



Commercial/Industrial Installation Guide

CF SERIES - VERTICAL

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<u>Disclaimer.</u>

This guide is intended to be used in conjunction with the project's installation drawings. The installation drawings should identify the applicable wall conditions, specify the components and the required arrangement of the components. Specific building design and construction conditions may require variations from the information in this guide.

Metl-Span does not guarantee and is not liable for the quality of installation. Metl-Span is not responsible for defects that may be attributed to improper installation, the negligence of other parties, or for materials not provided by Metl-Span.

All safety procedures including but not limited to fall protection and material handling are the exclusive responsibility of the installing contractor.

Unless specified in writing, Metl-Span makes no expressed or implied warranties pertaining to the fitness of the wall panels or its components for any particular purpose, and shall not be responsible for any indirect or consequential damages, such as to building contents, nor for any further loss of any kind to the owner or contractor.

Metl-Span does not warrant any product or material as meeting the ordinances, laws or regulations of any particular state or local municipality, and Metl-Span is not responsible for conformance by the owner or contractor to such ordinances, laws or regulations.

1. INTRODUCTION

Welcome to Metl-Span, the dynamic industry innovator dedicated to manufacturing and marketing the highest quality insulated building panel products. Since our origination in 1968, we have been pioneers in research, design, production and sales of state-of-the-art insulated metal panels and building materials serving the commercial, industrial, institutional and cold storage industries.

Our mission is clearly defined: Deliver the highest quality energy-efficient solutions to insulate and protect our world.

This installation guide is designed to provide step by step instructions for vertical commercial/industrial CF series wall panels.

In most cases, the details and sealant locations are not suitable for buildings with operational temperatures less than 60° F.

For more information regarding proper panel installation, please contact Metl-Span Technical Services:

1720 Lakepointe Drive, Suite #101 Lewisville, Texas 75057 TEL: (972) 221-6656 Fax: (972) 436-7028 E-mail: info@metlspan.com Website: www.metlspan.com

1. INTRODUCTION

Safety

In the USA, the Occupational Safety and Health Act (OSHA) governs regulations with the objective of protecting workers from injury or accident. "Part 1926, Safety and Health Regulations for Construction" are applicable to the wall installation.

In Canada, Occupational Safety and Health (OSH) regulation is under the jurisdiction of the local provinces and territories. Federal employees and Crown agencies may be subject to federal OSH jurisdiction.

The OSHA and OSH regulations should be recognized as job site requirements and fully complied with. Safe installation practices may be further defined and made mandatory by state or local ordinances.

All safety procedures are the responsibility of the panel installation contractor. If the installer determines that they cannot safely install the panels in accordance with the installation drawings or this guide, it is their responsibility to determine appropriate alternative procedures.

Owner's Responsibilities

"Owner" as used throughout this guide refers to the project's owner and/or his representatives, such as the project's architect, design engineer and general contractor. These parties are responsible for determining the following:

- Selection of a competent installer who is qualified and experienced in the proper installation of insulated metal panels and related construction.
- Installer has reviewed and understands the project's installation drawings and this guide *prior* to installation.
- Panels and related components are installed in accordance with the project's installation drawings and the applicable portions of this guide.
- Panels are suitable for the purpose intended.
- Project's structural framing is properly designed and in satisfactory condition to accept the erection and design loads imposed by the wall panels.
- Location of interior and/or exterior panel joint and perimeter seals are properly specified for the project's moisture and vapor control requirements.
- Panels and related components are installed in compliance with the applicable codes, regulations, service conditions and good engineering and construction practices.

1. INTRODUCTION

Installation Drawings

Installation drawings (also known as shop drawings) are usually prepared by the installation contractor, Metl-Span or some other party depending on preferences or contractual requirements.

Installation drawings must be "approved" by the project architect before they are to be used for construction. It is critical that the "approved installation drawings" are in agreement with the final architectural and structural drawings as well as all addenda.

Approved installation drawings (labelled "for construction" or "for production") must be available at the job site during the preparation, installation and inspection of the wall support framing, wall panels, flashings and other related construction.

The installation drawings must be reviewed for differences with field conditions, and discrepancies should be resolved before proceeding with panel installation.

In case of conflict between this guide and "for construction/for production" installation drawings, the drawings govern.











3.1 Framing alignment should be checked **before** panels are delivered to site.

3.2 Compare structural and panel shop drawings to ensure wall supports are in correct location. Field measure support spacing and overall building dimensions.

> WARNING: RESOLVE ALL DIMENSIONAL DIFFERENCES WITH SHOP DRAWINGS BEFORE PANEL INSTALLATION BEGINS!

3.3 If base support is installed, verify it is aligned with slab edge/notch.



3.4. Check alignment at mid-span and column lines with a laser or plumb bob from the top wall support to the base support or slab edge.

3.5 Check support alignment against these tolerances for vertical panel installation:

< 8' spacing: +1/8", -0" \geq 8' spacing: +1/4", -0"

(Architectural flat panels: < 4' spacing: +1/16'', -0'')

3.6 All supports not in alignment must be corrected by the responsible party **before** panel installation begins.

WARNING: IMPROPER FRAMING ALIGNMENT CAN CAUSE DIFFICULTY WITH PANEL ENGAGEMENT AND **RIPPLING OR BUCKLING OF THE PANEL FACES.**



4. RECEIVING

4.1 Proper offloading equipment must be on site prior to arrival of panels and accessories. All bundles and crates are packaged for side unloading by forklift or by crane. Maximum bundle weight is 5,000 lbs.

4.2 Check all materials immediately upon arrival for freight damage. Inspect for strap damage, forklift damage or packaging/bundle wrap damage.

4.3 Verify that the order number, quantities and descriptions of all bundles, crates and pallets on the bill of lading match those on the truck.



4.4 List all visible damages and/or shortages on the bill of lading, obtain the signature of the truck driver and an authorized representative of the Metl-Span customer.

4.5 Keep a copy of the marked-up bill of lading and send it with digital photos of the damage to Metl-Span Customer Relations.

4.6 Concealed damages/shortages must be reported to Metl-Span within 15 days of delivery.

4. RECEIVING

4.7 The panel bundling and accessories report lists the specific contents of each bundle, crate and pallet listed on the bill of lading.

MESP			Customer: Project:	IMP EXPER HQ BUILDIN Panel Bu	TS VG Indling Report			Job# 54321 BOL# 123456 PO# 12345678
Bundle #	Qty	Item #	# Weight	Item Desc.	Thi	ckness	Length	Panel Type
6-1	2	2	244	CFS1-1		4	11'-10	CF42F
	2	4	226	CFS1-2		4	10-11	CF42F
	3	5	393	CFS1-3		4	12'-8	CF42F
	4	9	412	CFS3-1		4	10'-0	CF42F
6-2	2	6	226	CFS2-1		4	10'-11 "	CF42F
	2	7	244	CFS2-2		4	11'-10 "	CF42F
	2	8	262	CFS2-3		4	12'-8 "	CF42F
	5	9	515	CFS3-1		4	10'-0 "	CF42F
6-3	3	9	309	CFS3-1		4	10'-0 "	CF42F
	5	11	515	CFS4-1		4	10'-0 "	CF42F
6-4	7	11	721	CFS4-1		4	10'-0 "	CF42F
6-5	8	1	936	CFR-1		5	10'-7 3/4"	CF42R
6-6	8	1	936	CFR-1		5	10'-7 3/4"	CF42R
6-7	6	1	702	CFR-1		5	10'-7 3/4"	CF42R
6-8	3	1	351	CFR-1		5	10'-7 3/4"	CF42R
	3	3	264	CFR-2		5	8'-0 "	CF42R
6-9	1	3	88	CFR-2		5	8'-0 "	CF42R

			Accessories			
ltem #	Part #	(Alt #)	Weight	Qty Description	Pk	g Type Pkg #
23	F294		1100	6 Low Eave Trin	m 10	'Box NV-4
24	F3243		1100	6 4" Head Trim	10	'Box NV-4
25	F3243		1100	1 4" Head Trim	10	'Box NV-4
26	F3243		1100	1 4" Head Trim	10	'Box NV-4
27	F3243		1100	1 4" Head Trim	10	'Box NV-4
30	F3432		1100	1 Rake Trim	10	'Box NV-4
32	F3434		1100	2 Rake Trim	10	'Box NV-4
33	F3434		1100	2 Rake Trim	10	'Box NV-4
34	F3444		1100	6 Rake Zee	10	'Box NV-4
36	F3510		1100	10 Rake Angle La	ap Cover 10	'Box NV-4
38	F3700L		1100	4 Rake Closure/	/Left 10	Box NV-4
39	F3700R		1100	4 Rake Closure	/Right 10	Box NV-4

4. RECEIVING

4.8 Every bundle and trim/accessory crate has a shipping label that contains information on the contents.

JOB NUMBER										PAC	KAGE NU	JMBER		
54	54321									6				
CUSTOMER NAME:	IMP EXPERTS									PANEL:		4CF42F/LM		
JOB NOTES: SPECIAL										FACE 1:	Brownstone 433R600 Kynar 500			
REQUIREMENTS:			LEED	(BA	A) Compli	iant					NO	24 Gauge		
P.O. Number:				14B63	877						Snow White (K5)			
CAULKING REQUIREMENT:	EXTERIOR:	INTE	RIOR:	P	PHASE NU	UMBER:	1	OF	1	FACE 2:	431R539 Kynar 500 Non-directional Embossing 26 Gauge			
ITEM NUMBER		ITEM	DESC.			P	ANEL L	ENG	ГН	QUANTITY	EXTRA			
2		CFS	S1-1				1'- 10"			2	0			
4		CFS	61-2				10'-	11		2	0			
5		CFS	S1-3				12'-	8"	I	3	0			
9		CFS	63-1				10'-	0"	I	4	0			
OPERATOR		SHIET		PROD	DATE	07/13/45	TIN	E.	10:15 an		τοται	PACKAGED: 11		
OPERATOR:	SHIFT: PROD DATE: 07/13/15						ТІМ	E: 1	10:15 an	n	TOTAL	. PACKAGED: 11		

Figure 4.8

Forklifts

5.1 Identify and mark off unloading area prior to material delivery.

5.2 Verify adequate material handling equipment with the proper reach and capacity is on site. Bundle weights are listed on the bill of lading, and have a maximum weight of 5,000 lbs.

5.3 Pre-determine the panel storage area prior to material delivery. It must be secure, flat, well-drained and reasonably level.

5.4 Panels are shipped via flatbed trailer, and can be off-loaded from the side of the trailer using forklifts.

5.5 Guidelines for off-loading are as follows:

Panel thickness	Bundle lenght						
2-2.75" thick	<36' = 1 forklift	≥36' = 2 forklifts					
3" thick	<40' = 1 forklift	\geq 40' = 2 forklifts					
4-6" thick	<48' = 1 forklift	≥48' = 2 forklifts					

5.6 Tape foam blocks on forks to prevent over-engagement of panel bundles.



Forklifts

5.7 Forklift blades must be level and centered under the weight of the bundle.



WARNING: LIFT ONE BUNDLE AT A TIME

5.8 Longer bundles are pre-marked with two lift points at the factory. Each forklift should straddle one lift point (see figure 5.8)



5.9 Inspect travel route to make sure path is reasonably level, compacted and free of ruts. Move bundles into position as required for efficient installation.

5.10 Secure open bundles with straps before moving with forklifts. Spread forks as far as possible and center under the load. Use caution to prevent excessive bending as damage to panels may result. Avoid bumpy terrain.

WARNING: USE EXTREME CARE WHEN MOVING OPEN BUNDLES, ESPECIALLY THOSE WITH 2-3 INCH PANELS LONGER THAN 20'.

WARNING: WHEN RELOADING BUNDLES, MAKE SURE THE END MARKED "BACK" FACES THE BACK OF THE TRAILER. USE DUCT TAPE TO REPAIR TEARS IN THE BUNDLE WRAP.

Lifting by crane

5.11 Use wood spreaders (1.5" minimum thickness, width as required for straps) on top and bottom of bundles *at all pick points*.



5.12 Place foam blocks on sides of bundles at all sling locations as shown in figure 5.12.

5.13 Bundles under 4,000 lbs. and less than 44' may be lifted as shown in figure 5.12



Figure 5.12

Lifting by crane

5.14 Bundles over *4,000 lbs. and less than 44'* may be lifted as shown in figure 5.14



5.15 Bundles over 4,000 lbs. and/or over 44' may be lifted as shown in figure 5.15



5. MATERIAL HANDLING - Individual Panels

Manual Lifting

5.16 Lift panels from here...





5.17 Rotate panels onto the leading edge (side with clip shelf) before carrying. Use foam blocks (from bundles) to prevent panel edge damage.





5. MATERIAL HANDLING - Individual Panels

Clamping Devices (not by Metl-Span)

5.19 Verify clamping device is securely attached to panels and of sufficient capacity for panel lifting.

5.20 Rotate panel on edge (see 5.17), and lift per figures 5.20a and 5.20b.



WARNING: PICKING PANELS FLAT OFF THE BUNDLE WITHOUT THE USE OF VACUUM LIFTING EQUIPMENT AND PROPER OUTRIGGERS IS *NOT* RECOMMENDED!

5. MATERIAL HANDLING - Individual Panels

Vacuum Lifting

5.22 Panel installation time is typically reduced when using vacuum lifting equipment. Equipment must be designed for panel lengths, weights and profiles to be lifted - verify the requirements of your specific project with your lifting equipment supplier.

Rotaboy and Cladboy*- contact Automak Assembly Inc. at (219) 310-8458 www.automakassembly.com

Wood's POWR-GRIP®* – contact Woods Powr-Grip Co., Inc. at (406) 628-8231 www.wpg.com



*provided for informational purposes only, and does not imply specific endorsements

6. STORAGE AND STAGING

6.1 Panels should be stored in secure location(s), on level ground that is well drained and free from standing water.

6.2 Elevate one end of panel bundles to provide adequate drainage - use graduated blocking under bundle bearing pads as required (figure 6.2).



6.3 Slit bottom wrapping as shown for ventilation (figure 6.3).

6.4 Cover opened bundles at the end of the day with a tarp. Secure the bundle with straps to protect against weather damage.



6.5 Items on bundle report match panel callouts on Metl-Span installation drawings. Use this info to stage panels.

CUSTOMER NAME:	METL-S	PAN				PANEL:		3CF42M/M	
JOB NOTE S:	RE: BUILDER XXXX PO # 123456					THE F		Brite Red 434R843	
SPECIAL						FACE 1: Kynar 500 Non-directional Embossing			
P.O. Number:		TEST JOB						Igloo White	
CAULKING REQUIREMENT:	EXTERIOR:	IN TERIOR:	PHASE NUMBER:	1 OF	1	FACE 2:	N	PMW0532 Polyester on-directional Embossing 22 Gauge	
ITEM NUMBER	ITE M DE		PANEL	LINGTH		QUANTITY.	EXTRA		
1		W1	16	6'- 0"		3	0		
2		W2	1:	5'- 6"		3	0		
3		PH1	18	5'- 4"		3	0		Figure 6
4		PH2	18	5'- 0"		1	1		•
					_				

7. PANEL CUTTING

7.1 Personnel cutting panels should always wear safety glasses, gloves and long sleeve shirts.

7.2 Panel cutting should take place prior to installation when possible.

7.3 Use the following cutting tools to avoid panel damage:

- ✓ Circular saw with carbide tipped metal cutting blade
- ✓ Insulated metal panel saw
- ✓ Band saw with metal cutting blade



7.4 Use care when using reciprocating saws to avoid panel delamination: make sure the blade is sharp and let the saw cut at its own pace - do not force.



7.5 Do NOT use abrasive saws to cut panels.





WARNING: USE OF ABRASIVE SAWS/ GRINDER BLADES WILL DAMAGE THE PAINT FINISH AND THE METAL FACINGS!

7.6 For small penetrations, cut each panel face with a portable router, then cut the foam with a serrated knife.



7.7 Metal flashings may be cut with power snips, nibblers or hand snips.



7. PANEL CUTTING

- 7.8 Place the panel on padded sawhorses with the interior side up.
- 7.9 Wipe mud and debris off panel face to be cut with clean rag.
- 7.10 Mark cut line with chalk or washable felt tip marker (figure 7.10).
- 7.11 Masking tape may be applied on both sides of cut line to minimize panel scratching.
- 7.12 Recheck measurements and cut with appropriate tool per 7.3, 7.4.
- 7.13 Remove burrs at cut edges with deburring tool.



TEST FIT PANEL BEFORE INSTALLING JOINT SEALANT!

CHECK BLADE SHARPNESS OFTEN WHEN CUTTING TUFF COTE® PANELS AS THE FINISH CONTAINS ABRASIVES.

WARNING: TO PREVENT DAMAGE TO THE PAINT FINISH REMOVE ALL METAL SHAVINGS FROM PANEL SURFACES AFTER CUTTING!

Figure 7.10

7. PANEL CUTTING

- 7.14 For panels located at framed openings where 50% or more of panel width is removed:
- a. mark cut lines on BOTH panel faces
- b. drill 1/4" holes at corner locations
- c. cut the exterior face to a depth of 1/4"
- d. flip panel over and cut interior face to a depth of 1/4"
- e. cut all the way through panel sidejoints at the framed opening area
- f. lift panel into place, set on bottom support
- g. cut foam with serrated knife and remove panel section
- h. engage panel and secure with fasteners
- i. de-bur and remove metal shavings







Figure 7.14b

CUT METAL FACINGS ONLY - DO NOT CUT FOAM CORE UNTIL PANEL IS LIFTED INTO PLACE!

8. PANEL SEALANT

WARNING: THE TYPICAL AIR/VAPOR BARRIER LOCATION FOR COMMERCIAL/INDUSTRIAL PROJECTS IS THE LINER (INTERIOR) SIDE JOINT. HOWEVER, THE PROJECT ARCHITECT IS RESPONSIBLE FOR DETERMINING THE ACTUAL VAPOR BARRIER LOCATION, WHICH MAY VARY FROM THE DETAILS SHOWN IN THIS GUIDE.

CONTACT METL-SPAN OR THE DESIGNER FOR COLD STORAGE APPLICATIONS.

8.1 Joint must be clean and dry before applying sealant.

8.2 Apply continuous non-curing (non-skinning) butyl sealant to the interior panel joint with a bead size of approximately ¼" as shown in figure 8.2. Sealant should provide continuous seal between the tongue and groove, but not overflow onto panel faces.



COLD WEATHER - STORE BUTTLIN A WARMING BIN ONTIL READT FOR USE

HOT WEATHER = STORE BUTYL IN THE SHADE AND OUT OF DIRECT SUNLIGHT

8.3 Inspect factory applied sealant (if any) for consistent bead size - add sealant as required.

REMOVE SEALANT FROM PAINTED PANEL FACES BY USING WD-40 OR MINERAL SPIRITS APPLIED WITH A CLEAN COTTON RAG.

FOR TUFF-COTE PANELS CONTACT METL-SPAN FOR SEALANT REMOVAL INSTRUCTIONS.

9. PANEL FASTENERS

WARNING: REFER TO PROJECT INSTALLATION DRAWINGS FOR FASTENER TYPES AND REQUIRED FASTENING PATTERNS!

Self-drilling, self-tapping fasteners contain a built-in drill point, and do not require pre-drilling. They are the quickest and easiest way to attach insulated metal panels to light-medium gauge supports.



Figure 9.1a

B point fasteners are used to attach panels to medium-heavy gauge supports that are difficult or not possible to drill with self-drilling type fasteners. They require a two-step operation:

- 1. pre-drill holes through panels and structure
- 2. insert fastener and tighten

Figure 9.1b

Suggested fastener driving speeds:

Carbon, Zinc Plated and 410 Stainless Steel: 1,800 rpm 304 Stainless Steel: 1,000 rpm

Decommonded	colf drilling	colf topping type	forvorious	aunnart thialmassa	(1/" diamatar)
Recommended	Sell-Orling	Sell-lanning lynes	s for various	SHIDDON INICKNESSES	
1.0000111110110000	oon arming,				

Current thickness		Threado nor inch
Support thickness	Туре	Inreads per Inch
18 gauge (.048)	#2, #3	14
16 gauge (.060)	#2, #3	14
14 gauge (.075)	#2, #3	14
12 gauge (.105)	#3	14
1/8" (.125)	#3	14
10 gauge (.134)	#3	14
3/16" (.187)	#5	20 minimum
1/4" (.250)	#5	24
3/8" (.375)	#5	24
1/2" (.500)	#5	24

Pilot Hole Sizes for ¼" diameter B point fasteners:

	-	0
Support thickness	Bit Size	Threads per inch
18 gauge (.048)	3/16"	14
16 gauge (.060)	#9 (.196)	14
14 gauge (.075)	#9 (.196)	14
12 gauge (.105)	#7 (.201)	14
1/8" (.125)	#2 (.221)	14
10 gauge (.134)	#2 (.221)	20
3/16" (.187)	#2 (.221)	20 minimum
1/4" (.250)	#1 (.228)	24
3/8" (.375)	#1 (.228)	24
1/2" (.500)	.234	24

10. CLEANING

WARNING: DO NOT USE WIRES BRUSHES, STEEL WOOL OR ANY OTHER ABRASIVE METHODS TO CLEAN PANELS.

10.1 Metal shavings from cutting and drilling should be removed as panels are erected using a soft bristle brush or clean cotton rag.

10.2 For general cleaning, use a low pressure power wash with plain water. If necessary, use carwash soap or a 5% solution of mild laundry detergent (such as Tide). Use a clean cotton rag, sponge or soft bristle brush as required. Rinse thoroughly.

10.3 Sealants, grease, tar and wax can be removed from panels and trim by using WD-40 or mineral spirits. Apply to a clean cotton rag, and avoid smearing over a large area. Follow up with general cleaning instructions per 10.2.

10.4 For rust stains, remove the source (typically metal filings), then clean the affected area using one of the following methods: soap and water or Rid O'Rust®.

10.5 Concrete/mortar splatter must be washed off immediately with a high pressure wash and mild detergent.

WARNING: SCRUBBING THE PANELS WHILE MORTAR IS PRESENT WILL LIKELY RESULT IN SCRATCHES TO THE PAINT

11. TOUCH-UP

11.1 Contact Metl-Span Customer Relations for color matched touch-up paint with applicator brush.

11.2 Touch-up paint is for minor scratches only. For deep scratches or larger areas of repair, contact Customer Relations for detailed instructions.

11.3 Clean affected area with a clean cloth, dampened with isopropyl alcohol.

11.4 Air and panel temperatures must be above 50°F before attempting repairs.

11.5 Apply touch-up in the scratch using an artist brush.

11.6 Allow 30-45 minutes for tack free and 24 hours for complete drying.

11.7 For more information regarding touch-up refer to the Owner's Maintenance Manual.

12. INTERIOR TRIM INSTALLATION - BASE

12.1 Re-verify framing alignment per Chapter 3 Framing Alignment.

12.2 Confirm base condition as overhang or notched slab.

12.3 If base angle has not yet been installed, place urethane sealant under angle and butyl sealant on vertical leg of angle as shown in figure 13.3a (overhung) and 13.3b (if notched slab).



12.4 If base angle is already installed, place sealant as shown in figure 12.4a (overhung) and figure 12.4b (if notched slab).



12. INTERIOR TRIM INSTALLATION - BASE

12.5 Attach base flashing to base attachment using #12 pancake stitch fasteners (24" on center).



For base conditions matching 12.3

For base conditions matching 12.4

FOR MORE BASE CONDITIONS SEE CHAPTER 15 GENERAL DETAILS.







12. INTERIOR TRIM INSTALLATION - BASE

12.6 Lap base flashing with urethane sealant, install 1/8" color matched pop rivets as shown.



12.7 Cut flashing section at end of wall at 45 degree angle. Notch end of opposing flashing section with tabs that lap underneath. Apply urethane sealant, join pieces together using 1/8" color matched stainless steel pop rivets.





12. INTERIOR TRIM INSTALLATION - CORNERS

12.8 Install butyl sealant between inside corner trim and base flashing and top of corner. Attach interior portion of two piece corner trims using #12 Pancake head Stitch Screw.



12.9 Trim hems 2", apply 2 rows of urethane sealant, lap and fasten with 1/8" stainless steel painted pop rivets.



12. INTERIOR TRIM INSTALLATION - FRAMED OPENINGS

12.10 For two piece jambs, apply minimum 1/4" bead of butyl sealant at *head and jambs* of framed openings.

12.11 For one piece jambs, apply minimum 1/4" bead of butyl sealant at *head* conditions only.



Figure 12.10a



Figure 12.11

REFER TO PROJECT INSTALLATION DRAWINGS TO DETERMINE IF ONE OR TWO PIECE JAMB SYSTEM IS REQUIRED.



12. INTERIOR TRIM INSTALLATION - FRAMED OPENINGS

12.12 Notch interior head trim at framed opening corners and bend tabs downward at each end.

12.13 For two piece jambs, install interior head and jamb trims with #12 Pancake head Stich Screw.



12.14 For one piece jambs, install interior head trim only with 1/8" stainless steel pop rivets at 12" on center.



12. INTERIOR TRIM INSTALLATION - FRAMED OPENINGS

12.15 Notch interior jamb trims as required at intersection of base flashing.



13. PANEL INSTALLATION - SEALANT

13.1 Starting at a building corner, apply 1/4" minimum bead of non-skinning butyl sealant to base flashing, interior corner trim and eave strut (figure 13.1).

13.2 Cut trailing edge of first panel per layout shown on installation drawings (figure 13.2a).



RECOMMENDED DUE TO DIFFICULTY WITH WEATHER SEALING! IF UNAVOIDABLE, CONTACT METL-SPAN FOR RECOMMENDATIONS.

13. PANEL INSTALLATION - STARTER PANEL

13.3 Lift panel into place and firmly set into butyl sealant.

13.4 Place level on leading edge (side with clip shelf), align and fasten trailing cut edge with 1/4" pancake fasteners into structural supports as required per installation drawings.



WARNING: INSPECT ALL PANELS BEFORE INSTALLING - CHECK FOR DENTS, DEEP SCRATCHES, JOINT DAMAGE AND FACE RIPPLING. DO NOT INSTALL DAMAGED MATERIALS - CONTACT METL-SPAN BEFORE PROCEEDING.

WARNING: DO NOT OVERDRIVE FASTENERS - THIS DAMAGES PANEL APPEARANCE AND CAN CAUSE FASTENER STRIP-OUT.

13. PANEL INSTALLATION - ATTACHMENT

13.5 Attach leading edge of panel to structure per shop drawings (use Metl-Span fastening pattern(s) indicated).



Figures 13.5a - d are used with Metl-Span Fastenening Patterns 1-8 (see pages 71-74 for more information)


13. PANEL INSTALLATION - ATTACHMENT

WARNING: REFER TO PROJECT INSTALLATION DRAWINGS FOR FASTENER SIZES, TYPES AND REQUIRED FASTENING PATTERNS!



Figures 13.5e and f are examples of back fastening used with Metl-Span Fastenening Patterns 2-5 (see pages 71-72 for more information)



Figures 13.5g and h are examples of back fastening used with Metl-Span Fastenening Patterns 6-8 (see pages 72-73 for more information)

13. PANEL INSTALLATION - ATTACHMENT

WARNING: REFER TO PROJECT INSTALLATION DRAWINGS FOR FASTENER SIZES, TYPES AND REQUIRED FASTENING PATTERNS!





13. PANEL INSTALLATION - MARRIAGE BEADS

13.6 Butyl sealant marriage beads must be placed at ALL panel terminations.



13. PANEL INSTALLATION - SIDEWALL ELEVATION

13.7 Install remaining panels on wall elevation with marriage beads at top and bottom of EVERY panel.

13.8 Verify joint spacing is as shown in figure 13.8.



13.9 Verify vertical alignment at every panel using level on leading edge.

ALL GUIDE GRAPHICS SHOW LEFT TO RIGHT INSTALLATION FOR CLARITY. PANELS MAY BE INSTALLED RIGHT TO LEFT BY ROTATING PANELS 180 DEGREES LENGTHWISE. REFER TO INSTALLATION DRAWINGS FOR PROPER DIRECTION.

13.10 Engage bottom corner of panels first, then allow gravity to rotate panel into position. Hold top of panels 1" off structurals to minimize smearing butyl sealant on eave strut.



13. PANEL INSTALLATION - OUTSIDE CORNER

13.11 Cut leading edge of panel P2, trailing edge of panel P3. Attach cut edges of panels at corner with 1/4" pancake fasteners at base angle, girts, sheeting angle and eave strut.





13. PANEL INSTALLATION - INSIDE CORNER

13.13 Cut leading edge of panel P2, trailing edge of panel P3 at inside corner. Attach cut edges of panels at corner with 1/4" pancake fasteners at base angle, girts, sheeting angle and eave strut.



Figure 13.13c

13. PANEL INSTALLATION - ENDWALL ELEVATION

13.14 Install panels and cut in place to match roof slope. Apply marriage beads at top and bottom of EVERY panel.



13. PANEL INSTALLATION - FRAMED OPENINGS

13.15 Apply urethane sealant on head trim and at each end to create end dams.

13.16 Apply urethane or non-skinning butyl sealant on jamb and sill areas.



STANDARD TWO PIECE DOOR JAMB VERIFY PER INSTALLATION DRAWINGS.





Figure 13.16c

13. PANEL INSTALLATION - FRAMED OPENINGS

13.16 Cut panels at framed openings per Chapter 7 PANEL CUTTING - Framed Openings.

13.17 Lift panels and secure to perimeter of framed opening using 1/4" pancake fasteners (if required by installation drawings).





13.18 Apply marriage bead of non-skinning butyl sealant at all head and sill panels.



14. EXTERIOR TRIM INSTALLATION - FRAMED OPENINGS

14.1 Apply butyl tape at sill and jambs.





14.2 Install one piece sill trim with tabs bent up using 1/8" stainless steel painted pop rivets at 8" on center. Install urethane sealant prior to installing jamb trim, make sure to clean any excess sealants that may extrude on to exterior surfaces.



14. EXTERIOR TRIM INSTALLATION - FRAMED OPENINGS

14.3 Install exterior jamb trims using 1/8" stainless steel painted pop rivets at 8" on center.



14.4 Apply urethane sealant at lap and attach exterior head trim using 1/8" stainless steel painted pop rivets at 8" on center.



14. EXTERIOR TRIM INSTALLATION - FRAMED OPENINGS



COMPLETED WINDOW TRIM WITH TWO PIECE JAMBS

Figure 14.4d

COMPLETED WINDOW TRIM WITH ONE PIECE DEEP JAMBS

Figure 14.4e

14. EXTERIOR TRIM INSTALLATION - BASE

14.5 Install exterior base trims with 1/8" stainless steel painted pop rivets at 8" on center.



14. EXTERIOR TRIM INSTALLATION - CORNERS

14.6 Apply butyl tape to interior side of corner trims (if required per installation drawings) and install with 1/8" stainless steel painted pop rivets at 8" on center.







PANEL JOINT DETAILS



CI-CF-FSTN-01A ATTACHMENT SIDEJOINT - PRE-ENGINEERED



CI-CF-FSTN-01B ATTACHMENT SIDEJOINT - STRUCTURAL





CI-CF-FSTN-01C ATTACHMENT BACK-FASTENED W/GIRT CLIPS



_ 1/4" HWH

CI-CF-FSTN-01D ATTACHMENT BACK-FASTENED W/RIVETS



CI-CF-BE-06 BASE - OVERHANG W/DRIP TRIM



ALTERNATE PLACEMENT OF SEALANT

CI-CF-BE-07 BASE - OVERHANG W/EDGE TRIM



BASE - OVERHANG W/EXTRUSION



ALTERNATE PLACEMENT OF SEALANT





ALTERNATE PLACEMENT OF SEALANT

CI-CF-BE-04 BASE - OVERHANG W/NOTCHED SLAB ALT.



ALTERNATE PLACEMENT OF SEALANT

CI-CF-EB-01 BASE - OVERHANG W/NOTCHED SLAB, EXTRUSION



OUTSIDE CORNER W/TWO PIECE EXTRUSION



INSIDE CORNER W/TWO PIECE EXTRUSION



HEAD W/TWO PIECE EXTRUSION





SILL W/FLAT TRIM



CI-CF-ES-01 SILL W/EXTRUSION





O.H. DOOR JAMB W/EXTRUSION



STACK JOINT W/TRIM

WARNING: VERIFY THAT STRUCTURAL SUPPORTS AT STACK JOINT LOCATION ARE OF PROPER GAUGE, LOCATION AND SIZE.

WARNING: IN ORDER TO ENSURE PROPER ALIGNMENT OF PANELS IT IS RECOMMENDED THAT BOTH LOWER AND UPPER ROWS ARE INSTALLED AT THE SAME TIME.







(FP1)

CI-CF-FP 1 FASTENING PATTERN #1



CI-CF-FP 2 FASTENING PATTERN #2



CI-CF-FP 3 FASTENING PATTERN #3

DIMENSION IS FROM FEMALE EDGE +/- 1.5"



CI-CF-FP 4 FASTENING PATTERN #4



(FP5) SIDE JOINT FASTENING AND BACK FASTENING WITH FOUR DOME HEAD BULB-TITE® RIVETS INSTALL RIVET THROUGH GIRT FLANGE INTO MESA WHERE THE SKIN MAKES CONTACT WITH THE STEEL



CI-CF-FP 5 FASTENING PATTERN #5
15. GENERAL DETAILS

DIMENSION IS FROM FEMALE EDGE +/- 1.5"



(FP7) SIDE JOINT FASTENING AND TWO GIRT CLIPS WITH FOUR DOME HEAD BULB-TITE® RIVETS INSTALL RIVET THROUGH GIRT FLANGE INTO MESA WHERE THE SKIN MAKES CONTACT WITH THE STEEL

CI-CF-FP 7 FASTENING PATTERN #7



(FP8) SIDE JOINT FASTENING WITH THREE GIRT CLIPS WITH SIX DOME HEAD BULB-TITE® RIVETS INSTALL RIVET THROUGH GIRT FLANGE INTO MESA WHERE THE SKIN MAKES CONTACT WITH THE STEEL

CI-CF-FP 8 FASTENING PATTERN #8

15. GENERAL DETAILS



FASTENING PATTERN 9 WITH FOUR SELF-TAPPING SCREWS WITH MIN. 20 GA. NEOPRENE BONDED WASHER

CI-CF-FP 9 FASTENING PATTERN #9



CI-CF-FP 10 FASTENING PATTERN #10

16. PENETRATIONS - PIPE

16.1 Locate penetration(s) on wall panel and cut hole with 1/2" minimum clearance. (Refer to Chapter 7 for panel cutting instructions).



16.2 For penetrations at panel joints or edges:

- plug interior joint above and below opening with butyl sealant (figure 16.2a)

- fill *exterior* reveal above penetration with color matched urethane sealant (not by panel manufacturer) to top of panel (figure 16.2b)





figure 16.2b

16. PENETRATIONS - PIPE



16.3 Fill gap around penetration(s) with expandable foam.

16.4 Apply urethane sealant around penetration(s). Cut sheet metal trims for lower and upper halves of opening and attach using 1/8" painted stainless steel pop rivets.

16.5 Apply 3/8" minimum bead of color matched urethane sealant around penetration(s).



16.6 Repeat steps 16.4 and 16.5 for interior side.



16. PENETRATIONS - BEAM

16.7 Locate penetration(s) on wall panel and cut hole with 1/2" minimum clearance. (Refer to Chapter 7 for panel cutting instructions).



figure 16.7a

Penetration through middle of panel



Penetration at panel edge

16.8 For penetrations at panel joints or edges:

- plug interior joint above and below opening with butyl sealant (figure 16.8a)

- fill exterior reveal above penetration with color matched urethane sealant (not by panel manufacturer) to top of panel (figure 16.8b)





figure 16.7b

Penetration at panel joint



16.10 Apply urethane sealant around penetration(s). Cut sheet metal trims for lower and upper halves of opening and attach using 1/8" painted stainless steel pop rivets.

16.11 Apply 3/8" minimum bead of color matched urethane sealant around penetration(s).



figure 16.10a

figure 16.10b

16.12 Repeat steps 16.10 and 16.11 for interior side.



figure 16.10c

17. EXTRUSIONS

CHECK W/METL-SPAN FOR AVAILABILITY: NOT ALL EXTRUSIONS ARE AVAILABLE FOR ALL PANEL THICKNESSES.



17. EXTRUSIONS



LAP STRIPS ARE MADE FROM FLAT STOCK, COLOR TO MATCH EXTRUSIONS. LAP STRIPS ARE USED: 1. FOR IMPROVED APPEARANCE AT SPLICES 2. TO PROTECT AGAINST LEAKS AT SPLICES



WARNING: FOR FRAMED OPENING HEAD CONDITIONS WITH SPLICES, SET EACH END OF LAP STRIP IN 2 ROWS OF URETHANE SEALANT. DRILL WEEP HOLES IN EXTRUSIONS WITHIN 2" OF SPLICE.

17. EXTRUSIONS - LAP STRIPS



Jamb/Head

Vertical H Joint

17. EXTRUSIONS - WINDOW ASSEMBLY

17.1 Notch interior and exterior head and sill extrusions as required.

17.2 Attach extrusions to structure with #12 pancake fasteners - see Chapter 15 Installation Details.



18. TOOLS, HARDWARE AND SUPPLIES

CUTTING AND BENDING TOOLS





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