Knowledge for Creating and Sustaining the Built Environment

SUBSTITUTION REQUEST

(After the Bidding/Negotiating Phase)

Project: _____ Substitution Request Number: (For Architect to fill in)

_____ From: _____

To: _____ Date: _____

_____ A/E Project Number: _____

Re: _____ Contract For: _____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: CSS(2FRV)-Series Fire Rated Foam Seal

Manufacturer: Erie Metal Specialties, Inc. Phone: 716-542-3991

Address: 13311 Main Road, Akron, NY 14001

Trade Name: CSS(2FRV) Model No.: CSS(2FRV)

Installer: _____ Phone: _____

Address: _____

History: ☐ New product ☐ 1-4 years old ☐ 5-10 years old ☑ More than 10 years old

Differences between proposed substitution and specified product:
None.

☐ Point-by-point comparative data attached — REQUIRED BY A/E

Reason for not providing specified item: _____

Similar Installation:

Project: See attached Architect: _____

Address: _____ Owner: _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work: ☑ No ☐ Yes; explain _____

_____

Savings to Owner for accepting substitution: TBD ($ _____).

Proposed substitution changes Contract Time: ☑ No ☐ Yes [Add] [Deduct] _____ days.

Supporting Data Attached: ☑ Drawings ☑ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

Form Version: June 2004
CSI Form 13.1A

SUBSTITUTION REQUEST

(After the Bidding/Negotiating Phase — Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

_____

Telephone: _____

Attachments: ☑

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐ Other:

Form Version: June 2004
CSI Form 13.1A

CSS (2FR)-V

Fire Rated Systems

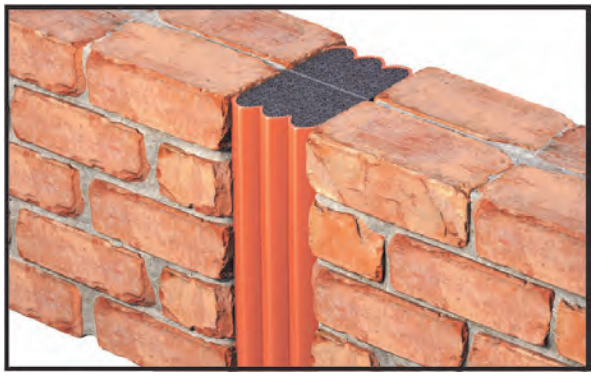
Description

The CSS(FR2)-V (vertical application) seal features a waterproof silicone face on each side of a fire-retardant impregnated foam sealant, without the need for an additional set of intumescent bellows. The main function of the silicone face is to enhance the waterproofing nature of the sealant and provide an aesthetically pleasing, colored finish. The CSS(FR2)-V provides a factory controlled, watertight, clean handling, UV stable, sound attenuating, energy efficient and fire-rated joint seal in a single, unified installation process. It is designed to be used alone, but can be used behind any other expansion joint cover, plate or filler where joint depth allows.

Depending on the application, CSS(FR2)-V can be supplied uncoated or coated on one or both sides. Uncoated material is to be used in enclosed applications only.

Available sizes range from 1/2" (12mm) to 6" (152.4mm), with sizes 1" and greater supplied in 1/4" increments. Depth of the seal is 2", 3" or 4" depending on listing. Listings with a 2" depth have a fire rating of 1 or 2 hours. Visit www.ul.com for more information.

CSS(FR2)-V Silicone Faces: Dow Corning® 790 custom colors are available. Pick Resistant Urethane: Tru White, Limestone



Testing and Standards

- CSS(FR2)-V has been tested and certified under UL 2079. It meets the requirements of ASTM E1966, ASTM E119 and ASTM E1399. UL 2079, like ASTM E119, was developed to encompass the fire testing of ASTM E119 and movement cycling regime of ASTM E1399.

- It is also tested to ASTM E283, 330, 331 and 547 to confirm its sealing capabilities through its entire stated movement range. ASTM E90 testing has been completed to verify the sound attenuating properties of the system.

Features and Benefits

- Watertight: Installed with tensionless bellows, which when installed with an optional silicone bead on the weather face, maintains a watertight seal.
- Pick Resistant: Pick resistant urethane faces are used in applications where vandalism is a concern.
- Fire-Rated: The fire-retardant-impregnated foam, when properly installed, provides a 2 hour fire rating in accordance with UL-2079.
- Sound Attenuation: Minimizes sound transfer which can occur at expansion joints and wide openings.
- Non-Invasive Anchoring: There is no drilling or modification to the substrate required. This includes embedded pins, anchors, screws, bolts, tracks, rails, flanges or cover plates. The system is secured to the joint substrate by means of the internal recovery force of the foam, the epoxy adhesive, and the optional injected sealant beads at the joint face.
- Movement Capability: +/- 25% or +/- 50% depending on UL listing.
- Joint –Size Variation: Additional product features include controlling uniform bellows appearance and the ability to handle variations in joint size through incremental sizing.
- Factory Fabricated Transitions: Continuity of seal through changes in plane and direction is essential to system performance.

**Available in 0.25" increments up to 6" wide

PRODUCT	MIN. WIDTH IN (MM)	MID-RANGE** IN (MM)	MAX. WIDTH IN (MM)	TOTAL MOVEMENT IN (MM)
CSS(2FRV)-050	0.25" (6.4)	0.50" (12.7)	0.75" (19.1)	0.50" (12.7)
CSS(2FRV)-100	0.50" (12.7)	1.00" (25.4)	1.50" (38.1)	1.00" (25.4)
CSS(2FRV)-150	0.75" (19.1)	1.50" (38.1)	2.25" (57.2)	1.50" (38.1)
CSS(2FRV)-200	1.00" (25.4)	2.00" (50.8)	3.00" (76.2)	2.00" (50.8)
CSS(2FRV)-250	1.25" (31.8)	2.50" (63.5)	3.75" (95.3)	2.50" (63.5)
CSS(2FRV)-300	1.50" (38.1)	3.00" (76.2)	4.50" (114.3)	3.00" (76.2)
CSS(2FRV)-350	1.75" (44.5)	3.50" (88.9)	5.25" (133.4)	3.50" (88.9)
CSS(2FRV)-400	2.00" (50.8)	4.00" (101.6)	6.00" (152.4)	4.00" (101.6)
CSS(2FRV)-450	2.25" (57.2)	4.50" (114.3)	6.25" (158.8)	4.50" (114.3)

Dow Corning® 790 Silicone Building Sealant

Sealant Color Selection Guide

790

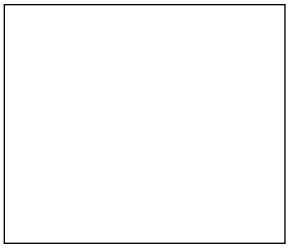
STANDARD COLORS

- Please check the availability of the different colors.
- Custom colors are available on request.
- Please refer to product literature for application and technical information.

The colors shown are a close approximation of the actual sealant colors. However, for best results, submit color samples or swatches to our lab for color testing and matching.


Precast White


Limestone


White


Natural Stone


Gray


Black


Bronze


Sandstone


Adobe Tan


Dusty Rose


Rustic Brick


Blue Spruce


Charcoal

DOW CORNING

High Performance Building Solutions

Form No. 62-1734-01 AGP13026

PECORA CORPORATION®
Architectural Weatherproofing Products
U.S.A. • since 1862

STANDARD SILICONE COLORS

Custom colors available upon request

Non-standard colors
Minimum order quantity per color:
30 gallons for cartridges and pails
30 gallons for sausages

This guide offers a representation of color; when matching is critical, a cured or applied color sample is highly recommended.

Pecora Corporation
165 Wambold Rd
Harleysville, PA 19438
Phone: (215) 723-6051
(800) 523-6688
Fax: (215) 721-0286
www.pecora.com
An ISO-9001:2000 certified company.

ARCHITECTURAL SILICONE SEALANTS

864NST NON-STAINING TECHNOLOGY™

Tru-White	345
Precast	113
Beige	595
Limestone	039
Aluminum Stone	515
Classic Bronze	046
Black	012
Hartford Green	196

890NST NON-STAINING TECHNOLOGY™

Tru-White	345
Precast	113
Beige	595
Limestone	039
Anodized Aluminum	804
Aluminum Stone	515
Natural Stone	565
Sandstone	951
Charcoal Gray	950
Classic Bronze	046
Black	012
Hartford Green	196
Red Rock	955

895NST NON-STAINING TECHNOLOGY™

Translucent	610
Tru-White	345
Anodized Aluminum	804
Aluminum Stone	515
Classic Bronze	046
Black	012

PECORA CORPORATION
Architectural Weatherproofing Products
U.S.A. • since 1862

ARCHITECTURAL SILICONE SEALANTS

STANDARD SILICONE COLORS

Custom colors available upon request

Non-standard colors
Minimum order quantity per color:
30 gallons for cartridges and pails

310 SL

Limestone	039

311 NS

Limestone	039

860

Translucent	610
Tru-White	345
Metallic Aluminum	027
Black	012

898NST
NON-STAINING TECHNOLOGY™

Translucent	610
Tru-White	345
Almond	792
Black	012

COVERAGE CHART (231 cu. in./gal.)

Joint Depth (in.) x Width (in.)	Linear feet per Gal.	Joint Depth (in.) x Width (in.)	Linear feet per Gal.
1/8 x 1/8	1232.0	3/8 x 7/8	58.7
1/8 x 1/4	616.0	3/8 x 1	51.3
1/8 x 3/8	410.7		
1/8 x 1/2	308.0	1/2 x 1/2	77.0
1/8 x 5/8	246.4	1/2 x 5/8	61.6
1/8 x 3/4	205.3	1/2 x 3/4	51.3
1/8 x 7/8	176.0	1/2 x 7/8	44.0
1/8 x 1	154.0	1/2 x 1	38.5
1/4 x 1/4	308.0	5/8 x 5/8	49.3
1/4 x 3/8	205.0	5/8 x 3/4	41.1
1/4 x 1/2	154.0	5/8 x 7/8	35.2
1/4 x 5/8	123.2	5/8 x 1	30.8
1/4 x 3/4	102.7		
1/4 x 7/8	88.0	3/4 x 3/4	34.2
1/4 x 1	77.0	3/4 x 7/8	29.3
		3/4 x 1	25.7
3/8 x 3/8	136.9		
3/8 x 1/2	102.7	7/8 x 7/8	25.1
3/8 x 5/8	82.1	7/8 x 1	22.0
3/8 x 3/4	68.4	1 x 1	19.3

Joint Depth (in.) x Width (in.) x Length (in.) x 0.053 = gallons required

This guide offers a representation of color; when matching is critical, a cured or applied color sample is highly recommended.

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165 Wambold Rd
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An ISO-9001:2000 certified company.

PEC184 10/14

Spectrem® 1
Standard Colors

Colors shown are approximate and may not reflect the shade precisely. Different lighting conditions can influence color appearance, for truer color please view in daylight. Colors are not stocked in all available package types. Minimum order quantities will apply for custom colors and alternative packaging. For more information, please contact Tremco Customer Service.

CSS(2FRV)-Series

INSTALLATION INSTRUCTIONS

Fire Rated Systems

Material Application

For use in **vertical joints.**

Recommended Tools

- Tape Measure
- Sharp Knife
- Miter Saw
- Painters & Duct Tape
- Clean Cloth
- Isopropyl Alcohol
- Caulking Tool
- Jiffy Mixer
- Wood Wedges
- 2 Empty Clean Containers
- Margin Trowel

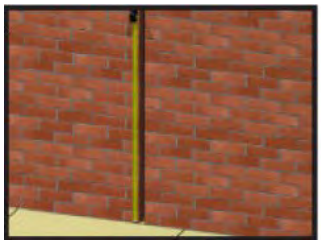
Material Sizing

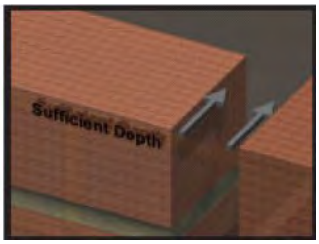
1. Check the material for appropriate length, width and depth.

2. Material sizing is based on the mean temperature field-measured joint widths. Supplied material should be pre-compressed to a size smaller than the intended opening.

3. Verify width of material supplied against the mean joint width. Joint depth must allow for the installed material to be recessed 1/8" - 1/4".

   WARNING: Do not remove outer shrink wrapping from the FR Expansion Joint stick until you have read and understand the full instructions for proper installation. Failure to follow these directions may degrade fire endurance performance or make the material unsuitable (expanding before installed) for installation.





NOTE: Allow sufficient depth for the material to be recessed 1/8"–¼" in the joint.

Preparation of Joint Substrate

Concrete:

- Verify that the joint is clean, sound and will provide an appropriate surface for the installation of the joint sealant. Verify that the joint is uniform and that any spalls are repaired using proper materials and methods to ensure maintenance of the fire-rated wall assembly. Joint faces must be parallel.

- Joints must have a depth greater than or equal to the full depth of the material supplied plus 1/2" (6mm).

- Confirm joint substrate is dry and ready for the epoxy adhesive.

Metal:

- Confirm that the metal is clean and ready for the epoxy adhesive. Solvent-wipe the substrate just prior to applying epoxy.

  IMPORTANT: Ensure that there is no rust or loose paint on metal substrates before the epoxy is applied.

EMS, Inc * 13311 Main Road, Akron, NY 14001 * 716-542-3991 * sales@eriemetal.com * www.eriemetal.com

Preparation of Joint Substrate

Gypsum (see detail in Appendix A)

- See UL for listed fire rated wall assemblies that yield the endurance rating equal to the installed FR expansion joint.
- For joints 3-1/4" and larger, use either 3/8" Hardiebacker® by James Hardie or PermaBase® Cement Board by National Gypsum Company, instead of 5/8" Gypsum Type X at joint face (depiced in solid gray in the detail in Appendix A).
- Adjust finish course of gypsum so it is flush with the cement board as shown.

Epoxy Preparation

****Use blue painter's tape or other suitable tape to protect the exposed joint face.****

1. Epoxy adhesive may be used in the >40°F (5°C) to 95°F (35°C) temperature range.
2. Mix part A and part B separately. Transfer the entire contents of Part B (hardener) into the contents of Part A (base).

   WARNING: Part B must always be added Part A, and mixed in a 1:1 ratio.

   3. Mix the material thoroughly with a low speed drill (300 rpm) and mixing paddle. Scrape the walls and bottom of the container to ensure uniform and complete mixing with no streaks.

   IMPORTANT: DO NOT thin the epoxy.

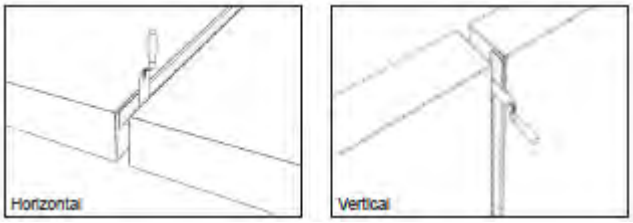
EPOXY TIPS:

1. The epoxy will not cure when the temperature is below 40°F.
2. For every +17°F the epoxy cures twice as fast.
3. For every -17°F the epoxy cures twice as slow.
4. Greater volume = less time to cure.
5. Smaller volume = more time to cure.
6. Mix only the required amount of the epoxy that will be used within 20-30 minutes to prevent the epoxy from curing prematurely.

Epoxy Application to Substrate

WARNING: Epoxy will harden more quickly when left in the pot. Apply mixed epoxy onto the joint face as soon as possible.

IMPORTANT: The epoxy must still be uncured and tacky when installing the FR Expansion Joint sealant into the joint.

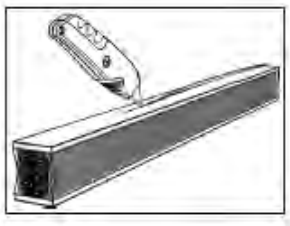


1. If the epoxy cures before installing the FR Expansion Joint, new epoxy can be reapplied within 2 hours.

2. After 2 hours, the substrate must be abraded to eliminate the amine blush that occurs during the final cure.

   IMPORTANT: While others are applying the epoxy to the joint faces, others must prepare the FR Expansion Joint. The foam should be kept under compression in the original packaging.

3. Cut the plastic packing by cutting on the hardboard and remove hardboard and inner release liner. DO NOT cut along the silicone face.



NOTE: If stick sizes larger than the standard 5' LF is ordered (XL marking after product name), do NOT cut shrink packaging completely off. Cut open 5' LF sections at a time and install material working your way down. This will prevent the foam from expanding past the joint opening size.

IMPORTANT: After cutting the shrink wrap, work quickly to avoid material expanding beyond a usable size.

Wipe Release Agent off Silicone Facing

(not required for uncoated materials– proceed to next step)

- Silicone facing may be coated in the factory with a release agent. Prior to installation, this agent must be wiped off in order for the finish bead to adhere along the edge of the FR Expansion Joint.

- To remove the agent, lightly, quickly and thoroughly wipe the cured silicone facing with a lint-free rag, dampened with water. Repeat cleansing for all FR Expansion Joints as they are installed.

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Material Installation

1. After verifying that the epoxy on the joint substrate has not cured, install the FR Expansion Joint into the gap, starting from the bottom/end.

2. Apply a bead of the UL Approved Sealant to the base of the FR Expansion Joint and smooth to an even 1/16" (2mm) thickness.

3. Apply the supplied silicone along the top end edge of the installed silicone bellows (see example 1 below).

4. Apply the supplied UL Approved Sealant as shown to the end of the installed FR Expansion Joint (see example 2 below).

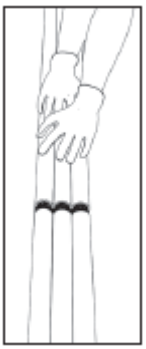
5. Flatten the supplied UL Approved Sealant on the end of the installed FR Expansion Joint to an even 1/16" (2mm) thickness (see example 3 below).

6. When the FR Expansion Joint material has expanded to a secure fit, it will support itself while the epoxy cures.

7. Starting from the bottom/end, insert the next FR Expansion Joint into the opening while securely pushing the two joint sections together to ensure there are no voids at the union joints. If a void is apparent, fill it with the supplied UL Approved Sealant.

   IMPORTANT: UL Approved Sealant must be applied to top, bottom and all terminations and splices. This should always be done while the FR Expansion Joint is installed in the joint opening.

Examples are shown outside of the joint substrate for clarity only



8. Work in one direction towards the previously installed length or end of joint, making sure not to stretch the material.

9. Insert the uncoated bottom end of the stick into the joint and line it up with the previously installed stick. Coat the top end of the next stick with the supplied UL Approved Sealant as explained above. Securely compress the two pieces together. Ensure there are no voids at joint unions.

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Material Installation

NOTE: In cold temperature installations, provide as much ambient heat as possible around installed FR Expansion Joint to accelerate recovery.

10. Remove excess silicone left on the surface or material substrate. Be sure not to fill in the valleys of the bellows as this will constrain movement.

11. Remove any excess epoxy from the face of material using a clean, dry rag.

12. Install a bead along the edge of the joint and tool the silicone firmly to bond with the substrates and cured silicone facing, and to ensure a proper bond and seamless appearance.

13. Where the FR Expansion Joint meets at butt joints, tool the excess silicone that squeezes out from the top and between the bellows.

IMPORTANT: Silicone left between the fold or valleys of the bellows may constrain its movement—using a utility knife or caulking tool, remove excess sealant and smooth excess into the bellows.

NOTE: Silicone sealant is ONLY applied to the weather side of the foam. No sealant required on the other side.

IMPORTANT: Any FR Expansion Joint that terminates with an exposed end and not terminating into another stick or structural termination should be coated on the exposed foam end using the UL Approved Sealant. This will ensure the FR Expansion Joint is properly terminated. Only coat the FR Expansion Joint termination after it is installed in the joint or by applying the UL Approved Sealant to the terminating substrate.

Fireproofing and UL Listing Information

Following these installation instructions will ensure that the FR Expansion Joint is installed as tested and meets UL 2079 standards. Failure to follow these installation instructions as described may result in the installed joint not complying with the UL Listing, as designed and tested, and therefore has potential life safety risks.

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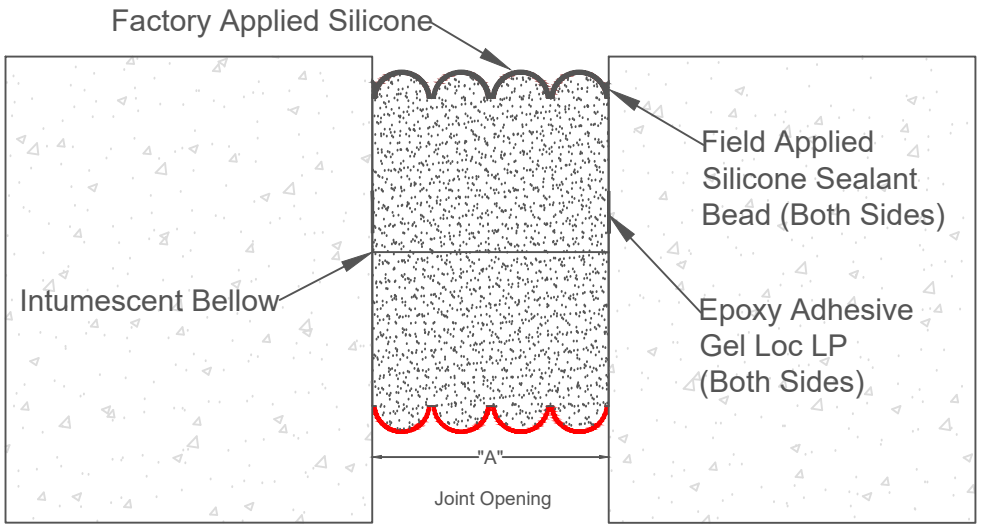

CSS(2FRV-50)-SERIES
Vertical Condition

* Sizes 1" and greater available in 0.25" increments and up to 6". Available in +/- 25% movement upon request. Contact EMS for additional information.

PRODUCT	"A" Min. Width IN (MM)	"A" Mid Range IN (MM)	"A" Max. Width IN (MM)	Total Movement IN (MM)
CSS(2FRV-50)-050	0.25" (6.4)	0.50" (12.7)	0.75" (19.1)	0.50" (12.7)
CSS(2FRV-50)-100	0.50" (12.7)	1.00" (25.4)	1.50" (38.1)	1.00" (25.4)
CSS(2FRV-50)-150	0.75" (19.1)	1.50" (38.1)	2.25" (57.2)	1.50" (38.1)
CSS(2FRV-50)-200	1.00" (25.4)	2.00" (50.8)	3.00" (76.2)	2.00" (50.8)
CSS(2FRV-50)-250	1.25" (31.8)	2.50" (63.5)	3.75" (95.3)	2.50" (63.5)
CSS(2FRV-50)-300	1.50" (38.1)	3.00" (76.2)	4.50" (114.3)	3.00" (76.2)

SEAL COLOR:
DOW 790:_____
PECORA 890:_____
SPECTRUM 1:_____

WALL-WALL/CORNER APPLICATION
MOVEMENT: +/- 50% NOMINAL JOINT WIDTH
STOCK LENGTHS: 6'-6"
FIRE RATING: 2 HOUR

NO.	Description	Date	By

ERIE METAL SPECIALTIES
13311 Main Road * Akron * New York * 14001
Phone: (716) 542-3991 * Fax: (716) 542-3996 * E-mail: sales@eriemetal.com

PROJECT: N/A

TITLE: CSS(2FRV-50)-Series Vertical Condition

Detailed by: BAF	Date: 07/20/16
Checked by: SLP	Date: 07/22/16
Scale: NTS	EMS Job #: N/A
Sheet No.: 1 of 1	Drawing No.: CSS(FR)-1

MATERIAL SAFETY DATA SHEET

SECTION I – MATERIAL IDENTIFICATION

MATERIAL NAME: DOW CORNING 790 SILICONE BUILDING SEALANT MSDS # 02134292

MANUFACTURER: Erie Metal Specialties, Inc.
13311 Main Road
Akron, NY 14001

SUPPLIER: Erie Metal Specialties, Inc.
13311 Main Road
Akron, NY 14001

EMERGENCY PHONE: (716) 542-3991
CHEM-TREC: (800) 424-9300

SECTION II – HAZARDOUS INGREDIENTS

Acute Effects
Eye: Direct contact may cause moderate irritation.
Skin: May cause mild irritation.
Inhalation: Irritates respiratory passages very slightly.
Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects
Skin: Repeated or prolonged exposure may irritate seriously.
Inhalation: Overexposure by inhalation may injure the following organ(s): Testes. Liver. Pancreas. Spleen.
Oral: Overexposure by ingestion may injure the following organ(s): Pancreas. Liver. Spleen.Testes.

Signs and Symptoms of Overexposure
No known applicable information.

Medical Conditions Aggravated by Exposure
No known applicable information.
The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information

SECTION III – COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Wt %	Component Name
50791-87-2	1.0 - 5.0	Methylvinyl bis(n-methylacetamido) silane
68952-53-4	1.0 - 5.0	Dimethyl, methylethyl-N-hydroxyethamine siloxane

The above components are hazardous as defined in 29 CFR 1910.1200

SECTION IV – FIRST AID MEASURES

Eye: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 - 20 minutes while holding the eyelid(s) open. If contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately obtain medical attention.

MATERIAL SAFETY DATA SHEET

Skin: As quickly as possible remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Immediately flush with lukewarm gently flowing water for 15 minutes. Completely decontaminate clothing, shoes and leather goods before reuse or discard. Obtain medical attention.

Inhalation: Remove from the source of contamination or move to fresh air. If irritation persists, obtain medical advice.

Oral: If irritation or discomfort occur, obtain medical advice.

Notes to Physician: Treat according to person's condition and specifics of exposure.

SECTION V - FIRE & EXPLOSION HAZARD DATA

Flash Point: Not applicable.
Autoignition Temperature: Not determined.
Flammability Limits in Air: Not determined.
Extinguishing Media: On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO_2), dry chemical or water spray. Water can be used to cool fire exposed containers.
Fire Fighting Measures: Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Unusual Fire Hazards: None.

SECTION VI – ACCIDENTAL RELEASE MEASURES:

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See Section 8 for Personal Protective Equipment for Spills. Call (716) 542-3991, if additional information is required.

SECTION VII – HANDLING AND STORAGE

Use with adequate ventilation. Product evolves N-methyl acetamide when exposed to water or humid air. Provide ventilation during use to control N-methyl acetamide within exposure guidelines or use respiratory protection. Avoid eye contact. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally.

Keep container closed and store away from water or moisture.

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SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

Component Exposure Limits

CAS Number	Component Name	Exposure Limits
50791-87-2	Methylvinyl bis(n-methylacetamido) silane	See N-methyl acetamide comments.

N-methyl acetamide is formed on contact with water or humid air. Provide adequate ventilation to control exposures to within Dow Corning recommended exposure guidelines of 1 ppm (TWA) and 5 ppm (Excursion Limit).

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.
Suitable Gloves:	Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.
Inhalation:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes:	Use full face respirator.
Skin:	Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally. Use reasonable care.
Comments:	Product evolves N-methyl acetamide when exposed to water or humid air. Provide ventilation during use to control N-methyl acetamide within exposure guidelines or use respiratory protection.

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Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Paste
Color:	Brown
Odor:	Some odor
Specific Gravity @ 25°C:	1.462
Viscosity:	Not determined.
Freezing/Melting Point:	Not determined.
Boiling Point:	Not determined.
Vapor Pressure @ 25°C:	Not determined.
Vapor Density:	Not determined.
Solubility in Water:	Not determined.
pH:	Not determined.
Volatile Content:	Not determined.
Flash Point:	Not applicable.
Autoignition Temperature:	Not determined.
Flammability Limits in Air:	Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact EMS before writing specifications.

SECTION X – STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Hazardous Polymerization:	Hazardous polymerization will not occur.
Conditions to Avoid:	None.
Materials to Avoid:	Oxidizing material can cause a reaction. Water, moisture, or humid air can cause hazardous vapors to form as described in Section 8.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Metal oxides. Formaldehyde. Silicon dioxide. Nitrogen oxides. Quartz

SECTION XI – TOXICOLOGICAL INFORMATION

Contains Bis(N-methyl acetamido)silane which liberates N-methylacetamide (NMA) during cure. NMA has been shown to cause birth defects in laboratory animals

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Special Hazard Information on Components

No known applicable information

SECTION XII – ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

	Ecotoxicity Classification Criteria		
Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.
This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

SECTION XIII – DISPOSAL CONSIDERATIONS:

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No
State or local laws may impose additional regulatory requirements regarding disposal. Call (716) 542-3991, if additional information is required.

SECTION XIV – TRANSPORT INFORMATION:

DOT Road Shipment Information (49 CFR 172.101): Not subject to DOT.

Ocean Shipment (IMDG): Not subject to IMDG code

Air Shipment (IATA): Not subject to IATA regulations

Call (716) 542-3991, if additional information is required.

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SECTION XV – REGULATORY INFORMATION:

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355): None

Section 304 CERCLA Hazardous Substances (40 CFR 302):

CAS Number	Wt %	Component Name
68-12-2	0.69	Dimethylformamide
1330-20-7	0.14	Xylene

Section 311/312 Hazard Class (40 CFR 370):

Acute:	Yes
Chronic:	Yes
Fire:	No
Pressure:	No
Reactive:	No

Section 313 Toxic Chemicals (40 CFR 372):

CAS Number	Wt %	Component Name
68-12-2	0.69	Dimethylformamide

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold

SECTION XVI – Other Information:

Prepared by: Erie Metal Specialties, Inc.

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

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