



SUBSTITUTION REQUEST

(After the Bidding/Negotiating Phase)

Project: _____ Substitution Request Number: _____

 From: _____
 To: _____ Date: _____

 A/E Project Number: _____
 Re: _____ Contract For: _____

Specification Title: _____ Description: _____
 Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
 Manufacturer: _____ Phone: _____
 Address: _____
 Trade Name: _____ Model No.: _____
 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: _____

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

Reason for not providing specified item: _____

Similar Installation:

Project: _____ Architect: _____
 Address: _____ Owner: _____
 _____ Date Installed: _____

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

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

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

Supporting Data Attached: Drawings Product Data Samples Tests Reports _____

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:

FG-Series (Flexible Gutter)

Description

The Flexible Gutter (FG) system incorporates a 60-mil. neoprene sheet, which is securely anchored to the concrete structure under an expansion joint system. The flexible neoprene sheeting allows for easy installation before or after the installation of an expansion joint system. The system will adapt to pre-cast concrete deck surfaces or cast in place structures. Once installed, this system provides a watertight seal, while flexing in response to fluctuations in joint width.

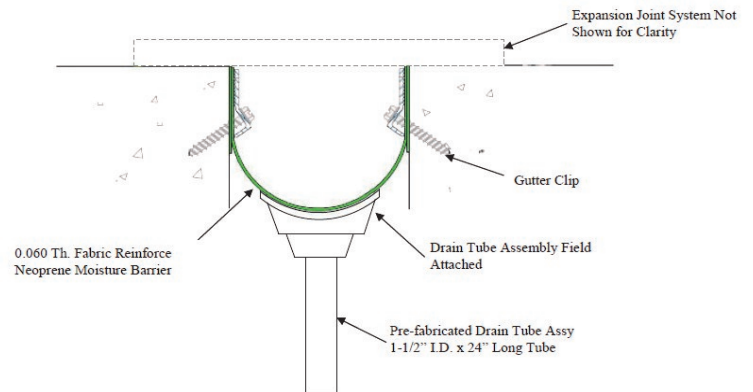
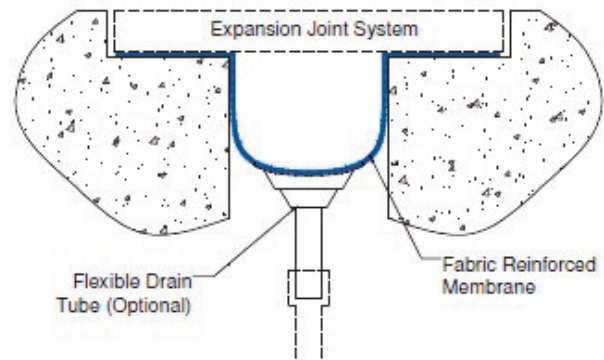
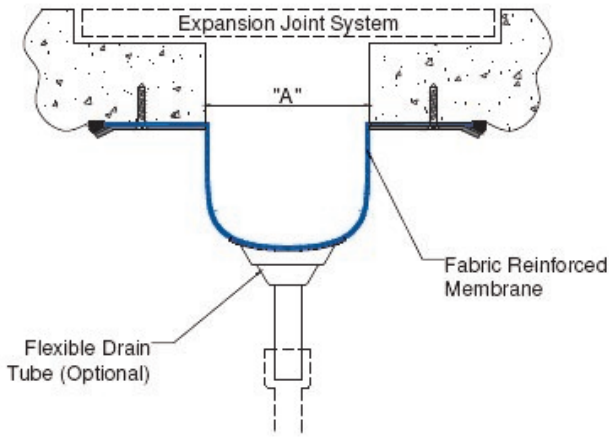
The membrane can be attached to the underside of the joint location using metal retainer bars, or it can be attached directly to the side walls of the expansion joint opening for larger expansion joints. The rolls of material are available in 50 LF lengths and may be spliced to accommodate longer runs.

LEED Credits - One (1) LEED credit depending on the location of the project.

Features and Benefits

Ideal for Rehabilitation Work – Quickly put into place under expansion joint locations to direct water away from vehicles and occupied space below. This allows the owner to effect repairs while the flexible gutter system keeps the area below dry.

Remains Flexible– Maintains its flexibility in temperatures ranging from -40°F to 220°F



PRODUCT	MIN. WIDTH IN (MM)	MAX. WIDTH IN (MM)	TOTAL MOVEMENT IN (MM)	MEMBRANE WIDTH IN (MM)
FG-12	1.00" (25.4)	5.00" (127.0)	4.00" (101.6)	12.00" (304.8)
FG-18	1.00" (25.4)	11.00" (279.4)	10.00" (254.0)	18.00" (457.2)
FG-24	1.00" (25.4)	17.00" (431.8)	16.00" (406.4)	24.00" (609.6)
FG-30	1.00" (25.4)	23.00" (584.2)	22.00" (558.8)	30.00" (762.0)
FG-36	1.00" (25.4)	28.00" (711.2)	27.00" (685.8)	36.00" (914.4)
FG-42	1.00" (25.4)	34.00" (863.6)	33.00" (838.2)	42.00" (1066.8)
FG-48	1.00" (25.4)	41.00" (1041.4)	40.00" (1016.0)	48.00" (1219.2)

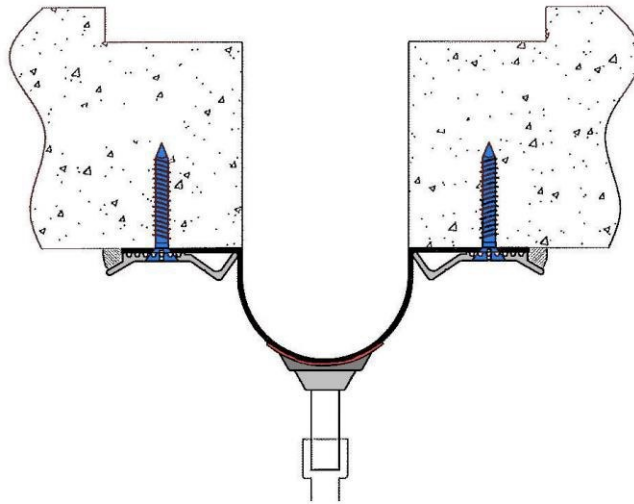


FG-Series (Flexible Gutter System)

INSTALLATION INSTRUCTIONS

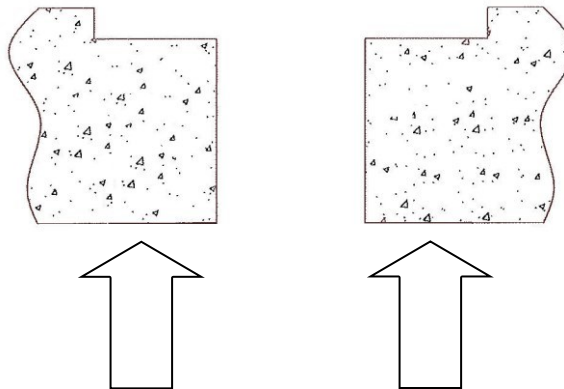
The flexible gutter system shown below is a typical installation and application. These step by step instructions will guide you through the entire process.

This type of install can be accomplished before the expansion joint is in place or after. There will not be any interference with the installation of the joint system, nor will the expansion joint be in the way of a proper installation from the prior installation of the gutter.



Material Installation

Section I: A clean flat surface provides a perfect flat bed for the neoprene membrane to seal against. The best cleaning method to ensure that all oil, tar, grease and waterproofing coating that may have dripped down from the joint opening above is removed, is sandblasting. After the sandblasting is completed, use compressor air to drive off all the residue and dust.



Material Installation

Section II: The next step requires you to roll out the flexible gutter material in a relatively clean, flat area. In this step, you prepare the flat roll of fiber reinforced neoprene sheet material for the location of the drain(s). The location of the drain tube is at the low end of your gutter layout; this is something you need to think about before you start your installation.

1. Layout of drain

X - Marks the spot

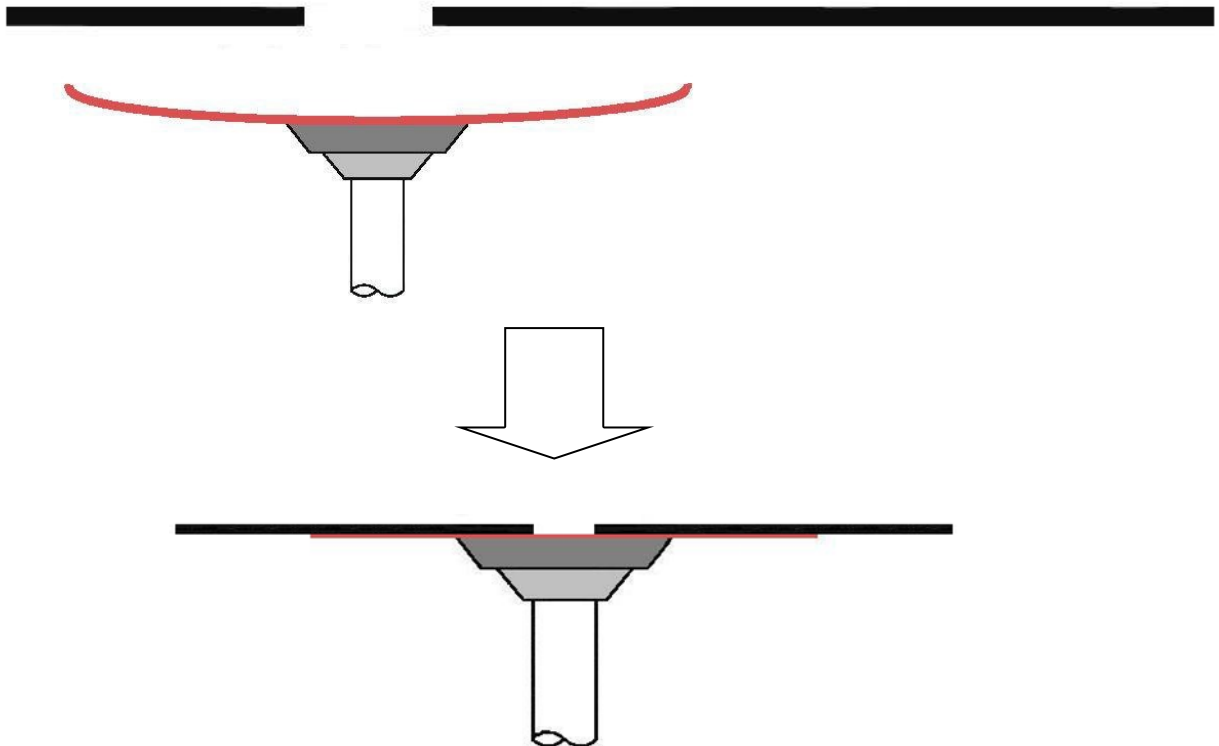


2. Cut drain hole in fabric reinforced neoprene sheet at “X” location. Size it to the drain tube.



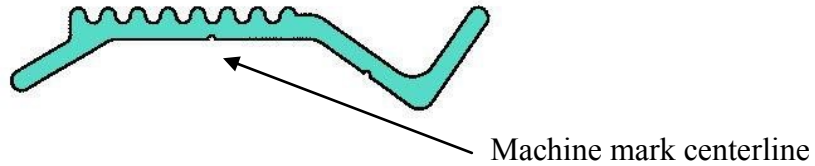
X

3. Wipe sheet neoprene clean with rubbing alcohol and a clean rag.
4. Align funnel center over cut out—remove peel and stick protective paper. Press funnel onto sheet and use a seam roller to firmly seat the drain assembly onto the sheet.

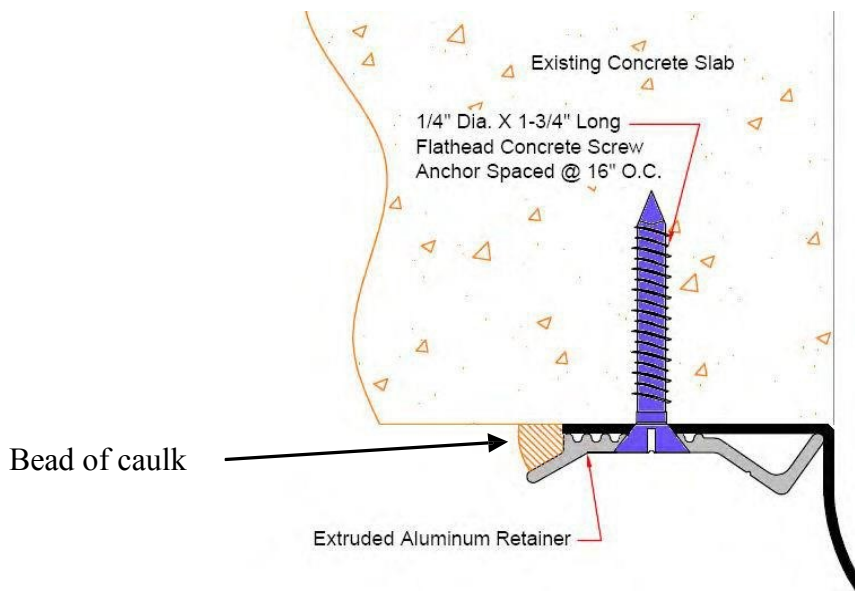


Material Installation

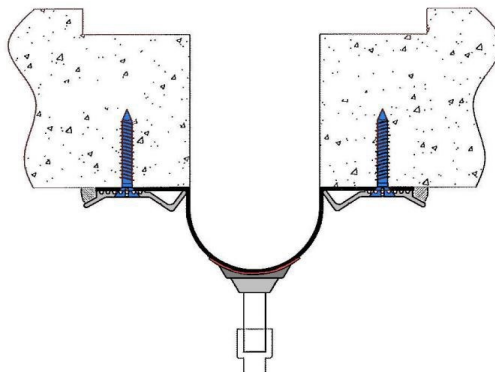
- Layout the aluminum retainers; place the first hole 6" from the end and the remaining holes on 12" centers. The rail has a machine mark in the center of the device along its length; use that line as your centering location. Pre-drill the holes through the aluminum rail into the concrete and blow out the dust in the holes.



- NOTE** to the contractor: Before the neoprene sheet is put into place, apply a bead of sealant to the concrete surface under the sheet of neoprene. This will assure that water can't go in between the systems. Place the neoprene sheet and aluminum retainer rails up against the concrete as shown below. Drive the anchor screw into the previously drilled holes and secure the rail into place. Remember to pitch the flexible gutter as you continue to anchor the system.



- Connect the drain system to the final routing away from the deck.



PART 1 - GENERAL

1.01 Work Included

- A. The work shall consist of furnishing and installing expansion joints in accordance with the details shown on the plans and the requirements of the specifications. The joints are proprietary designs utilizing extruded elastomeric seals, elastomeric headers and mounting plates. In the event of any discrepancy between the contract drawings and specifications, the specifications shall govern.
- B. Related Work
 - Cast-in-place concrete
 - Miscellaneous and ornamental metals
 - Flashing and sheet metal
 - Sealants and caulking

1.02 Submittals

- A. Standard Drawings - Submit typical expansion joint cross-section(s) indicating pertinent dimensioning, general construction, blockout dimensions and product data information. Approved Installers shall prepare and submit details of all special conditions to the manufacturer for review and approval prior to installation.

1.03 Product Delivery, Storage and Handling

- A. Deliver products in each manufacturer's original, intact, labeled containers, pallets or bundles and store under shelter in a dry location with temperatures above 40°F until installed. Store off the ground, protect from freezing, direct sun exposure in elevated temperatures and construction activities.

1.04 Acceptable Manufacturers

- A. All joints shall be as designed and manufactured by EMS, Inc., 13311 Main Road, Akron, New York 14001.
- B. Alternate manufacturers and their products will be considered, provided they meet the design concept and are produced of materials that are equal to or superior to those called for in the base product specification.
- C. Any proposed alternate systems must be submitted and receive approval 21 days prior to the bid. All post bid submittals will not be considered. This submission shall be in accordance with MATERIALS AND SUBSTITUTIONS.

Any manufacturer wishing to submit for prior approval must provide the following:

1. A working 6” sample of the proposed system with a letter describing how system is considered superior to the specified system.
2. A project proposal drawing that illustrates the recommended alternate system installed in the vertical construction that is specific to the project. Typical catalog cut sections will not be considered.
3. Any substitution products not adhering to all specification requirements within will not be considered.

1.05 Quality Assurance

- A. Manufacturer: Shall have a minimum of ten (10) years of experience specializing in the design and manufacture of expansion joint systems.

PART 2 – PRODUCT

2.01 General

- A. Provide flexible profile supplied by expansion control system manufacturer that will satisfy the required design movement and compress without damage during full joint closure. Profile shall contain and drain excess amounts of collected moisture through a drain tube that exhibits similar flexibility. Supply profile with fabric reinforcement to minimize material elongation from the collection of moisture or debris. Secure to concrete slab by utilizing blockout for expansion joint or under slab incorporating manufacturer’s optional retainer profile.

Provide Flexible Gutter System, Model FG-Series as manufactured by EMS, Inc. and as indicated on drawings

2.02 Materials

- A. Gutter Profile - Provide 0.062” thick single ply fabric reinforced Neoprene sheet in accordance with the following properties.

Fabric Type:	4 ounce polyester cloth
Temperature Range:	-30F to +200F
Hardness Shore A	70 +/-5
Tensile, PSI	1000
Elongation, %	250
Tear, Die C, PPI	150

Width of profile shall be governed by joint type and movement requirements.

- B. Drain Tube – (Optional). Provide 1 ½” I.D. x 1/8” wall, clear PVC flexible tubing. Standard length shall be 24 inches unless otherwise noted.

- C. Transition Element - Provide pre-molded .060" thick EPDM tapered profile with pre-taped flange and adhesive for proper bonding to underside of gutter profile.
- D. Retainer Profile - (Underslab installation only)
Provide an Extruded Aluminum Retainer 6061-T6 alloy to receive a continuous bead of edge sealant.
Standard Finish: - Mill – no color.
Optional Finish: - Clear anodized in accordance with AA-M10 C22 A31 Class II (0.4 - 0.7 thick anodic coating).
- E. Edge Sealant - (Underslab installation only)
Utilize a one part polyurethane moisture cure sealant conforming to federal specification TT-S-00230C Type II Class A NON-SAG (Permathane SM7108).
- F. Anchors - (Underslab installation only). Provide manufacturers standard 1/4" dia. x 1 3/4" lg. Tapcon concrete screw anchor. Carbon steel anchor shall receive factory fluoropolymer coating.

2.03 Fabrication

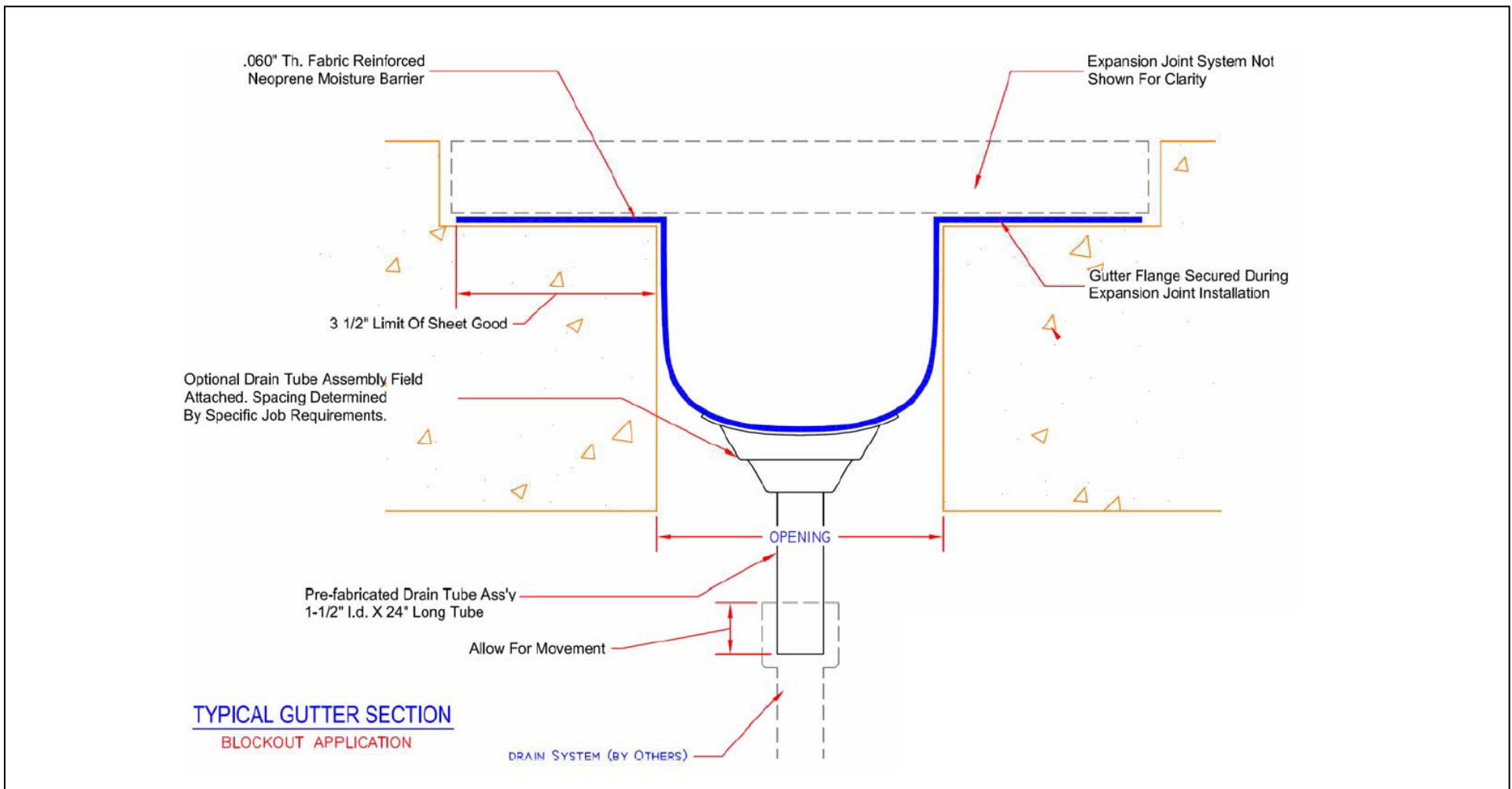
- A. Shop assembled transition element and drain tube utilizing RTV5818-12C silicone adhesive. Allow for curing of adhesive prior to shipment.
- B. Extruded retainers in standard 10 ft sections.

PART 3 – EXECUTION

3.01 Installation

- A. Limit of flexible gutter profile shall be continuous along length of joint. Refer to manufacturers instructions to cap ends.
- B. Spacing of drain tube assemblies shall be approximately 25 feet center to center along length of joint or as specifically outlined in contract documents.
- C. With flexible gutter profile properly prepared and on flat surface, field attach drain tube assembly by removing protective tape. Using hand roller, apply direct pressure to flange ensuring full contact and proper adhesion.
- D. Refer to EMS installation procedure for additional detailed information.

END OF SECTION



Dimension Chart		
Model	Max. Allowed Opening	Max. Opening at Installation
FSG-12N	4 in (102 mm)	2.5 in (64 mm)
FSG-18N	10 in (165 mm)	6.5 in (165 mm)
FSG-24N	16 in (406 mm)	10.5 in (267 mm)

NO.	Description	Date	By
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PROJECT: N/A
TITLE: FGS Flexible Gutter System

Detailed by: KAA	Date: 11/05/08
Checked By: AWG	Date: 11/05/08
Scale: NTS	EMS Job #:
Sheet No.: 1 of 1	Drawing No.: FGS