Pecora® 830HDS

High Design Strength Structural Silicone Glazing and Weatherproofing Sealant

PECORA CORPORATION®

SPECIFICATION DATA SHEET

BASIC USES

Pecora 830HDS has been specifically designed for:

- Structural glazing applications of glass, metal, and plastic that require a maximum 30psi design strength. It may also be used as a weatherseal in structural glazing applications.
- Non-structural glazing applications including cap, toe, and heel beads and as a weatherseal in glass-to-glass butt joint glazing.
- Sealing expansion and control joints in precast concrete panels, metal curtain walls, and natural stone.
- Adhering stiffeners to building panels.
- Use in unitized curtain wall systems.
- Security glazing and impact resistant window systems.
- Repair and replacement of failed structural glazing sealant.
- Tamper resistant security sealant applications.

MANUFACTURER

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PRODUCT DESCRIPTION

Pecora 830HDS is a high design strength, single component, moisture cure, neutral curing, high modulus, 100% silicone sealant formulated for use in structural glazing applications that require a maximum 30psi design strength. Pecora 830HDS exhibits an increased tensile and tear strength to meet the demands of modern high rise curtainwall systems. With a dynamic movement capability of +/-50%, the 830HDS is also approved for use as a weatherproofing sealant is a variety of glazing and non-structural applications.

Pecora 830HDS exhibits a high Shore A hardness and is acceptable for use in secure facilities or areas requiring a tamper-resistant security sealant such as correctional institutions, detention centers, or high-security commercial settings.

Advantages:

- Excellent unprimed adhesion to most surfaces including glass, reflective glass, anodized aluminum, plastics, and fluoropolymer-based paints.
- High design strength, max 30psi
- Long open time for ease of application and tooling.
- Fast through-cure after initial set.
- Compatible with most laminated glass units and acrylic glazing sheets.
- Easily applied (gun-able) at all working temperatures.
- Will not corrode building components.
- Mild odor.
- Non-staining. Suitable for use on natural stones such as limestone, granite, and marble.

Limitations: Pecora 830HDS should not be used in these applications or conditions:

- To seal polycarbonate substates. Pecora recommends the Pecora 557 Silicone Sealant for these applications.
- To seal exterior insulation finish systems (EIFS).
- To seal horizontal joints in decks, walks, driveways, etc. subject to abrasion.
- To seal marine joints at or below the waterline.
- In totally confined or air-free spaces.
- In designs that require painting after application of sealant.
- On surfaces with special protective coatings without prior consultation with Technical Services department.

PACKAGING

- 20 fl. oz. (592 ml) sausages

Special Order:

- 10.1 fl. oz. (300 ml) plastic cartridges
- 10 fl oz. (295mL) sausages
- 2-gallon (7.57 L) pails
- 5-gallon (18.9 liter) pails
- 50-gallon (189 liter) drums

COLOR

- Black
- Custom colors subject to approval (30-gallon minimum)

Table 1: TYPICAL UNCURED PROPERTIES (AT 77F/50%R.H.)

Test Property	Value	Test Procedure
Flow, Sag, Slump	nil	ASTM C639
Tool Time, minutes	20-25	Pecora Corporation
Tack Free Time, hours	1 - 2	ASTM C679
Curing Time, days	7 – 14	Pecora Corporation
Full Adhesion, days	7 – 14	Pecora Corporation
VOC Content, g/L	87	ASTM D3960

Table 2: TYPICAL CURED PROPERTIES (AFTER 7 DAYS CURED AT 77F/50%R.H.)

Test Property	Value	Test Procedure
Hardness, Shore A	40 +/-5	ASTM D2240
Ultimate Elongation, %	800	ASTM D412
Modulus @ 100% Elongation, psi	63	ASTM D412
Ultimate Tensile Strength, psi	578	ASTM D412
Tear Strength, ppi	172	ASTM D624
Peel Strength, pli	Aluminum, 25 Glass, 25 Concrete, 25	ASTM C794
Ultimate Elongation, %	485	ASTM C1135
Modulus @ 100% Elongation, psi	77	ASTM C1135
Ultimate Tensile Strength, psi	203	ASTM C1135
Dynamic Movement Capability, %	+/-50	ASTM C719
Ozone/UV Resistance	Excellent	ASTM D1149
Staining, color change	None	ASTM C510
Staining of Porous Substrates	Pass	ASTM C1248
Service Temperature, °F	-60 to 300	Pecora Corporation

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- In contact with building materials that bleed oils, plasticizers or solvents, i.e. impregnated wood, oil-based caulks, green or vulcanized rubber gaskets or tapes.
- When surface temperatures during application exceed 140°F (60°C).
- To damp or frost covered surfaces.

TECHNICAL DATA

Applicable Standards: Pecora 830HDS meets or exceeds the following: TT-S-00230C, Class A, ASTM C920, Class 50, Type S, Grade NS, Use G, A, M, and O; ASTM C1184, ASTM C1248, and is USDA approved for use in meat and poultry plants. Missile Impact Miami-Dade PA 201 and SSID 12-99, CAN/CGSB-19.13-M87.

INSTALLATION

Structural Sealant Joint Design: The design professional is responsible for the determination of the structural sealant joint dimension based on design wind loads, glass sizes and anticipated thermal movement. Pecora Corporation must verify and approve joint dimensions on an individual project basis.

Basic Design Parameters Include:

- Structural sealant thickness must not be less than 1/4" (6.4 mm).
- Structural bite must not be less than structural sealant thickness.
- Structural bite must be determined using the following formula:

$$B = \frac{(W.L.)(1/2)(S)}{12x30}$$

S = Short span of glass, feet
W.L. = Wind load, PSF Constant = 12
Design Stress, psi max. = 30
B = Bite

- The structural sealant joint must be able to be filled using standard caulking practices.
- The structural joint must not move during cure. These are preliminary guidelines only, consistent with common industry practice. See Figure 1.

Weatherseal Joint Designs: Proper sealant dimensions are critical when installing elastomeric joint sealants. Generally, a sealant width-to-depth ratio of 2:1 is recommended. Dynamic joint conditions will require a minimum ¼" width and 3⁄16" depth to maintain the sealant's movement capabilities. For joints greater than 1", consult Technical Services. Open-cell polyurethane foam or closed-cell polyethylene are the recommended back up materials for most joints; use polyethylene tape for joints too shallow to allow backer rod. These materials permit application of a thin bead and act as bond breakers, which allow the silicone sealant to stretch freely with the joint. Use a size that will compress 25% when inserted into the joint. When using closed cell polyethylene foam, extra care must be taken not to puncture the rod which can cause outgassing and bubbling/blistering in the sealant.

The width of building expansion joints varies because of seasonal and daily changes in temperature. If Pecora 830HDS silicone building sealant cannot be installed when the design width is approximately halfway between the dimensional extremes, the design joint must be at least twice the total anticipated joint movement. Good architectural practice calls for joint design of four times the anticipated movement due to construction tolerances and material variations.

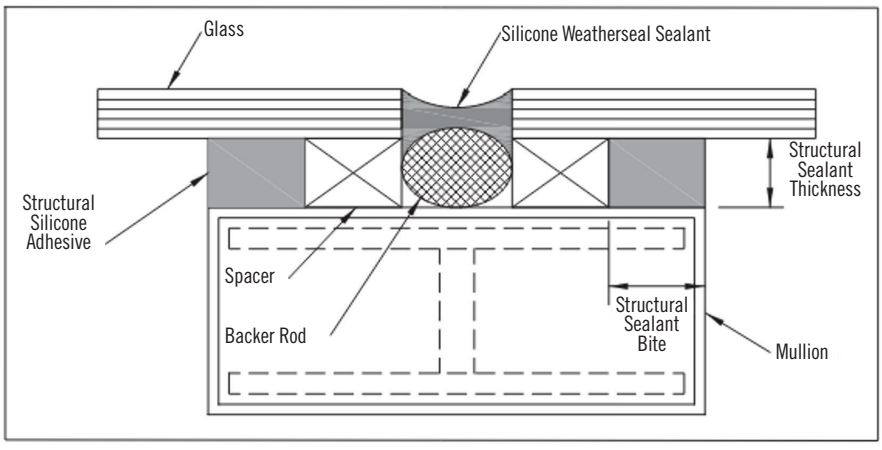
Glazing rabbets and joints should be designed to allow installation and retention of the bond-breaking, back-up material during the installation and curing of Pecora 830HDS silicone building sealant. Lap shear joints should have a bead width which is equal to or greater than the total anticipated movement. Small curtainwall panels and lites should allow a minimum width of 1⁄8" (3.2 mm) for the sealant bead. Larger panels and lites which expect a great deal of movement, should allow a minimum width of 3⁄16" to ¼" for the sealant bead. Glazing of plastic lites and sealing of wall panels fabricated of plastics require larger than usual joint dimensions due to the greater movement potential caused by plastic's higher coefficients of thermal expansion.

Surface Preparation: No sealant will maintain long-term adhesion to any substrate if the surface is not prepared and cleaned properly before the sealant is applied. Thoroughly clean all joints and glazing areas by removing all foreign matter and contaminants such as oil, dust, grease, frost, water, surface dirt, old sealants or glazing compounds and any protective coating. Porous substrates and precast concrete panels using form release agents other than polyethylene film should be cleaned by grinding, saw cutting, blast cleaning (water or sand), mechanical abrading or a combination of these methods which will provide a sound, clean and dry surface for sealant application. Dust, loose particles, etc. should be blown out of joints with oil-free compressed air or vacuum cleaned by a solvent procedure or by mechanical means. Soap or detergent and water cleaning treatments are not recommended. Cleaning of all surfaces should be done just prior to the sealant application.

NOTE: Structural glazing requires even greater attention to surface cleaning and preparation. Pecora Technical Bulletin #56 on structural glazing addresses these procedures in much greater detail.

Priming: Pecora 830HDS does not require priming on most common substrates. Unusual building materials, special coatings and treatments of

FIGURE 1. TYPICAL SSG DETAIL



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surfaces may impair optimum adhesion. Due to the unpredictable nature of these surfaces, a sealant adhesion test is recommended to determine the adhesion of 830HDS silicone with or without a primer. Where primer is indicated, P-150 primer should be used on porous substrates and P-120 on metal. All precast substrates require priming with P-225 primer.

NOTE: Priming is never a substitute for proper surface cleaning and preparation. To assist in this determination, Pecora has a list of peel adhesion test results on a wide variety of substrates and building materials which is available on request from Technical Services. Pecora routinely conducts project specific adhesion and compatibility testing in its laboratory on representative substrate samples. Consult Technical Services for details.

Masking: Areas adjacent to joints should be masked to assure neat sealant line. Do not allow tape to touch clean surfaces to which sealant is to adhere.

Application: Install back-up fillers, setting blocks, spacer shims and tapes as specified. Apply 830HDS silicone in one continuous operation. Tool sealant at once after application before skin forms. Tool concave with a firm continuous stroke to assure complete sealant contact with the substrate and present a neat appearance. Remove masking tape.

In glazing applications be sure that the sealant is tooled at the sills so that precipitation and cleaning solutions will not pool.

For cold temperature applications of Pecora 830HDS refer to Pecora Cold Temperature Application Technical Bulletin #65.

Clean Up: Immediately remove all excess sealant and smears adjacent to joints with mineral spirits. Also use mineral spirits for removing uncured sealant from equipment. Remove cured sealant by scraping, sandpapering, etc. (Caution: mineral spirits is flammable and toxic. Observe manufacturer's precautions.)

Tool Time: 15-25 minutes at 77°F, 50% relative humidity. Higher temperatures and humidity will shorten this time.

Shelf Life: Pecora 830HDS Silicone has a shelf life of twelve months from date of manufacture when stored in unopened cartridges or sausages at temperatures lower than 80° F (27° C), or nine months in tightly sealed bulk packages.

Precautions: Use with adequate ventilation or wear an appropriate NIOSH approved respirator. Contact with uncured sealant or with vapors generated during curing may cause respiratory tract irritation. Contact with skin or eyes may cause irritation or allergic reaction. Avoid contact and wash thoroughly after handling. May be harmful if swallowed. Refer to Safety Data Sheet (SDS) for more information.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF THE REACH OF CHILDREN.

AVAILABILITY AND COST

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest representative, call the number below or visit our website at www.pecora.com.

WARRANTY

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of any and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages.

MAINTENANCE

If the sealant is damaged and the bond is intact, cut out the damaged area and recaulk. No primer is necessary. If the bond has been affected, remove the sealant, clean and prepare the joint in accordance with instructions under "INSTALLATION".

TECHNICAL SERVICES

Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct jobsite inspections. For further information and assistance, please call our Technical Services department at 215-723-6051 or 800-523-6688.

FILING SYSTEMS

CSI MasterFormat Designations:

- 07 92 00: Joint Sealants
- 08 85 00: Glazing Accessories

DON'T STAIN YOUR REPUTATION™ - Pecora NST Non-Staining Technology

For most recent updates, please visit our website at www.pecora.com