications:

- · Replace most fastener locking devices
- Hydraulic system bolts
- · Gear-box bolts
- · Bearing cover cap screws
- · Drive shaft fasteners
- · For reuse of worn or previously treated fasteners
- · Countersunk screws
- · Machine tool access bolts
- Conveyor roller bolts

Treating Screws by Tumbling Method with Hernon® Nuts n' Bolts® & Self Lockers <sup>™</sup> Number of milliliters required to treat 1,000 pieces of round head screws by tumbling												
Diameter / Length	2	3	4	5	6	8	10	12	1/4	5/16	3/8	1/2
1/8	2	2	3	3	3	4	-	-	-	-	-	-
1/4	3	3	4	5	6	7	8	10	13	-	-	-
3/8	4	4	5	6	7	9	10	13	16	22	-	-
1/2	5	6	6	7	9	10	13	15	18	25	32	-
3/4	7	8	9	10	12	14	17	80	2	32	41	55
1	9	10	10	13	15	18	21	25	30	38	49	66
1 1/2	-	-	16	19	21	25	30	34	41	53	66	87
2	-	-	-	24	28	33	38	44	52	65	83	110
3	-	_	-	-	-	47	55	63	75	94	120	140

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#### Nuts N' Bolts® Grade Details

#### Nuts N' Bolts® 425



(Green fluorescent liquid)

Ease Of Application Improved Reliability

Nuts N' Bolts® 424 is an anaerobic thread locking and sealing compound. Nuts N' Bolts® 424 is a very high strength adhesive for locking and sealing all fasteners up to 1 inch in diameter. Nuts N' Bolts® 424 is a perfect adhesive for harsh and corrosive environments. Curing occurs only when the adhesive is confined between mating surfaces. The adhesive is suitable for temperatures up to 300°F (150°C).

#### **Nuts N' Bolts® 424 Applications:**

- · Locking and sealing
- · Flange plate bolts and pump housings
- · Transmission studs
- Air conditioning, refrigeration and process equipment studs
- Wheel mounting studs on heavy duty trucks
- · All vibrating machinery fasteners

#### Nuts N' Bolts® 426

(Green Liquid)

Maximum Strength Severe Service Heavy Duty Studs

Nuts N' Bolts<sup>®</sup> 426 offers the maximum locking and prevailing strength. The product resists vibration loosening in the most demanding situations.

#### **Nuts N' Bolts® 426 Applications:**

- Motor housing studs
- Machine base studs
- Nuts onto studs
- · Pump housing studs

#### Nuts N' Bolts® 427





(Red Liquid)

High Strength Sealing in Corrosive & Refrigeration Environments

Nuts N' Bolts<sup>®</sup> 427 is a general purpose. high strength anaerobic with excellent sealing properties to eliminate thread corrosion. This product allows you to use less expensive threaded parts while improving the reliability and simplicity of assembly operations. Nuts N' Bolts® 427 is especially suited for corrosive environments as well as refrigeration assemblies where resistance to Freon\* or ammonia refrigerants is essential. This adhesive/ sealant also resists the corrosive attack of lubricants, fuels, chemicals and gases. (\*Registered Trademark, DuPont Co.)

#### **Nuts N' Bolts® 427 Applications:**

- · Flange plate bolts and pump housing
- Transmission studs
- Valve seats
- Air conditioning, refrigeration and process equipment studs
- Wheel mounting studs on heavy duty trucks
- All vibrating machinery fasteners



#### UL Classification File MH14222

Classified by Underwriters Laboratories Inc.. as to fire hazard only. Self Seeler 604. Classified 0 to 10 less hazardous than paraffin oil in respect to fire hazard. For use in devices handling gasoline, petroleum oils, natural gas (pressure not over 100 psig), butane and propane, not exceeding 2 in. pipe size. Suitable for single assembly ("insertion") use when applied and dried prior to assembly in accordance with the manufacturer's instructions.

#### Nuts N' Bolts® 428

(Red Liquid)

High Strength
High Temperature
Heavy Duty Service

Nuts N' Bolts<sup>®</sup> 428 is an anaerobic adhesive designed for tough applications demanding high-strength and high temperature resistance to 450°F.

#### Nuts N' Bolts® 428 Applications:

- · Heat treat furnaces
- · Annealing equipment
- Rolling mill conveyors, components

#### Nuts N' Bolts® 429



(Red Liquid)

**High Strength** 

**Bolts & Studs Greater than 1" Diameter** 

Nuts N' Bolts® 429 is engineered for applications requiring maximum locking strength for fasteners over 1" in diameter. This highly viscous grade permits utility where fasteners are under high vibration, shear leads and extreme shock.

#### Nuts N' Bolts® 429 Applications:

- Studs on large presses
- Hydraulic cylinder tie-rod and pistonrods
- · Axle, front end, suspension frame bolts
- Conveyor roller bolts

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#### Nuts N' Bolts® Grade Details

#### Nuts N' Bolts® 431



#### Medium - High Strength Preassembled Fasteners of all Sizes **Porosity Sealing**

Nuts N' Bolts® 431 is a wicking anaerobic used for preassembled equipment and structures where penetration into fastener connection points is required. This product allows very simple preventive maintenance by permitting thread locking without dismantling equipment. The product "wicks" into voids by capillary action. Use Nuts N' Bolts® 431 to seal pores or pinhole porosity in welded seams, tanks, castings, or metal parts. Brush apply.

#### **Nuts N' Bolts® 431 Applications:**

- · Air compressor fasteners
- •Refrigerationsafetyvalves,compressor coils
- · Emission control valve screws
- · Fasteners on equipment for shipment
- · Calibration & adjustment screws
- Tamper proofing assemblies
- · Bicycles, motorcycles
- · Children's swings, toys
- · Gun smithing

#### Nuts N' Bolts® 434

(Blue Liquid)

#### **Medium Strength Hand Tool Disassembly**

Nuts N' Bolts® 434 is a medium strength anaerobic offering ease of disassembly with hand tools. Well-suited for use on less active surfaces like plated and stainless steel fasteners.

#### **Nuts N' Bolts® 434 Applications:**

- Mounting bolts for pumps, motors, gearboxes, etc.
- Bolts on housings, motors, power transmission units
- Rocker arm nuts, conveyors, access panels

#### **Application Note:**

- Most Nuts N' Bolts® grades are effective on "as received" parts but degreasing with EF® cleaner 62 is recommended in critical applications.
- Product should be applied to threaded area of fasteners and then assembled.
- In the case of "blind" holes. adhesive should be applied into the hole and then parts threaded together.

#### Treating Nuts and Bolts with Hernon® Nuts n' Bolts® & Self Lockers™ Number of milliliters required to treat nuts and bolts per 1,000 pieces

Bolt Size*	Manual Application From Bottle	Automated Application Equipment
1/4	27	17
5/16	45	30
3/8	75	50
7/16	105	70
1/2	135	90
9/16	180	120
5/8	225	150
3/4	340	130

Measured in inches

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Nuts	N' Bo	lts <sup>®</sup> Gra	de Details						
Grade	Color	Viscosity cP	Temperature Range, °C (°F)	Fixture Time at 22°C, Minutes	Gap Fill mm (in.)	Prevailing Torque N•m (in-lbs)	Thixo- tropic	Breakaway Torque N•m (in-lbs)	Recommended EF® Primer
128	Blue	80	-55 to 82 (-65 to 182)	< 1	0.102 (0.004)	≥ 2.8 (25)	No	≥ 2.8 (25)	NA
418	Blue	15	-55 to 150 (-65 to 300)	10-15	0.102 (0.004)	11.3 - 22.6 (100-200)	No	2.3-11.3 (20-100)	49 or 50
419	Purple	130	-55 to 150 (-65 to 300)	10 to 15	0.127 (0.005)	2.3 - 5.6 (20 - 50)	No	5.6 - 11.3 (50 - 100)	49 or 50
420	Purple	1200	-55 to 150 (-65 to 300)	0 to 15	0.127 (0.005)	1.2 - 5.6 (10 - 50)	Yes	3.4 - 7.9 (30 - 70)	49 or 50
422	Blue	130	-55 to 150 (-65 to 300)	15 to 20	0.127 (0.005)	3.4 - 22.6 (30 - 200)	No	11.3 - 22.6 (100 - 200)	49 or 50
423	Blue	1200	-55 to 150 (-65 to 300)	1 to 15	0.127 (0.005)	2.3 - 22.6 (20 - 200)	Yes	7.9 - 22.6 (70 - 200)	49 or 50
425	Red	1800	-55 to 150 (-65 to 300)	5 to 15	0.127 (0.005)	11.3 - 33.9 (100 - 300)	Yes	11.3 - 28.2 (100-250)	49 or 50
426	Green	500	-55 to 150 (-65 to 300)	5 to 10	0.305 (0.012)	17 - 56.5 (150 - 500)	No	17 - 39.5 (150 - 350)	49 or 50
427	Red	500	-55 to 150 (-65 to 300)	5 to 10	0.178 (0.007)	17 - 56.5 (150 - 500)	No	17 - 39.5 (150 - 350)	49 or 50
428	Red	6000	-55 to 232 (-65 to 450)	45 to 80	0.178 (0.007)	17 - 56.5 (150 - 500)	Yes	17 - 39.5 (150 - 350)	49 or 50
429	Red	7000	-55 to 150 (-65 to 300)	30 to 45	0.254 (0.010)	17 - 56.5 (150 - 500)	No	17 - 39.5 (150 - 350)	49 or 50
431	Green	15	-55 to 204 (-65 to 400)	10 to 15	0.102 (0.004)	17 - 56.5 (150 - 500)	No	2.3 - 17 (20 - 150)	49 or 50
433	Amber	15	-55 to 150 (-65 to 300)	1 to 15	0.127 (0.005)	17 - 56.5 (150 - 500)	Yes	2.3 - 17 (20 - 150)	49 or 50
434	Blue	2250	-55 to 150 (-65 to 300)	5 to 10	0.127 (0.005)	3.9 - 9.9 (35 - 88)	Yes	9.0 - 17 (80 - 150)	49 or 50



#### Self Locker

## Preapplied, Dry Film Adhesive System Micro Encapsulated Anaerobic Adhesive Thread Locking

Sealing HERNON® Self Locker products are preapplied, micro-encapsulated anaerobic thread locking compounds that stay dry to the touch until the shearing action of thread engagement breaks the capsules and allows the released adhesive to begin to cure. Self Locker products provide resistance to vibrational loosening, and fluid leakage.

#### Product benefits of the system include:

- 1. The preapplied coating eliminates liquid and paste migration problems and concerns during installation.
- 2. Precoated fasteners can be handled and stored dry.
- 3. Grades are color coded to indicate strength range and to allow for easy visual inspection.
- 4. Ideal for field assembly, inventoried precoated parts are always there and ready for the task.
- 5. Coatings offer excellent solvent resistance and protect threads from corrosion.
- 6. Precoated parts have a minimum shelf life of 48 months (4 years). No special handling or storage required.

#### Self Locker 523

(Gray Liquid)

Improves reliability

**Excellent solvent resistance** 

Pre-coated parts can be packaged and shipped in normal manner

Prevents threads from corroding

Self Locker 523 is a pre-applied, microencapsulated adhesive for threaded fasteners that stays dry-to-the-touch until the shearing action of engaging a nut and bolt causes the capsules to break and release the adhesive. Self Locker 523 securely and locks and seals threaded fasteners against vibration loosening and fluid leakage.

#### **Self Locker 523 Applications:**

- Head bolts
- Truck axle bolts
- Transmission nuts
- Pipe plugs and fittings

#### Self Locker 524

(Pink Liquid)

Seals against leakage
Excellent solvent resistance
Improves reliability

Prevents threads from corroding

Self Locker 524 is a pre-applied, microencapsulated adhesive for threaded fasteners that stays dry-to the-touch until the shearing action of engaging a nut and bolt causes the capsules to break and release the adhesive. Breakaway torque is 290 inlbs and fixture time is reached in just 10 minutes. Pre-applied on part life is up to 4 years.

#### **Self Locker 524 Applications:**

- ·Head bolts
- Truck axle bolts
- Transmission nuts
- Pipe plugs and fittings

Self Locker Typical Values							
Grade	Color	Fixture Time, Minutes	Temperature Range, °C (°F)	Breakaway Torque, N•m (in-lbs)			
523	Gray	5	-55 to 150 (-65 to 300)	11.3 - 22.6 (100-200)			
524	Pink	10	-54 to 150 (-65 to 300)	28.2 - 33.9 (250-300)			

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## Treating Nuts and Bolts with Hernon<sup>®</sup> Nuts n' Bolts® & Self Lockers™ Number of milliliters required to treat nuts and bolts per 1,000 pieces

Bolt Size*	Manual Application From Bottle	Automated Application Equipment
1/4	27	17
5/16	45	30
3/8	75	50
7/16	105	70
1/2	135	90
9/16	180	120
5/8	225	150
3/4	340	130
* Measured i	n inches	



#### Resin Usage for Hernon<sup>®</sup> Self Lockers™

Fastener Size*	Usage
#2	14
#4	22
#6	29
#8	37
#10	56
1/4	77
5/16	120
3/8	175
7/16	250
1/2	335
9/16	450
5/8	590
3/4	900
7/8	1,300
1	1,750
1 1/8	2,350
1 1/4	3,100
1 3/8	4,100
1 1/2	5,400
*\/aluga are based on	machine treating

\*Values are based on machine treating fasteners with Hernon® Self Locker™ with a bond width of 1.5" X Diameter

<sup>\*</sup>Usage is based on grams per 1,000 fasteners \*Hernon® Self-Locker™ is sold by the pound (454 g)

Treating Screws by Tumbling Method with Hernon <sup>®</sup> Nuts n' Bolts <sup>®</sup> & Self Lockers <sup>™</sup> Number of milliliters required to treat 1,000 pieces of round head screws by tumbling												
Diameter Length	2	3	4	5	6	8	10	12	1/4	5/16	3/8	1/2
1/8	2	2	3	3	3	4	-	-	-	-	-	-
1/4	3	3	4	5	6	7	8	10	13	-	-	-
3/8	4	4	5	6	7	9	10	13	16	22	-	-
1/2	5	6	6	7	9	10	13	15	18	25	32	-
3/4	7	8	9	10	12	14	17	80	2	32	41	55
1	9	10	10	13	15	18	21	25	30	38	49	66
1 1/2	-	-	16	19	21	25	30	34	41	53	66	87
2	-	-	-	24	28	33	38	44	52	65	83	110
3	-	-	-	-	-	47	55	63	75	94	120	140

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#### Ultrabond® • Ultraviolet Cure Adhesive Systems Bonding – Potting – Coating - Sealing

HERNON® offers a complete line of ultraviolet curing adhesives and compounds, the Ultrabond® line of products. These products are single component systems offering either ultraviolet light or ultraviolet light & primer initiated curing mechanisms. All Ultrabond® products cure upon exposure to UV radiation. Twin or "dual-cure" types, working in conjunction with Primer, provide production processing latitudes to maximize assembly efficiencies.

Dedicated UV cure types, or "UV cure only" grades only cure when exposed to UV light. All Ultrabond® adhesives respond to exposure to high intensity, medium pressure mercury arc UV lamps in the range of 365 nm (long wavelength) and 100- milliwatt/cm² intensity. Some Ultrabond® systems function well with low intensity lamps, such as "black lights". Cure speeds are longer and gap fill ability is lower under these conditions.

Twin or dual-cure systems offer a choice of UV and/or Primer to initiate curing. Use Primers to fully cure the adhesives anaerobically or to obtain fixturing strength prior to final full UV curing. Primers also promote deeper cures.

## **Ultrabond® Benefits**

- Instant Curing in Just Seconds Speeds Production
- Dual Cure For Sophisticated Bonding or Potting
- On Demand Cure Allows Greater Adjustment Opportunities

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#### Ultrabond<sup>®</sup> Grade Details

#### **UV FOG 702**

(Amber Liquid)

Hernon® UV FOG (Form on Gasket) 702 is an EB/UV curable product that provides excellent adhesion to shaft seals, oil seals, metals, glass, ceramics and plastics. Can be used as a Form-in-place gasket in oil and coolant systems. Typical applications include Engine covers, Oil pans and other fluid seal systems.



#### Ultrabond® 736

(Amber Liquid)

One component

Fast cure speed with UV light or EF®
Activator 56

Unlimited adjustment time until exposed to UV light

Good adhesion to glass Bond is almost invisible

Ultrabond® 736 is a high-impact UV curable structural anaerobic adhesive formulated for bonding glass to glass, glass to metal and for potting and tacking applications. Ultrabond® 736 has very high light transmission and a reflective index similar to that of glass. Ultrabond® 736 cures on exposure to ultraviolet light with a wavelength of 365 nm or with Hernon® EF® Activator 56.

#### Ultrabond® 740

(Clear Liquid)

UV Cure Only
Potting & Tacking
Cures Optically Clear

Ultrabond® 740 cures with great optical clarity. Gaps approach .250 inch.

Ultrabond® 740 provides excellent resistance to humidity and moisture. The cured bond is resistant to discoloring over long periods of time. Use 740 for glass, metals, some thermoplastics, and ceramics.

#### Ultrabond® 748

(Clear Liquid)

UV or EF Primer 56 Cure High Temperature Bonding & Sealing

#### **Deep Potting**

Ultrabond® 748 is a high temperature, dual cure anaerobic adhesive with working temperatures up to 350°F and gap filling capabilities up to .125 inch. Ultrabond® 748 provides excellent impact and fatigue resistance as well as resistance to solvents, oil, and moisture.

#### Applications include:

Tamper proofing, terminal insulating, potting electronic components and assemblies in severe environments.

#### Applied UV FOG





#### Ultrabond® Grade Details

#### Ultrabond® 752

(Amber Liquid)

Excellent adhesion to a variety of surfaces

Excellent environmental resistance
Good gap filling properties
No shrinkage due to solvent
evaporation

Rapid room temperature cure

Ultrabond® 752 is a UV curable adhesive product that provides excellent adhesion to glass and to plastics such as polyester, PVC, cellulose acetate, or nylon.

#### Ultrabond® 758

(Clear Liquid)

UV Cure Only
High Temperature
Low Viscosity
Shallow Potting

Ultrabond® 758 is a fast fixturing, general purpose, and shallow potting compound with gap filling capabilities to .100 inch. In assembly line applications the low viscosity promotes rapid self-leveling and excellent penetration. Thermal integrity is 350°F. Use 758 for shallow potting and encapsulation on assembly line applications.



#### Windshield Welder 772

(Clear Liquid)

Hernon® Windshield Welder 772 is a single component ultra violet curing adhesives. It is especially formulated for repair of windshields in automobiles. Windshield Welder 772 is an ideal product to use for penetrations and long cracks where vibration is expected.



#### Ultrabond® 785

(Clear, Lt. Yellow Liquid)

Bonds rigid and flexible PVC Large gap filling capabilities Outstanding flexibility

Excellent adhesion to a wide variety of substrates

Hernon® Ultrabond® 785 is a one component, thixotropic adhesive, which cures when exposed to ultraviolet radiation and/or visible light of sufficient intensity.

#### Ultrabond® 787

(Clear, Yellow Liquid)

Bonds rigid and flexible PVC

Large gap filling

Flexible joint

Hernon® Ultrabond® 787 is designed to bond a wide-variety of substrates including glass, many plastics, and most metals. Tensile strength is up to 2700 psi according to ASTM D882 testing. Ultrabond® 787 is an ultraviolet light only cure product.

#### **Polycure UV Adhesive 3443**

(Clear Liquid)

Good moisture and environmental resistance

No solvents

Excellent for encapsulating, potting, sealing and bonding

Good peel and fatigue resistance

Hernon® Polycure 3443 is a single component, tri-cure conformal coating formulated for bonding glass to glass and/ or glass to metals. Also good for bonding nylon, fiberglass and phenolics as well as wire tacking.

PolyCure 3443 is excellent for bonding and tacking many parts. PolyCure 3443 can also be cured with heat above 200°F (93°C) or EF Primer 56. Exposure to a high intensity UV light will cure these adhesives to a dry, hard surface.



Ultrabo	nd <sup>®</sup> Typic	cal Value	S			
Grade	Color	Viscosity, cP	Temperature Range, °C (°F)	UV Fixture Time, Seconds	Shear Strength, N/mm² (psi)	Hardness, Shore D
702	Amber	800	-40 to 150 (-40 to 302)	≤ 5	≥ 100	10-25 ShA
736	Amber	20,000	-55 to 177 (-65 to 350)	< 15	≥ 1500	60
740	Clear	> 1,000	-55 to 121 (-65 to 250)	< 10	≥ 1000	70
748	Clear	2,000	-55 to 177 (-65 to 350)	< 20	≥ 300	60
752	Amber	4,000	-55 to 135 (-65 to 275)	< 20	≥ 500	15
758	Clear	300	-55 to 177 (-65 to 350)	< 20	> 1,000	50
772	Clear	20	-55 to 121 (-65 to 250)	≤ 30	≥ 800	N/A
785	Clear	5,000	-55 to 110 (-65 to 230)	≤ 5	≥ 500	50
787	Pale yellow	5,000	-55 to 110 (-65 to 230)	5	≥ 500	53
3443	Clear	50,000	-55 to 150 (-65 to 302)	≤ 5	≥ 500	50

## Ultrabond<sup>®</sup> Equipment

Hernon® offers a complete line of ultraviolet light curing equipment specially manufactured for our Ultrabond® products.

From handheld UV flashlights to conveyor production systems

Hernon® also offers UV safety equipment



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#### **Military Specifications**



Many Hernon® products meet or exceed the standardized objectives set by the U.S. Department of Defense. These objectives are known as military standard, mil specs, or "MIL-STD." Please consult Hernon® Customer Service for more information about test reports and certificates of conformance needs.

	MIL-S-22473E ASTM D5363				
Hernon Grade	Grade	ASTM			
49	Т	Primer Grade T			
50	N	Primer Grade N			
220	AA	AN0111			
223	AVV	AN0124			
225	AV	AN0123			
227	Α	AN0121			
230	В	AN0131			
232	С	AN0141			
234	CVV	AN0143			
236	CV	AN0142			
237	D	AN0122			
238	EV	AN0152			
240	E	AN0151			
246	HV	AN0162			
248	Н	AN0161			
943	JV	AN0171			
944	HVV	AN0163			

	MIL-A-46050C					
Hernon Grade	Туре	Class				
48	IA or IIA					
52	IA or IIA					
58	IA or IIA					
110	1	2				
112		1				
113	=	1				
114	I	3				
115	Ш	3				
117	Ш	3				
119	Ш	1				
120	II	3				
121	Ш	3				
122	Ш	5				
123	=	2				
124	Ш	2				
127	=	5				
134	Ш	2				
135	=	2				
138	II	5				

	CID A-A-59720
Hernon Grade	Grade
428	HT

	ASTM D5363				
Hernon Grade	Class	ASTM			
990	61	ANSI/NSF Standard 61			

	MIL-I-17563C
Hernon Grade	Class
990	1 & 3
991	1 & 3

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## Product Approvals

	MIL-S-46163A ASTM D5363		
Hernon Grade	Type	Grade	ASTM
410	III	Р	AN0241
420	Ш	M	AN0311
422	I	J	AN0231
423	Ш	M	AN0321
425	Ш	0	AN0331
427	Ι	K	AN0221
429	I	L	AN0211
431	III	R	AN0261

	MIL-R-46082B ASTM D5363		
Hernon Grade	Type ASTM		
822	I	AN0411	
826	Ш	AN0412	
840	Ī	AN0411	

	MIL-A-46106B	
Hernon Grade	Туре	
333	Type I	
334	Type I	
336	Type I	
340	Type I	
343	Type I	

	CID A-A-3097		
Hernon Grade	Туре	Class	
48	l or II		
52	l or II		
58	l or II		
110	I	2	
112	I	1	
113	II	1	
114	I	3	
115	II	3	
117	II	3	
119	II	1	
120	II	3	
121	II	3	
122	II	5	
123	II	2	
124	II	1	
127	II	1	
134	II	2	
135	II 2		
138	II	5	

Impregnation Resins		
Hernon Grade	Approvals	
HPS 990	MIL-I-17563C ASTM ANSI/NSF Standard 61 NSF	
HPS 991	MIL-I-17563C	
HPS 1000		
HPS 1200		

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## Product Approvals

NSE	NSF Approved	
Hernon Grade		
H	HPS 990	
Dri	ipstop 923	
Self	Sealer 604	
Self	Sealer 615	
SelfSealer 616		
SelfSealer 618		
Cylinlock 824		
Cylinlock 843		
Cyl	linlock 845	
Cylinlock 846		

CF/VZ2314/V	UL Classified	
Her	non Grade	
Dripstop 920		
Dripstop 940		
Nuts N Bolts 427		
SelfSealer 604		
SelfSealer 615		
SelfSealer 616		
SelfSealer 618		



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Useful Conversion Factors			
Volume			
1 Fluid Ounce	= 29.57 Cubic Centimeters		
1 Gallon	= 3785 Cubic Centimeters		
1 Gallon	= 3.785 Liters		
1 Gallon	= 128 Fluid Ounces		
1 Gallon	= 4 Quarts		
1 Gallon	= 8 Pints		
1 Gallon	= 16 Cups		
1 Gallon	= 231 Cubic Inches		
1 Gallon	= 0.134 Cubic Feet		
1 Liter	= 0.264 Gallons		
1 Liter	= 1000 Milliliters		
1 Cubic Foot	= 1728 Cubic Inches		
1 Cubic Foot	= 7.48 Gallons		
1 Cubic Inch	= 16.387 Cubic Centimeters		
1 Cubic Centimeter	= 1 Milliliter		
1 Milliliter	= 1000 Microliters		
1 Microliter	= 1000 Nanoliters		
	Weight		
1 Kilogram	= 1000 Grams		
1 Kilogram	= 2.2 Pounds		
1 Pound	= 16 Ounces		
1 Pound	= 453.6 Grams		
1 Pound	= 7000 Grains		
1 Ounce	= 28.35 Grams		
	Length		
1 Centimeter	= 10 Millimeters		
1 Inch	= 2.54 Centimeters		
1 Inch	= 1000 Mils		
1 Foot	= 30.48 Centimeters		
1 Yard	= 91.44 Centimeters		
1 Mile	= 5280 Feet		

## **Approximate Number of Free-Fall Drops per** milliliter from Standard Packaging Area = $\pi r^2$ or $\pi D^2 \div 4$ Circumference = $\pi D$ or $2\pi r$ r = radiusD = diameter T = 2 1/1 Surface = $4\pi r^2$ or $\pi D^2$ Volume = $D^3 \times 0.5236$ Sphere Volume= $= \pi r^2 h$ h = height Cylinder Area = $L \times h$ h L = length Rectangle or Square Volume = $L \times W \times h$ h W = widthBox



Conversions
(°C x 1.8) +32 = °F
kV/mm x 25.4 = V/mil
mm x 0.039 = inches
mPas = cP
N/mm² x 145 = psi
N x 0.225 = lbs
N/mm x 5.78 = lbs/ in
To calculate the volume of a bead
1 Cubic centimeter = 16.38706 Milliliter If the dimensions are in inches then: r x r x 3.14 x 16.38706
Volume in cu/inch
Gallons =231
1 Gallon = 231 Cubic inches

Approximate Viscosities of Common Materials (At Room Temperature - 70°F)			
Material	Viscosity in Centipoise		
Water	1 cps		
Milk	3 cps		
SAE 10 Motor Oil	85-140 cps		
SAE 20 Motor Oil	140-420 cps		
SAE 30 Motor Oil	420-650 cps		
SAE 40 Motor Oil	650-900 cps		
Castrol Oil	1,000 cps		
Karo Syrup	5,000 cps		
Honey	10,000 cps		
Chocolate Syrup	25,000 cps		
Ketchup	50,000 cps		
Mustard	70,000 cps		
Sour Cream	100,000 cps		
Peanut Butter	250,000 cps		
Shortening	1,200,000 cps		



The suggestions and data in this design guide 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.

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#### Dispensing Equipment

## Custom Automation Solutions

Hernon® also offers a wide range of solutions from custom turnkey assembly workstations to simple tabletop dispensers. Hernon's complete assembly workstation can handle component feeding, adhesive/ sealant application, curing, and assembly. Your unique assembly requirements will be addressed by a team of engineers from concept to on site setup and training.

#### **Autosealers**

Our Autosealer family of dispensing units provides devices for pipe thread sealing and even ammunition sealing. See our website for information about our Autosealer 2600 for pipe thread sealing using our Dripstop® family of anaerobic curing pipe thread sealants or similar products in the industry. Additionally, our Autosealer 5500 and 5300 ammunition sealers are capable of sealing numerous calibers of both pistol or rifle rounds in extremely high-volume production environments.



## **Single Source Responsibility**

HERNON® Manufacturing, Inc. has a philosophy that differs from other adhesive and sealant suppliers. HERNON® believes in offering an assembly solution versus just selling an adhesive or sealant. We call it single source responsibility. Our equipment engineers work closely with our chemists to design systems that work effectively together. Many times problems in production environments are blamed back-and-forth between the adhesive/sealant supplier and the dispenser provider. Single source responsibility eliminates this finger pointing by providing a holistic approach to your assembly situation.

#### **Autobonders**

Our Autobonder family of off-the-shelf dispensing equipment provides easy to use bench-top devices to apply low to medium viscosity, single component liquid adhesives and sealants. They can be as basic as a hand-held 30cc syringe or a precise dispense valve mounted on a variable height stand with products sourced from a pressure reservoir. Both systems are controlled by a PLC, propelled by an external air supply actuated by a foot switch. We also offer two models of Autobonders that dispense two component products with a fixed 1:1 ratio or an infinite range of variable dispensing ratios.



#### **RotoCoaters**

A line of dispensers designed to apply liquids inside bore holes and cylindrical components.



## Replacement Parts and Components

Hernon® also offers components such as pressure reservoirs, dispensing valves, feed line tubing, and much more. Each is built of the highest quality materials and designed for long service cycles.

#### Sureshot® Valves

This varied line of dispensing valves includes pneumatic timed valves with snuff back and server driven displacement pumps.



#### Reservoirs

These pressure reservoirs are designed for adhesives and sealants applications.



#### **Warranty and Repair**

Hernon® backs your purchase with a warranty and available support team. If your dispensing system ever needs repairs you can send it to our facility or we will come to your facility.

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