SERIES 401, 402, 403 STOREFRONT

INSTALLATION INSTRUCTIONS

Part NO. Y001
January 28 2020
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Door, Door Glass and Hardware................................................Y015

Minimizing Condensation
Note: Please reference EFCO’s “Understanding Condensation” brochure which can be obtained through your EFCO representative.
Condensation will form on any surface when unfavorable conditions (interior temperature and relative humidity and exterior temperature) are present. When the formation of excessive condensation is a concern, it is highly recommended that a design professional is utilized to perform an analysis of the shop drawings to recommend the best possible installation methods. Please contact your EFCO representative for information on EFCO’s Thermal Analysis Services.

Many current installation practices lead to an increase in the possibility of the formation of condensation. Though not all inclusive, the list of examples below illustrates conditions under which condensation is likely to occur:

1. Bridging system thermal break with non-thermally broken metal flashing or lintels that are exposed to the exterior
2. System exposure to cold air cavities
3. Interior relative humidity levels not maintained at recommended levels, see EFCO’s “Understanding Condensation” brochure
4. Inadequate separation between system and surrounding condition at perimeter
5. Product combinations during the shop drawing stage that result in bridging thermal breaks of one or all products involved
SECTION I: General Notes

SERIES 401 - 1 3/4" x 4 1/2" - 1/4" GLAZING
SERIES 402 - 2" x 4 1/2" - 1" GLAZING
SERIES 403 - 2" x 4 1/2" - 1" GLAZING (THERMAL)

1) Check shop drawings, installation instructions, and glazing instructions to become thoroughly familiar with the project. The shop drawings take precedence for extrusions and details on the project. THESE INSTALLATION INSTRUCTIONS ARE OF A GENERAL NATURE AND COVER THE MOST COMMON CONDITIONS AND SITUATIONS.

2) Check all of the materials upon arrival and be sure you have everything required to begin installation. (See Section II "PARTS IDENTIFICATION")

3) All work should start from bench marks and/or column center lines as established by the architectural drawings and the general contractor. Check construction for compliance with the contract documents.

4) NOTE: Sealants must be compatible with all surfaces. Consult with the sealant manufacturer for recommendations regarding compatibility and adhesion.

5) All materials are to be installed plumb, level, and true.

6) Protect materials after erection. Cement, plaster, alkaline solutions, and acid based materials can be harmful to the finish. Masonry runoff may leach harmful acids onto the storefront. This situation must also be taken into consideration at installation.

7) Clean aluminum surfaces with a mild detergent and water. No abrasive agent shall be used.
SECTION II: A. S401 PARTS IDENTIFICATION

Vertical Parts:

9102 Tubular Vertical Mullion
For L100 Steel Reinf.

9103 Female Expansion Mullion
Use W/9104

9104 Male Expansion Mullion
Use W/9103
Use W104 Weathering

9117 ¾" x 4 ½"
System Adaptor or Door Jamb

9120 Open Back Vertical
Use W/9121,9122 or 9146

9121 Open Back Adaptor
Use W/9120,9147, 9148 or 9171

9122 Open Back Adaptor
at Butt Hinge
Use W/9120 -slide fit-

9163 Splayed Mullion
Female Portion
Use W/9164 or 9165
Use W104 Weathering

9165 15° to 30° Splayed Mullion
Male portion
Use W/9163
Use W104 Weathering

9164 0° to 15° Splayed Male Portion
Use W/9164
Use W104 Weathering

8557 135° Mullion
Fixed Shear Block only

8696 * 90° Corner Mullion Half
Two for 180°
Fits W/8697 for 90°

8697 * 90° Corner Mullion Half
Two for 180°
Fits W/8696 for 90°
Fits W/8698 for 3 way

8698 * 3-Way Corner Mullion Half
Fits W/8697 for 3-way
For Shear Block only

9297 * 90° Corner Mullion Half
Fits W/8696,8967 & 8698

9115 * (4" x 4 ½") Vertical Mullion Half
Self-Mating only

1G14 4 ½" Deep
Adjustable Side Lite
Base Vertical
W/BRK. MTL.
Use W/1G13 Horiz.

Drawings on this page are not to scale.
SECTION II: A. S401 PARTS IDENTIFICATION

Horizontal Parts:

Drawings on this page are not to scale.

9148
4 ½" x 4 ½" Side
Lite Base
Use W/9129
Glass Stop.
Use W/9121,
9146 or 9149

1G14
4 ½" Deep
Adjustable Side
Lite Base
Vertical W/BRK.
MTL.
Use W/1G13
Horizontal

9149
4 ½" x 4 ½" Side
Lite Anchor Base

E178
Frame Receptor
Closure
Use W/1510
Use WA04
Weathering

1510
Frame Receptor
Use E178
Closure
Use WA04
Weathering

9160
2 9/16" Deep
Adjustable Side
Lite Base Horiz.
W/ BRK. MTL.
Use W/9161
Vertical
Use (2) 9133
Glass Stops
Use W104
Weathering

9161
2 9/16" Deep
Adjustable Side
Lite Base Vertical W/BRK.
MTL.
Use W/ 9160
Horizontal

1G13
4 ½" Deep
Adjustable Side
Lite Base
Horizontal
W/BRK. MTL.
Use W 1G14
Vertical
Use (2) 9129
Glass Stops
Use W104
Weathering

9145
Head
Use W/9146
Adaptor

9128
Intermediate
Horizontal
Use W/9129
Glass Stop

9147
Open Back Horizontal
w/ Sill Use W/9129
Glass Stop Use W/
9121 Glz. Adaptor or
FS92 / 9146 Filler
## SECTION II: A. S401 PARTS IDENTIFICATION

### Door Frame Parts:

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9109</td>
<td>Single Acting Door Jamb Use W/ 9138 Weathering</td>
</tr>
<tr>
<td>9108</td>
<td>Double Acting Door Jamb</td>
</tr>
<tr>
<td>9112</td>
<td>1/8” Wall Weathering Single Acting Door Jamb Use W138</td>
</tr>
<tr>
<td>9171</td>
<td>Single Acting Door Jamb for Screw Spline Side Lites Use 9121 Glazing Adaptor Use W138 Weathering</td>
</tr>
<tr>
<td>9134</td>
<td>Single Acting Transom Bar Use W/ 9123 Glass Stop Use W138 Weathering</td>
</tr>
<tr>
<td>9127</td>
<td>Dual Acting transom Bar Use W/ 9123 Glass Stop</td>
</tr>
<tr>
<td>9174</td>
<td>Screw Spline Door Header Use W/ 9123 ¼” Glass Stop Use W138 Weathering</td>
</tr>
<tr>
<td>9129</td>
<td>Glass Stop Use W/ 9128, 9147, 9148 &amp; 1G13</td>
</tr>
<tr>
<td>9123</td>
<td>Removable Stop ¼” Glazing at Transom Bar</td>
</tr>
<tr>
<td>9133</td>
<td>Removable Stop ½” Glazing at 9160, 9131 &amp; 9138 Side Base, or 9150 App. Glazing</td>
</tr>
<tr>
<td>9132</td>
<td>Side Lite Base Adaptor Foot Use W/ 9131 &amp; 9137</td>
</tr>
<tr>
<td>9146</td>
<td>Stock Length Open Back Filler Use W/ 9120, 9145 or 9147 (see FS92)</td>
</tr>
<tr>
<td>FS92</td>
<td>3” Perimeter Adaptor Clip Use W/ 401 Open Back Frames</td>
</tr>
<tr>
<td>L131</td>
<td>120” Lightweight PVC Perimeter Adaptor Use W/ 9120, 9145 or 9147</td>
</tr>
<tr>
<td>FV58</td>
<td>3” Perimeter PVC Adaptor Clip Use W/ 9120, 9145 or 9147</td>
</tr>
<tr>
<td>9149</td>
<td>4 ½” x 4 ½” Side Lite Anchor Base</td>
</tr>
<tr>
<td>9150</td>
<td>Applied Fixed Sash Use W/ 9133 Glass Stop for ¼” Glass</td>
</tr>
<tr>
<td>9151</td>
<td>Snap In Pocket Filler Use W/ 401 System</td>
</tr>
<tr>
<td>9152</td>
<td>Snap-in Door Stop Use W/ 9155 Use W138 Weathering</td>
</tr>
<tr>
<td>9154</td>
<td>Applied Door Stop Use W/ 9155 Use W138 Weathering</td>
</tr>
<tr>
<td>9155</td>
<td>Applied Door Stop Cover Use W/ 9154</td>
</tr>
<tr>
<td>9156</td>
<td>¼” Glazing Adaptor at Transom Use W/ 9109 &amp; 910</td>
</tr>
</tbody>
</table>

*Drawings on this page are not to scale.*
SECTION II: A. S401 PARTS IDENTIFICATION

Door Frame Parts:

9144
Applied ¾" Door Stop

9153
Applied Door Stop

4437
Applied 5/8" Stop Used At Door Header Only Mates W/9155

4438
5/8" Snap-in Door Stop at Door Header Only Used W/1 ¾" Door
SECTION II: A. S401 PARTS IDENTIFICATION

Shear Blocks & Clips:

- **K120 (CLR & BRZ)**
  - Door Header Shear Block Pkg.
  - Screws Included

- **K122**
  - Horizontal Intermediate Shear Block Pkg.
  - Screws Included

- **K123**
  - High Side Lite Shear Block Pkg.
  - Screws Included

- **K124 (CLR & BRZ)**
  - Threshold Clip Pkg.
  - O.P. Butt H Screws Included

- **K126**
  - C.O.C. Threshold Clip Pkg.
  - Screws Included

- **K153 (CLR)**
  - K154 (BRZ)
  - Threshold Clip Package for Conc. Rod Panic
  - Screws Included

Sill Flashing & End Caps:

- **K449**
  - End Cap Pkg. for #9957 Sill Flashing

- **F098**
  - 3" Flashing Clip
  - 2 Per D.L.O.
  - Use W/9957

- **K293**
  - Sill Flashing Splice (STD.)

- **9947**
  - High Performance Lite Sill Flashing

- **9957**
  - Standard High Performance Sill Flashing
  - Use K449 End Cap

Glass Setting Blocks:

- **HN80**
  - Inside Glazed Horizontal Setting Block

- **K166**
  - Door Transom Setting Block Pkg.
  - Use W/9123 ¼" Glass Stop

- **H161**
  - High Sidelite Base Setting Block Pkg.

- **H160**
  - Horizontal Setting Block Pkg.
SECTION II: A. S401 PARTS IDENTIFICATION

S401 Drill Jigs:

- DJ01 Shear Block Drill Fixture (Head Members)
- DJ03 Shear Block Drill Fixture (Horizontals to Shear Blocks)
- H700 Economy Drill Guides (Shear Block to Vertical)
- H701 Economy Drill Guides (Screw Spline Application)
- H382 Shear Block / Screw Spline Drill Fixture (At Verticals)

Steel Reinforcing:

- L100 Tubular Mull Reinforcing Steel
  Use W/ 9102, 9108, 9109, 9112 & 9120
- L101 Expansion Mull Reinforcing Steel
  Use W/ 9103 & 9104

Fasteners:

- M109 Threshold Clip Screw
  #12-24 x 3/8” FH-MS
- STK0 Adjustable Side Lite Base Vert. to Mull Attachment Screw
  4 1/2” Deep Base
  #8-18 x 1/2” PH-SMS 410 TEK/2
- S129 Frame Spline Attachment Screw
  #10-16 x SQ-SMS Type 25 Zinc Chromate
- S100 Shear Block Attachment Screw
  #8 x 1 1/2” PH-SMS
- M100 (CLR) M108 (BRZ) Frame to Offset Pivot Screw
  #12 x 3/4” FH-SMS-F
- S123 High Side Lite Base Shear Block Screw
  #12 x 3/8” FH-SMS-F
- S108 Screwspline T hold - 9951
  #8-18 X 1” SL-HW-SMS ZC B-LP .25

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SECTION II: A. S401 PARTS IDENTIFICATION

Gasket:

Drawings on this page are not to scale.

W165
Glazing Gasket for Undersized Glass
For 3/16” Glazing Use
W164 Interior & W165 Exterior

W166
Glazing Gasket for Oversized Glass
5/16”-3/8” Infill 401

W199
Standard Glazing Gasket ¼” Infill 401

W138
Standard Weather Seal @ Door Stops

WA04
Standard Weather Seal @ Subframes

W104
Weather Seal Gasket
Use W/ Expansion Mulls, @ Variable Mulls or Adj. Height Side Lite Bases

HN54
¼” Antiwalk Block 401 Only
SECTION II: B. S402 PARTS IDENTIFICATION

Vertical Parts:

9202
Vertical Mullion

9203
Female Expansion Mullion
Use W/ 9204

9204
Male Expansion Mullion
Use W/ 9203
Use W/104 Weathering

9220
Open Back Vert
Use 9221, 9222, or 9246/FS93
Peri. Adaptor

9212
Open Back Vertical 1/8" Wall
for L102 Steel
Use 9221, 9222 or 9246/FS93
Perimeter Adaptor

9223
Heavy-Duty Open Back
Mullion
Use W/ 9221 or 9222
Use 9246/FS93
Perimeter Adaptor

9221
Open Back Glazing Adaptor
Use W/ 9220, 9223, 9247 or 9248

9222
Open Back Glazing Adaptor at Butt Hinge
Use W/ 9220 or 9223

9263
4” x 4 ½” Tubular Door Jamb / Header

8558
135° Mullion Fixed Shear Block Only

9224
90° Corner Mullion Half
Two for 180°
Fits W/ 9224 for 90°

9296
3-Way Corner Mullion Half
Fits W/ 9244 for 3-Way

9297
90° Corner Mullion Half
Fits W/ 9224, 9244 & 9296
Self-Mating for a Cover

Drawings on this page are not to scale.
Series 401, 402, & 403 Installation Instructions

SECTION II: B. S402 PARTS IDENTIFICATION

Horizontal Parts:

- **9236** Tubular Side Lite Horizontal Use W/ 9229 Glass Stop
- **9245** Head Use W/ 9246 Adaptor
- **9247** Open Back Sill or Horizontal Use W/ 9229 Glass Stop 9246 adaptors
- **9248** 4 ½" x 4 ½" Side Lite Base Use W/ 9229 Glass Stop 9246 or 9221 Adaptors or Use 9149 Anchor
- **9268** Open Back Head for Round Tops Use W/ 9269 Glass Stop FS93 Peri. Adpt.
- **9149** 4 ½" x 4 ½" Side Lite Anchor Base Use W/ 9248
- **9270** Heavy-Duty Tubular Horizontal Use W/ 9271 Glass Stop Use K358 Shear Block PKG.
- **9160** Adjustable Side Lite Base Horizontal W/ BRK. MTL. Use W/ 9161 Use 9253 Glass Stop Use W104 Weathering
- **9231** 8" Horizontal Self-Mating Use (2) K129 Shear Block Use Removable Stop Horizontals Above & Below

Drawings on this page are not to scale.
SECTION II: B. S402 PARTS IDENTIFICATION

Door Frame Parts:

Drawings on this page are not to scale.

9234
Single Acting Transom Bar
Use W/ 9123 for 1” Glass Stop
Use W138 Weathering

9227
Dual Acting Transom Bar
Use W/ 9123 for 1” Glass

9274
Single Acting Screw Spline Transom Bar
Use W/ 9123 – ½” Glazing
Use W/ 9253 – 1” Glazing
Use W138 GSKT

9208
Double Acting Door Jamb

9229
Removable Stop
For 1” Glazing
Used W/ 9236, 9247, 9248 & 1G13

9209
Single Acting Door Jamb
Use W138 Weathering

9232
Single Acting Door Jamb for Screw Spline Side Lites
Use 9221 Glazing Adaptor
Use W138 Weathering

9254
1” Glazing Adaptor at Transom
Use W/ 9209 or 9209

4376
1” Glazing Adaptor at Transom

9133
Removable Stop
Use W/ 9250 for 1” Applied Glazing

9123
Removable Stop
1” Glazing at 2” x 4½” Transom Bars

9269
Removable Stop
for 9268 Head
Only 1” Glazing at Round Top Head

9250
Applied Fixed Sash
Use W/ 9133 Stop

9271
Removable Stop
for 9270 H.D. Horizontal 1” Glazing

9251
Snap-In Pocket Filler for 1” Glazing Nonthermal

9253
Glass Stop
1” Glazing at 9274 Transom & 9160 / 9161 Side Base
SECTION II: B. S402 PARTS IDENTIFICATION

Misc. Parts:

Drawings on this page are not to scale.

9161
Adjustable Side Lite Base
Vertical W/ BRK.
MTL.
Use W/ 9160

1G13
Adjustable Side Lite Base
Horizontal W/ BRK.
MTL.
Use 1G14
Use 9229 Glass Stop
Use W104 Weathering

1G14
Adjustable Side Lite Base
Vertical W/ BRK.
MTL.
Use W/ 1G13

9260
Glazing Adaptor
for 1/2" Glass
In 1" Glazing Pocket

9261
Glazing Adaptor
for 1/4" Glass in 1" Glazing Pocket

9246
Stock Length Open Back Filler
Use W/ 402 & 403 Open Back Frames
(See FS93 & K318)

FS93
3" Perimeter Adaptor Clip
Use W/ 402 & 403 Open Back Frames
(See 9246 & K318)

K318
3" Perimeter Adaptor Clip
Pkg.
Use Only W/ 9247 at Head / Sill
(See 9246 & FS93)

L132
120" Lightweight PVC Perimeter Adaptor
Use W/ 9220, 9245 at Jamb & Head

FV59
3" Perimeter PVC Adaptor Clip
Use W/ 9220, 9245 at Jamb & Head

L133
120" Lightweight PVC Perimeter Adaptor
Use W/ 9247 at Sill

FV60
3" Perimeter PVC Adaptor Clip
Use W/ 9247 at Sill

9247
Stock Length Open Back Filler
Use W/ 402 & 403 Open Back Frames
(See FS93 & K318)

9229
Glass Stop
Use W104 Weathering
SECTION II: B. S402 PARTS IDENTIFICATION

Misc. Parts:  

9938 Shadowline Window Adaptor  
Equal Leg  
Use W104 Weathering  

8643 System II Window Adaptor  
Equal Leg  
Use W104 Weathering  

1G69 Horiz. / Vert. Stack Adaptor  
2" Sightline  

1G68 Horiz. / Vert. Stack Adaptor  
2" sightline w/ Revel  

8741 Head / Sill Can  
S402 System  
2" Sightline  

8742 Nonremovable Stop Can Filler  

8743 Removable Stop Can Filler  
Use W/ 8744 Glass Stop  

16C7 2-Part Mullion Half  

16C8 2-Part Perimeter Interior Half  

16C9 2-Part Perimeter Exterior Half  

Drawings on this page are not to scale.
SECTION II: B. S402 PARTS IDENTIFICATION

Sill Flashing & End Caps

Drawings on this page are not to scale.

9947
High Performance Lite Sill Flashing

8433
Standard High Performance Sill Flashing
Use K449 End Cap

1G85
High Performance Sill Flashing W/ Stool Clip
Uses K448 End Cap

K449
End Cap Pkg. for #8433 Sill Flashing
(1) FT34
(2) STC7

8433
High Performance Sill Flashing

F098
3” Flashing Clip
2 per DLO
Use W/ 9957

K293
Sill Flashing Splice
( STD.)

K292
Sill Flashing Splice
( OPT.)

K448
End Cap Pkg. for 1G64, 1G65 & 1G85
(1) FT33
(2) STC6

HWD1
Water Deflector
@ Int. Horizontal
SECTION II: B. S402 PARTS IDENTIFICATION

Shear Blocks & Drill Jigs

Drawing on this page are not to scale

K124 (clr)  
K125 (brz)  
O.P. & Butt  
Hinge  
Screws Included

K126  
C.O.C. Threshold Clip  
Pkg.  
Screws Included

K129 (clr)  
K130 (brz)  
Header Shear Block  
Pkg. Screws Included

K173  
Horizontal Shear Block  
Pkg.  
Screws Included  
Use W/ 9236, 9247 or 9248

K1358  
H.D. Horizontal Shear Block  
Pkg.  
Use W/ 9270  
Screws Included

KN92  
402 / 403 2-Piece Rolled Head Shear Block Pkg.

KN93  
402 / 403 2-Piece Horiz. Setting Chair Pkg.

K153 (clr)  
K154 (brz)  
Threshold Clip  
Pkg. for Conc. Rod Panic  
Screws Included

DJ01  
Shear Block Drill Fixture  
(Head Members To Shear Blocks)

DJ02  
Shear Block Drill Fixture  
(Horizontals to Shear Blocks)

H700  
Economy Drill Guides  
(Shear Block to Vertical)

H702  
Economy Drill Guides  
(Screw Spline Application)

H381  
Shear Block / Screw Spline Drill Fixture  
(At Verticals)
HNA3
Transom Setting Block
1” Glazing

HN92
Inside Glazed Horizontal Setting Block

HNA4
Inside Glazed Setting Block at Sill

HN32
Exterior Glazed Setting Block / Chair Assembly Pkg. at Sill

H190
2” Transom Bar & 2 ½” Side Lite Base Setting Block Pkg.
Using 9253 Glass Stop

K354
1” Glass Setting Block Pkg. for 1G13 / 1G14 Adj. Side Lite Base

L100
Tubular Mull Reinforcing Steel Use W/ 9208 & 9209

L101
Expansion Mull Reinforcing Steel Use W/ 9203 & 9204

L102
8 Gauge Reinforcing Steel Use W/ 9212

Drawings on this page are not to scale.
SECTION II:B. S402 PARTS IDENTIFICATION

Fasteners:

STB9
Horizontal to Shear Block Screw
#12 ½” RH-SMS "A"

S101 (clr)
S103 (brz)
Horizontal to Shear Block Screw @ Head
#12 ¾” FH-SMS "A"

STT7
Adjustable Side Lite Base Vertical Attachment
#10-12 x 1” PHSMS

STU5
Adjustable Side Lite Base Vert. to Mull Attachment Screw 2 ½” Deep Base
#8-15 x 2” PHSMS

M109
Threshold Clip Screw
#12-24 x 3/8” PHMS

S129
Frame Spline Attachment Screw
(#10-16 x 1” SQ-SMS )
Type 25
Zinc Chromate

S100
Shear Block Attachment Screw
(#8 x 1 3/4” FH )

M100 (clr)
M108 (brz)
Frame to Offset Pivot Screw
(#12-24 x 3/4” F.H.M.S.)

SFQ2
Window Adaptor to Frame Attachment Screw
Use W/ 9935 & 9936
#8-18 x ½” FH-SMS

STK0
Adjustable Side Lite Base Vert. to Mull Attachment
Screw 4 ½” Deep Base
#8-18 x ¾” PHSMS 410 TEK/2

S108
Screwspline T hold - 9951
#8-18 X 1 SL-HW-SMS
ZC B-LP .25

Drawings on this page are not to scale
SECTION II: B. S402 PARTS IDENTIFICATION

Gasket:

W165
Glazing Gasket for Undersized Glass
¾” Infill @ 1” Pocket

W166
Glazing Gasket for Oversized Glass
1 1/8” Infill @ 1” Pocket

W199
Standard Glazing Gasket
1” Infill @ 1” Pocket

W138
Standard Weather Seal @ Door Stops

WA04
Standard Weather Seal @ Subframes

W104
Weather Seal Gasket
Use W/ Expansion Mulls, @ Variable Mulls or Adj. Height Side Lite Bases

HN52
1/2” Antiwalk Block
SECTION II: C. S403 PARTS IDENTIFICATION

Vertical Parts:

Drawings on this page are not to scale.

9322 Standard Tubular Vertical Mullion

9323 Heavy-Duty Open Back Mullion
Use W/ 9246, 9315 & 9314

9324 Extra Heavy-Duty Open Back Mullion
Use W/ 9246, 9315 & 9314

9314 Open Back Adaptor
Use W/ 9320, 9323, 9324,
9347 or 1G80

9315 Open Back Adaptor at Butt Hinge
Slide Fit W/ 9320 & 9323

9316 0° to 15° Variable Female Mullion Half
Use W/ 9317
Use W104 Gasket

9317 0° to 15° Variable Male Mullion Half
Use W/ 9316
Use W104 Gasket

9318 15° to 30° Variable Male Mullion Half
Use W/ 9316
Use W104 Gasket

9320 Open Back Vertical
Use W/ 9246, 9315 or 9314
Glazing Adaptor

9309 Female Expansion Mullion for L101
Steel Reinforcing
Use W/ 9311

9311 Male Expansion Mullion for L101
Steel Reinforcing
Use W/ 9308
Use W104 Weathering
SECTION II: C. S403 PARTS IDENTIFICATION

Horizontal Parts:

Drawings on this page are not to scale.

9326
(4" x 4 ½")
Sidelite Base
Use W/ 9229,
9149, 9314 or
9246

9327
(4" x 4 ½")
Head or
Horizontal
Use W/ 9314 or
9246

2G56
Outside
2G57
Inside
135° Fixed
Mullion

9305
2-Way Corner
Mullion Half
Fits W/ 9299 for
3-Way
Must Be Shear
Blocked

9300
90° Corner
Mullion Half
Two for 180°
Fits W/ 9299 for
90°

9297
90° Corner
Mullion Half
Fits W/ 9299,
9305 & 9300
Self-Mating For
A Cover

9299
90° Corner
Mullion Half
Two for 180°
Fits W/ 9300 for
90°
Fits W/ 9305 for
3-Way

E178
Frame Receptor
Closure
Use W/ 1510
Use WA04
Weathering

1510
Frame Receptor
Use E178
Closure
Use WA04
Weathering

9336
Tubular Side Lite
Horizontal
Use 9229 Glass
Stop

9229
Removable Stop
for 1" Glazing
Used W/ 9326,
9336, 9347,
1G13 & 1G80

9345
Head
Use W/ 9246

9347
Open Back
Sill/Horizontal
Use 9229 Glass
Stop
Use W/ 9246
Adaptor or 9314
Glazing Adaptor

1G80
Outside
1G81
Inside
4 ½" x 4 ½" Side
Lite Base
Use 9229 Glass
Stop
Use W/ 9149 or
9246 Anchors or
9314 Glazing
Adaptor

9149
4 ½" x 4 ½" Side
Lite Base Anchor
Use W/ 9326 &
1G80
SECTION II: C. S403 PARTS IDENTIFICATION

Door Frame Parts:

9234
Single Acting
Transom Bar
Use W/ 9123 For
1” Glass
Use W138
Weathering

9227
Dual Acting
Transom Bar
Use W/ 9123 For
1” Glass

9274
Single Acting
Screw Spline Transom Bar
Use W/ 9123 - 1/4” Glass, W/ 9253 – 1” Glass
Use W138 Weathering

9208
Double Acting
Door Jamb

9209
Single Acting
Door Jamb
Use W138
Weathering

9232
Single Acting
Door Jamb for Screw Spline
Side Lites
Use W/ 9314
Glazing Adaptor
Use W138
Weathering

9263
4” x 4 1/2” Tubular
Door Jamb / Header

9133
Removable Stop
Use W/ 9250 For
1” Applied Glazing

9123
Removable Stop
1” Glazing at 2” x 4 1/2” Transom Bars

9208
Removable Stop For 9268 Head Only
1” Glazing at Round Top Head

9250
Applied Fixed
Sash
Use W/ 9133
Stop

9351
Snap-in Pocket
Filler
For 1” Glazing
Thermal

9253
Glass Stop
1” Glazing at 9274 Transom

4376
1” Glazing Adaptor at Transom
Use W/ 9208 or 9209

9254
1” Glazing Adaptor at Transom
Use W/ 9208 or 9209

9257
Snap-In Door Stop in 1” Glazing Pocket
Use W138 Gasket

9154
Applied Door
Stop
Use W/ 9155
Use W138
Weathering

9155
Applied Door
Stop Cover
Use W/ 9154

9355
Snap In Door
Stop Used With
2” Door

9356
Snap In Door Stop Used With 2” Door. This Stop
To Be Used at Shallow Pocket Jambs Only. Use
9355 at Deep Pockets

4441
5/8” Snap In
Door Stop Used
at Door Headers
Only. Used W2”
Door

Drawings on this page are not to scale.
SECTION II: C. S403 PARTS IDENTIFICATION

Misc. Parts:

1G13
Adjustable Side
Lite Base
Horizontal W/ BRK. MTL.
Use W/ 1G14
Use 9229 Glass Stop
Use W104 Weathering

1G14
Adjustable Side
Lite Base
Vertical W/ BRK. MTL.
Use W/ 1G13

4420
Stock Length
Open Back Filler
Open Back Frames
(See FU99)

FU99
3" Perimeter Adaptor Clip
Open Back Frames
(See 4420)

L132
120° Lightweight PVC Perimeter Adaptor
Use W/ 9320, 9345 & 9347

FV59
3" Perimeter PVC Adaptor Clip
Use W/ 9320, 9345 & 9347

9260
Glazing Adaptor For ½" Glass in 1" Glazing Pocket

9261
Glazing Adaptor for ¼" Glass in 1" Glazing Pocket

FU99
3" Perimeter Adaptor Clip
Open Back Frames
(See 4420)

1G15
Horiz. / Vert. Stack Adaptor
4" Sightline

1G69
Horiz. / Vert. Stack Adaptor
2" Sightline

8643
System II Window Adaptor
Equal Leg
Use W104 Weathering

9938
Shadowline Window Adaptor
Equal Leg
Use W104 Weathering

9260
Glazing Adaptor For ½" Glass in 1" Glazing Pocket

9261
Glazing Adaptor for ¼" Glass in 1" Glazing Pocket

9938
Shadowline Window Adaptor
Equal Leg
Use W104 Weathering

8643
System II Window Adaptor
Equal Leg
Use W104 Weathering

1G68
Horiz. / Vert. Stack Adaptor
2" Sightline
W/ Revel

1G69
Horiz. / Vert. Stack Adaptor
2" Sightline
W/ Revel

Misc. Parts: Drawings on this page are not to scale.
SECTION II: C. S403 PARTS IDENTIFICATION

Misc. Parts:

16C7 2-Part Mullion Half
16C8 2-Part Perimeter Interior Half
16C9 2-Part Perimeter Exterior Half

L100 Tubular Mull Reinforcing Steel
Use W/ 9208 & 9209
SECTION II:  C.  S403 PARTS IDENTIFICATION

Sill Flashing & End Caps:  Drawings on this page are not to scale.

1G64
High Performance Sill Flashing
Use F098 Clip

1G65
High Performance Sill Flashing

1G85
High Performance Sill Flashing
W/ Stool Clip
Use K448 End Cap

F098
3" Flashing Clip
2 per DLO
Use W/1G64

K448
End Cap Pkg.
for 1G64, 1G65 & 1G85.
(1)FT33
(2)STC6

K293
Sill Flashing Splice
(STD.)

HWD1
Water Deflector @ Int. Horizontal
SECTION II: C. S403 PARTS IDENTIFICATION

Shear Blocks & Drill Jigs:

K129 (clr)
K130 (brz)
Header Shear Block Pkg.
Screws Included

K172
Horizontal Shear Block Pkg.
Screws Included
Use W/ 9336, 9347 & 1G80

K124 (clr)
K125 (brz)
Threshold Clip Pkg.
O.P. & Butt H.
Screws Included

K153 (clr)
K154 (brz)
Threshold Clip Pkg. for Conc.
Rod Panic
Screws Included

DJ01
Shear Block Drill Fixture
(Head Members to Shear Blocks)

DJ02
Shear Block Drill Fixture
(Horizontals to Shear Blocks)

H700
Economy Drill Guides
(Shear Block to Vertical)

H702
Economy Drill Guides
(Screw Spline Application)

H381
Shear Block / Screw Spline Drill Fixture
(At Verticals)

KN92
402 / 403 2-Piece Rolled Head Shear Block Package

Drawings on this page are not to scale.
SECTION II: C. S403 PARTS IDENTIFICATION

Setting Blocks:

Drawings on this page are not to scale.

- HNA3: Transom Setting Block 1” Glazing
- HN32: Exterior Glazed Setting Block / Chair Assembly Pkg. at Sill & Horiz.
- HN92: Inside Glazed Horizontal Setting Block
- HNA4: Inside Glazed Setting Block At Sill
- H190: Transom Setting Block Pkg. Using 9253 Glass Stop
- K354: 1” Glass Setting Block Pkg. for 1G13/1G14 Adj. Side Lite Base
- KN93: 402 / 403 2-Piece Horizontal Setting Chair Package
SECTION II: C. S403 PARTS IDENTIFICATION

Fasteners:

STB9
Horizontal to Shear Block Screw
#12 ½"-RH-SMS "A"

S101 (clr)
S103 (brz)
Horizontal to Shear Block Screw @ Head
#12 3/4" FH-SMS "A"

STT7
Adjustable Side Lite Base Vertical Attachment
#10-12 x 1"
PHSMS

STU5
Adjustable Side Lite Base Vert. to Mull Attachment Screw 2 ½"
Deep Base
#8-15 x 2"
PHMS

M109
Threshold Clip Screw
#12-24 x 3/8"
PHMS

STK0
Adjustable Side Lite Base Vert. to Mull Attachment Screw 4 ¾"
#8-18 x 3/4"
PHSMS 410 TEK/2

SFQ2
Window Adaptor to Frame Attachment Screw
Use W/9935 & 9936
#8-18 x 1/2"
FH-SMS

S129
Frame Spline Attachment Screw
#10-16 x 1"
SQ-SMS.
Type 25 Zinc Chromate

S100
Shear Block Attachment Screw
#8 x 1 ½" P.H.

M100 (clr)
M108 (brz)
Frame to Offset Pivot Screw
#12-24 x ¾"
F.H.M.S.

S108
Screwspline T hold - 9951
#8-18 X 1 SL-HW-SMS
ZC B-LP .25

Drawings on this page are not to scale.
Section II: C. S403 PARTS IDENTIFICATION

Gaskets & Antiwalk Block:

Drawings on this page are not to Scale.

- **W165**: Glazing Gasket for Undersized Glass
  - ¾” Infill @ 1” Pocket

- **W166**: Glazing Gasket for Oversized Glass
  - 1 1/8” Infill @ 1” Pocket

- **W199**: Standard Glazing Gasket
  - 1” Infill @ 1” Pocket

- **W138**: Standard Weather Seal @ Door Stops

- **WA04**: Standard Weather Seal @ Subframes

- **HN50**: 3/8” Antiwalk Block
  - 9322 Vertical Only

- **HN52**: 1/2” Antiwalk Block
  - 402 & 403 Except 9322
SECTION III: A. SCREW SPLINE FABRICATION

The screw spline system is a fabrication and erection method that permits the preassembly of single units in the shop or at the job site. These units are then erected by mating the male mullion with the female mullion counterpart.

When an entrance is required, screw spline joinery may be used with the screw spline door jambs only. Otherwise, shear block joinery must be used to attach the side lite horizontals.

NOTE) DUE TO THE SCREW TENSIONS REQUIRED FOR CORRECT INSTALLATION, IT WILL BE NECESSARY TO ‘WAX’ THE FRAME ASSEMBLY SCREWS TO PREVENT GALLING AND BREAKAGE.

STEP 1) Measure the opening to determine the cut length of the frame components.
   NOTE: Allow minimum 1/2" shim and caulk space around perimeter.
   NOTE: Allow extra clearances, if necessary, to accommodate building tolerances and building movement.
   NOTE: Consult A.D.A. requirements to verify compliance.

STEP 2) Cut the verticals to frame size.
   NOTE: Verticals must run through.
   If the opening has an entrance, see the appropriate frame and door fabrication installation sheets.
   NOTE: Door jambs run to the floor and are cut longer than other verticals.

STEP 3) Drill holes for assembly screws on vertical members.
   (See Fig. # 5 page 35).
   NOTE: Drill jigs are available.
   See pages 9, 17, and 27 of the parts identification section.

STEP 4) Cut horizontal members to day lite openings.
   (Between vertical mullions)
   Cut horizontal glass stops to day lite openings minus 1/32".
   (D.L.O. - 1/32")
SECTION III: A. SCREW SPLINE FABRICATION

For assembly hole locations see page 35 - Fig. # 5.
ECONOMY DRILL GUIDES
H-701 DRILL GUIDE (401)
for SCREW SPLINE APPLICATION

Use this edge or the opposite edge for locating the drill guide at the top of the horizontal. (FOR 401 SYSTEM)

#10 drill (.201 dia.), (8) holes are located. Refer to the horizontal extrusion being used to determine the correct holes to drill for the application at head, intermediate, or sill.

FIG. #3

Insert this lug into the 401 glazing pocket, then drill the screw spline assembly holes as indicated. (FOR 401 SYSTEM)
SECTION III: A. SCREW SPLINE FABRICATION

ECONOMY DRILL GUIDES
H-702 DRILL GUIDE (402/403) for SCREW SPLINE APPLICATION

Use the top edge of the drill guide to locate the hole pattern for the screw splines.

(FOR 402/403 SYSTEM)

NOTE: The drill jig is reversible.

Insert this lug into the 402/403 glazing pocket, then drill the screw spline assembly holes as indicated.

(FOR 402/403 SYSTEM)

FIG. #4

#10 drill (.201 dia.), (8) holes are located. Refer to the horizontal extrusion being used to determine the correct holes to drill for the application at head, intermediate, sill, or side lite base.

TOP OF HORIZONTAL
SECTION III: A. SCREW SPLINE FABRICATION

CAUTION:
Door jambs must run to the floor and are cut longer than other verticals. Add sill flashing thickness and/or side lite sill blocking thickness to screw spline mounting hole height location at the sill.

FIG. # 5
USE BLOCKED OUT HOLE LOCATIONS FOR SCREW SPLINE APPLICATIONS
OUTSIDE GLAZED AS SHOWN
INVERT TEMPLATE FOR INSIDE GLAZED
SECTION III: A. SCREW SPLINE FABRICATION

REVIEW THE GENERAL NOTES ON PAGE 3 BEFORE PROCEEDING.

STEP 1) Apply butyl sealant (S.M. 5504, typ.) to ends of all horizontals before assembling units.

STEP 2) Assemble the unit as shown in Fig. # 6 below.
These basic assembly procedures apply to all storefront products.

Apply butyl type sealant to the entire end of ALL horizontals.

Each unit must have a male and female mullion. Use wall jamb at end panels as required.

Each lite must have one removable horizontal glass stop. Typically located with outside glazing at an exterior sill and with inside glazing at an interior head. Glass stops should not be installed at this time. See Section V for glazing.

NOTE: See page 48 for expansion mullion application.
The shear block system is a fabrication and erection method that permits the preassembly of single units in the shop or at the job site. These units are joined with shear blocks and installed as an assembled unit in the opening on top of any sill flashing that is used. Shear block joinery will be used at any immediate door frame.

**STEP 1)** Measure the opening to determine the cut length of the frame components.

- **NOTE:** Allow minimum 1/2" shim and caulk space around perimeter.
- **NOTE:** Allow extra clearances, if necessary, to accommodate building tolerances and building movement.
- **NOTE:** Consult A.D.A. requirements to verify compliance.

**STEP 2)** Cut verticals to frame size.

- **NOTE:** Verticals must run through.
  
  If the opening has an entrance, see the appropriate frame and door fabrication installation sheets.

- **NOTE:** Door jambs run to the floor and are cut longer than other verticals.

**STEP 3)** Cut horizontal members to day lite openings.

- (Between vertical mullions)
  
  Cut horizontal glass stops to day lite openings minus 1/32".

- (D.L.O. - 1/32")

**STEP 4)** Drill holes for shear block screws on vertical members.

- **NOTE:** Drill jigs are available.

  See pages 9, 17, and 27 of the parts identification section.
VERTICAL SHEAR BLOCK PREP USING H-381 & H-382 DRILL JIG.

Reference to the shop drawings SECTION III: B. SHEAR BLOCK FABRICATION

Drill Jig
H382 - for 401
H381 - 402/403

Align this notch at the top of the horizontal. Reference to the shop drawings for the horizontal locations.

FIG. # 7

For assembly hole locations see page 41 - Fig. # 11.
SECTION III: B. SHEAR BLOCK FABRICATION

S401

H-700 DRILL GUIDE
for SHEAR BLOCK APPLICATION

Use this NOTCHED edge or the opposite NOTCHED edge for locating the drill guide at the top of the horizontal. (FOR 401 SYSTEM)

H-700

Insert this lug into the 401 glazing pocket, then drill the shear block assembly holes as indicated. (FOR 401 SYSTEM)

FIG. # 9
SECTION III: B. SHEAR BLOCK FABRICATION

S402 & S403

H-700 DRILL GUIDE
for SHEAR BLOCK APPLICATION

FIG. # 10

Use this edge or the opposite edge for locating the drill guide at the top of the horizontal. (FOR 402/403 SYSTEM)

H-700

Insert this lug into the 402/403 glazing pocket, then drill the shear block assembly holes as indicated. (FOR 402/403 SYSTEMS)

# 26 drill (.147 dia.)
(8) HOLES 402/403

TOP OF HORIZONTAL

TO FINISHED FLOOR
CAUTION:
Door jambs must run to the floor and are cut longer than other verticals. Add sill flashing thickness and/or side lite sill blocking thickness to shear block mounting hole height location at the sill.

FIG. # 11
USE BLOCKED OUT HOLE LOCATIONS FOR SHEAR BLOCK APPLICATIONS
OUTSIDE GLAZED AS SHOWN
INVERT TEMPLATE FOR INSIDE GLAZED
SECTION III: B. SHEAR BLOCK FABRICATION

STEP 5) Cut horizontal members to day lite openings (typically between vertical mullions). Cut horizontal glass stops to day lite openings minus 1/32". (D.L.O. - 1/32"

STEP 6) Prep horizontals for attachment to shear blocks as shown below in Fig's. # 12 and # 13.

NOTE: For optional side lite base prep, see Section III F and Section III G.
SECTION III: B. SHEAR BLOCK FABRICATION

DJ03 DRILL JIG APPLICATION for S401 SYSTEM

HORIZONTAL & SILL END PREP FOR ATTACHMENT TO K122 SHEAR BLOCK

Drill as indicated thru one wall using #2 drill (.221 dia.)

Fig. #14

Fig. #15
DJ02 DRILL JIG APPLICATION for S402 and S403 SYSTEM

HORIZONTAL and SILL END PREP FOR ATTACHMENT TO SHEAR BLOCKS

Drill as indicated thru one wall using #2 drill (.221 dia.) for BOTH S402 and S403.
SECTION III: B. SHEAR BLOCK FABRICATION

STEP 7) If the system is to be assembled and installed as a unitized system, proceed as shown below in Fig. #19.

S-402 and S-403 SYSTEM 2" x 4 1/2" (1" Glazing)

Each unit must have at least (1) deep pocket vertical. Use open back jambs at end panels as required.

Fig. #19
SECTION III: C. CORNER FABRICATION

STEP 1) 90° corners are designed for use with the shear block or screw spline system. Because of possible screw spline and corner snap interference, the 3 way corners must be SB only. Follow steps # 1, # 2, and # 3 in Section III B for length cutting and shear block hole location.

The 90° corner halves may be snapped together and used as a one piece vertical mullion.

NOTE: CORNERS MUST BE SLID APART.
Refer to available extrusions for possible combinations.

* All 2-PC verticals require sealant 6” up from btm. of vertical at areas of engagement.
SECTION III: C. CORNER FABRICATION

STEP 2) Fixed, inside and outside, 135° corners.

NOTE: Shear block application:
Follow steps # 1, # 2, and # 3 at Section III B for cutting and shear block hole locations.

Fig. # 22

STEP 2A) Variable 0 to 15 degree corner and variable 15 to 30 degree corner - See Fig. # 23 below
The exterior exposure of the variable mullion will be dependent upon the angle of splay and will be job specific.

Fig. # 23
SECTION III: D. EXPANSION MULLIONS

STEP 1) Expansion mullions are required in elevations that are over 20'-25' wide and can be used with both screw spline and shear block systems.

NOTE: For shear block application:
Follow steps #1, #2, and #3 at Section III B for cutting and shear block hole locations.

NOTE: For screw spline application:
Follow steps #1, #2, and #3 at Section III A for cutting and screw spline hole locations.

NOTE: Do not use expansion mullions at entrance jambs.
Locate expansion mullions at next mullion over so that the distance between expansion mullions is never more than 25'-0".

 Expansion space must be maintained before anchoring unit.

Fig. #24
SECTION III: E. STEEL REINFORCING

STEP 1) Cut the steel reinforcing to mullion length minus 3" and set flush with the bottom of the vertical. Paint cut ends to prevent rust. Insert the steel into the mullion, then drill through the deep pocket of the mullion and the steel at 16" O.C. - maximum spacing.

STEP 2) Tap the holes in the steel to accept # 12-24 machine screws.

STEP 3) Drill a clear hole in the mullion with a Ø.221 (#2) drill bit. Install the steel with M109 screws (#12-24X3/8" F.H.M.S.).

NOTE: The flat head does not countersink into the mullion.

DRILL AND CLEAR HOLE FOR # 12-24 X 3/8" F.H.M.S. AT 16" O.C. OR AS SPECIFIED ON SHOP DRAWING.

*L-100 FOR TUBULAR MULLIONS
L-101 FOR EXPANSION MULLIONS

9103 / 9104
w/ L101 STEEL
COMBINED IXX = 6.365
(ALUMINUM EQUIVALENT)

9102
w/ L100 STEEL
COMBINED IXX = 6.586
(ALUMINUM EQUIVALENT)

9212 / 9221
w/ L102 STEEL
COMBINED IXX = 10.059
(ALUMINUM EQUIVALENT)

9309 / 9311
w/ L101 STEEL
COMBINED IXX = 6.890
(ALUMINUM EQUIVALENT)

9209
w/ L100 STEEL
SCREW APPLIED
TRANSOM GLAZING

*All 2 pc mullions require sealant 6” up from sill, tool as required
SECTION III: F. HIGH SIDE LITE BASES
- 401 SYSTEM ONLY -

STEP 1) Side lite base prep for attachment to K-123 shear block.

This figure shows the dimensions when not using drill jig.

Bottom web is notched at both ends to clear the shear block when installing.
SECTION III: F. HIGH SIDE LITE BASES
- 401 SYSTEM ONLY -

STEP 2) Side lite bases are available to match bottom door rails. Shear block attachment is required.

Vertical member prep for narrow side lite base shear block.

S401 SYSTEM - 1/4" GLAZING ONLY -

**Fig. # 28**

- SHEAR BLOCKS LOCATE IN GASKET TRACKS.
- DRILL THRU (2) WALLS

- **K-123**
- **S-109** # 8x2 1/2" F.H.

**Fig. # 30**

- **S123** #12 x 3/4" FH - F
- **S-109** # 8x2 1/2" F.H.

NOTE: (4) HOLES ARE REQUIRED IF THE SIDE LITE BASE IS USED ON BOTH SIDES OF A VERTICAL, OPPOSITE SHEAR BLOCK IS REVERSED.
SECTION III: F. HIGH SIDE LITE BASES

IF SYSTEM IS TO BE SCREW SPLINED, PROCEED TO STEP # 5 ON PAGE 53. SEE CAUTION NOTE AT STEP # 4 BELOW.

STEP 3) Prep both ends of the side lite base for shear block attachment holes and shear block clearance, as shown in Fig. #31.

- Use K172 @ 1G80
- Use K173 @ 9248
- (1) Hole per end for 403
- (2) Holes per end for 401/402
- .277 Dia. ("J" Drill)
- Thru (1) wall
- (Locate in starter grooves)

CAUTION: Door jambs must run to the floor and are cut longer than other verticals. Remember to add sill flashing thickness and/or sill blocking to the mounting hole locations.

STEP 4) Attach the shear block with S100 screws as shown in Fig. # 32. See the drilling layouts for the system being used on page 53, Fig's. # 33 thru # 35.

- 9148 Use K122 Shear Block
- 9248 Use K173 Shear Block
- 1G80 Use K172 Shear Block
- 9326 Use K172 Shear Block

CAUTION: Door jambs must run to the floor and are cut longer than other verticals. Remember to add sill flashing thickness and/or sill blocking to the mounting hole locations.
SECTION III: F. HIGH SIDE LITE BASES

STEP 5) Vertical member prep for screw spline or shear block applications. Showing the hole prep relationship to the horizontal.

**401 SYSTEM**

For shear block attachment.

Fig. # 33

- #9 (.196 Dia.) Drill for screw spline (2 Holes)
- # 26 (.147 Dia.) Drill for shear block (3 Holes)

**402 SYSTEM**

Fig. # 34

- #9 (.196 Dia.) Drill for screw spline (2 Holes)
- # 26 (.147 Dia.) Drill for shear block (3 Holes)

**403 SYSTEM**

For shear block attachment.

Fig. # 35

- #9 (.196 Dia.) Drill for screw spline (2 Holes)
- # 26 (.147 Dia.) Drill for shear block (3 Holes)
SECTION III: G. ADJUSTABLE HEIGHT
SIDE LITE BASE - 2 1/2" DEEP

STEP 1) Vertical member prep for adjustable side lite base.
See Fig. # 36 for 1/4" glazing.
See Fig. # 37 for 1" glazing.

STEP 2) Side lite base head and sill preps.

D.L.O.

9/16" for 1/4" glazing
1/2" for 1" glazing

.201 DIA. (#7 DRILL)
2 HOLES

9/16" for 1/4" glazing
1/2" for 1" glazing

9160 prep at head & sill of base unit.

9160 at sill of base unit

Sill prep only (.250 DIA.) 1/4" weep hole
2 places at 1/4 points
SECTION III: G. ADJUSTABLE HEIGHT SIDE LITE BASE - 2 1/2" DEEP

STEP 3) Side lite base vertical member cut length, end notching, and hole prep.

NOTE: The left and right verticals of the side lite base are nonhanded.

See Fig. # 40, screws are offset when used on the opposite sides of a vertical intermediate.

STEP 4) SIDE LITE BASE SIDE PANEL PREP.

NOTE: ALUMINUM PANEL MUST BE CUT SQUARE.

Apply a thin continuous bead of silicone inside the interior brake metal track for a watertight seal.
SECTION III: G. ADJUSTABLE HEIGHT
SIDE LITE BASE - 4 1/2" DEEP

**STEP 1)** Vertical member prep for adjustable side lite base.

See Fig. # 42 for 1/4" glazing.

See Fig. # 43 for 1" glazing.

**STEP 2)** Side lite base head and sill prep.

Weep at sill of base unit.

[Diagrams and specifications as per image]
SECTION III: G. ADJUSTABLE HEIGHT
INTERMEDIATE HORIZONTAL - 4 1/2" DEEP

STEP 1) Vertical member prep for adjustable intermediate horizontal.
See Fig. # 45 for 1/4" glazing.
See Fig. # 46 for 1" glazing.

Fig. # 45

STEP 2) Prep for intermediate horizontal head and sill member.

Fig. # 46

Fig. # 47
SECTION III: G. ADJUSTABLE HEIGHT
SIDE LITE BASE / INTERMEDIATE HORIZONTAL

STEP 3) Side lite base vertical member cut length, notching, and hole preps.

NOTE: The left and right verticals of the side lite base are nonhanded.

For 1/4” GLAZING:
(See Fig. #42 - page 56 for base)
(See Fig. #45 - page 57 for intermediate)
"X" = BASE HEIGHT MINUS 1 1/4"
= INT. HORIZ. HEIGHT MINUS 2"

For 1” GLAZING:
(See Fig. #43 - page 56 for base)
(See Fig. #46 - page 57 for intermediate)
"X" = BASE HEIGHT MINUS 1 11/16"
= INT. HORIZ. HEIGHT MINUS 2 7/8"

STEP 4) SIDE LITE BASE SIDE PANEL PREP.

NOTES: 1) ALUMINUM PANEL MUST BE CUT SQUARE.
2) CONTACT EFCO ENGINEERING IF PLATE IS OVER 16 SQ. FT.

For 1/4” glazing (See Fig. #42-page 56 for base.)
(See Fig. #45-page 57 for intermediate.)
"Y" = BASE HEIGHT MINUS 1 1/4"
= INT. HORIZ. HEIGHT MINUS 2"
For 1” glazing (See Fig. #43-page 56 for base.)
(See Fig. #46-page 57 for intermediate.)
"Y" = BASE HEIGHT MINUS 1 11/16"
= INT. HORIZ. HEIGHT MINUS 2 7/8"

Apply a thin continuous bead of silicone inside the interior brake metal track for a water tight seal.
SECTION IV: A. DOOR FRAME INSTALLATION

NOTE: If an entrance frame is required, it must be installed first.

NOTE: If NO entrance frame is required, proceed to part "B" of this section.

STEP 1) Correctly locate the entrance frame in the opening.

STEP 2) Apply a bead of sealant around the interior portion of the jamb to set the member into. Then marry the side lite sealant or condition sealant into the bead of sealant to be applied under the threshold. The concept is to have a continuous bead of sealant at the interior, connected from the sill flashing/condition through the door jamb and continuing under the threshold to the opposite jamb and so on.

STEP 3) Set assembled door frame in opening, plumb and level.

STEP 4) Anchor the door frame as indicated below in Fig. # 51 and also in Fig's. # 52 through Fig. # 56 on page 60.

NOTE: The door jamb runs to the floor and is cut longer than any other vertical member.

K-124/K-125 Threshold Clip & Screws @ Offset Pivots & Butt Hinges
K-153/K-154 Threshold Clip & Screws @ Concealed Rod Panic

For bottom pivot prep see Door Installation Instructions Part # Y015

THRESHOLD (9950)

Fig. # 51

Continuous bead of sealant
SECTION IV: A. DOOR FRAME INSTALLATION

At the option of the erector, use the perimeter adaptor continuously or 3" long pieces located at the fasteners.

Fig. # 52
Attach through the header with flat head screws located 6" from the ends and 24" on center, maximum spacing.

Fig. # 53
Transom bar shown, jamb anchoring using fin stop jamb is similar.

Seal the interior glass stop as shown, from jamb to jamb at the transom bar.

Do not seal the exterior glass stop, this will allow weepage.

Fig. # 54
9126 GLASS STOP

TYP. TRANSOM

Fig. # 55
Attach through the threshold with flat head screws.

Continuous bead of sealant at the back of the threshold and sides of the jambs and tied into mullion sealant at the condition.

Fig. # 56
Door jamb set in sealant.

When the jamb members are plumb and anchored, snap-in the door stop.

Anchor through the glazing pocket at jambs.

ALSO SEE THE DOOR INSTALLATION INSTRUCTIONS #Y015.

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.
SECTION IV: B. SILL FLASHING INSTALLATION

STEP 1) Install the sill flashing continuously between the masonry jambs or between the door frame and the masonry jamb. See figures below.

NOTE: ALL THERMAL STRUT SILL FLASHING THAT WOULD ENCOUNTER MOISTURE MIGRATION MUST HAVE THE THERMAL STRUT SEALED OVER WITH SILICONE.

Before the fastener is inserted, force sealant into the hole for the flashing fastener to ensure that the hole through the flashing is sealed. Seal over the heads of all sill attachment screws with sealant.

DOOR UNIT

Seal the ends of the flashing with a "skinning", nonhardening type of sealant (i.e., silicone).

Fill the vertical glazing pocket with sealant to divert any water onto the flashing.

Apply a continuous bead of sealant across the top of the thermal strut when using thermal flashing.

Optional sill flashings:

THERMAL

- 9947 - LITE
- 9957 - STD.
- 1G64 - w/ CLIP
- 1G65 - STANDARD
- 1G85 - w/ STOOLS

FILLING

1G64 - w/ F098 CLIP
1G65 - STANDARD
1G85 - w/ STOOL TRIMS

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.
SECTION IV: B. SILL FLASHING INSTALLATION

End caps would be incorporated if the sill flashing could not be sealed to the condition completely. An example would be, if the jamb condition was less than the sill flashing depth or a void in the condition exist. This cut length provides a 3/16" gap between the sill flashing and condition for a good sealant joint when end caps are not required.

STEP 2) Splice the flashing every 20'-25' as shown in Fig. # 61. Use K-292 for brake metal type flashing or K-293 for EFCO high performance flashing. For best system performance, locate the splice joint 6" from vertical intermediates. For mitered corners, see page 63.

After the splice is in place, apply the cosmetic seal to the interior gap vertically.

Fig. # 60

Fig. # 61
SECTION IV: B. SILL FLASHING INSTALLATION

STEP 3) If a corner is required, miter the flashing to the required angle and then install as shown in the figures below.

Locate fasteners 3" from any corner and 1 1/2" from the edge of the sill flashing splice.

Cover the heads of all attachment screws with sealant.

1 1/2" MIN. 6" MIN. 1 1/2"
SEE FIG. #60

Fig. #60

3/8" K293 TYP. 3"

Cover the heads of all attachment screws with sealant.

12" MIN. TO SPLICE JOINT

Fig. #62

#9957 sill flashing shown. Refer to the parts identification section for a particular application.

TO SPLICE JOINT

Fig. #63

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.
Incorporating the sill flashing end caps will complement the sealing procedure. The end caps must be sealed to the condition and the sealant must tie in with the jamb blocking and the perimeter seals. The end cap edges must also be concealed with the sealant to present a neat and clean installation. This may cause the caulk joint at the jamb to increase in thickness, if the condition is irregular.

The sill flashing must be sealed to the condition and the jamb member set in a bead of sealant to ensure a watertight seal.

Fig. # 64

K448 or K449
SECTION IV C - SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

The frame may be assembled as one unit before setting it in the opening.

**STEP 1)** Install sill clips F098 (2 per DLO). If caulk joint at head is less than ½", Minimum unit height is 48 ½" tall to ensure the ability to install. Units must be tilted in as shown in Fig. #66.

**STEP 2)** EFCO requires the use of perimeter adaptors located at the setting block locations, typically at 1/4 points of the DLO. This is to prevent frame distortion normally associated with large lites of glass. Also locate FS92 or FV58 at S401, FS93 or FV59 at S402, and FU99 or FV59 at S403 at thru sill anchoring locations to prevent frame distortion. Refer to Fig. #67 below.

**STEP 3)** Apply sealant to the upturned flashing leg at the horizontal cavity. See Fig. #67 below.

**STEP 4)** Tilt the unit and set it on the flashing, see Fig. #66. Then stand the unit up over the clips and proceed to anchor the unit in place.
SECTION IV: C. SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

STEP 5) NOTE:
The frame units can be installed in a number of different ways. See Fig. #68 below for single unit setting technique. See page 67 for panel unit setting technique.

STEP 6) If a corner is required, installation will start at the corner and work towards the opposite end. See Fig. # 69 below.
SECTION IV: C. SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

FRAME MAY BE INSTALLED AS PANEL UNITS.

STEP 7) Apply sealant to the upturned flashing leg cavity as shown in Fig. # 67 on page 65.

STEP 8) Locate the first unit into position tight against the flashing back leg. Be sure the unit is plumb and square.

STEP 9) Shim the jamb and head as required, and then secure them to the structure. See pages 68 through 70 for anchoring procedures.

STEP 10) Install the remaining panels in a similar fashion, snapping them together. See Fig. # 70 and # 71 below.

NOTE: If an entrance is required, install the framing units starting at the entrance frame and work towards the end of the opening.
EFCO requires the use of at least a 3" long piece of adaptor at all fastener locations, FS92 or FV58 at S401, FS93 or FV59 at S402, and FU99 or FV59 at S403. This is to prevent frame distortion when anchoring through the glazing pocket. At the discretion of the erector, the adaptor may be used in continuous lengths. The perimeter adaptor is available in stock lengths of 290". See Fig. # 72 below.

**NOTE:**
If Required: Crimp below filler at jambs to hold in place, which corresponds with fastener locations.

**Fig. # 72**

Detail showing typical shim application.

**Fig. # 73**

S401 - FS92 Aluminum or FV58 PVC
S402 - FS93 Aluminum or FV59 PVC
S403 - FU99 Aluminum or FV59 PVC

HEAD & JAMBS SIMILAR

FASTENER EXTENDS THRU GLAZING POCKET

STANDARD HORSESHOE SHIM, SHIM AS REQUIRED.
SYSTEM ANCHORING
At the center of the glazing pocket, drill and countersink head, jamb, and sill 6" from each vertical or horizontal and 24" on center maximum.

(SEE NOTE BELOW, IF F098 SILL CLIPS ARE BEING USED)

Refer to Fig. # 72 on page 68 for perimeter adaptor applications.
Also see Fig. # 74 below.

NOTE:
IF F098 SILL CLIPS ARE BEING USED, OMIT FASTENERS IN SILL MEMBER ONLY.

Before the fastener is inserted, force sealant into the hole for the sill perimeter fastener to ensure that the hole through the sill flashing is sealed.

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.
SECTION IV: C. SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

SYSTEM ANCHORING & PERIMETER SEALING
Seal unit as shown in details below.

All open-ended vertical frame members must be closed off before installing the frame into the building opening. Insert a foam plug (N.B.E.) into the top of the mullion at the exterior side of the system. Make sure that the top of the plug is flush with the top of the vertical mullion in order to keep the exterior perimeter joint seal continuous.

CLIP INSTALLATION
Do not seal between the sill horizontal and the sill flashing at the exterior. This is to allow for water migration to the exterior without drilling weep holes.

When using the sill flashing clip (F098), fastening through the sill member is not necessary.

STANDARD INSTALLATION
Do not seal between the sill horizontal and the sill flashing at the exterior. This is to allow for water migration to the exterior without drilling weep holes.

Fig. # 75

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.
SECTION IV: D.  HIGH SIDE LITE BASE INSTALLATION

REFER TO SECTION III F FOR SIDE LITE BASE PREP.

STEP 1)  Start at the door jamb and run a continuous bead of sealant on the floor at the inside line of the glazing pocket to the next vertical.

NOTE:  Be sure to tie the sealant bead from under the threshold and under the jamb member through the glazing pocket to the sealant bead under the side lite sill flashing.

STEP 2)  Cut the sill flashing to the day lite opening of the module and then set it in a continuous bead of sealant that will run vertical to vertical.  When a sill flashing is being incorporated, the use of 4" long pieces of the base adaptor (#9149) can be utilized.  Locate the base adaptor pieces 6" from the verticals and 24" on center, with a minimum of 3 per DLO.  Fig. # 77 below.

# 9149  Side lite base adaptor 4" LONG PIECE w/ SILL FLASHING CONTINUOUS w/o SILL FLASHING - ( for interior use only w/o sill flashing )
SECTION IV: D. HIGH SIDE LITE BASE INSTALLATION

STEP 3) Apply a continuous bead of sealant to the upturned leg of the sill flashing. If it is possible to slide the horizontal member onto the shear block, apply sealant to the end of the member and slide it onto the shear block and down onto the adaptor.

If the vertical members are in place, do not seal the ends of the horizontal before sliding it into place over the shear block. After the member is in place and fastened to the shear block, seal across the horizontal area from the exterior to the glazing pocket as indicated below.

SEAL THIS AREA AFTER ATTACHMENT IF ENDS OF HORIZONTAL ARE NOT SEALED BEFORE INSTALLATION.

Fill and tool sealant into the pocket to divert water onto the flashing.

Fig. # 78

# 9149
Side lite base adaptor
4” LONG PIECE w/ SILL FLASHING CONTINUOUS w/o SILL FLASHING - (for interior use only w/o sill flashing)
SECTION IV: D. HIGH SIDE LITE BASE INSTALLATION

STEP 4) If it is possible to slide the horizontal member onto the shear block, apply sealant to the end of the member and slide it onto the shear block and down onto the adaptor.*

If the vertical members are in place, do not seal the ends of the horizontal before sliding it into place over the shear block. After the member is in place and fastened to the shear block, seal across the horizontal area from the exterior to the glazing pocket as indicated below.*

* Sealant Not Required At Interior Elevations.
HIGH SIDE LITE BASE INSTALLATION
- S401 SYSTEM ONLY -

SECTION IV: D.

STEP 4a) S-401 ONLY (OPTIONAL) Follow steps 1, 2, 3, and 4 on pages 71 thru 73.

Exterior and interior perimeter sealing will be required with this type of nonflushing application.

Seal this area at each end after attachment, if ends of horizontal are not sealed before installation.

Fill and tool sealant into the glazing pocket to divert water onto the adaptor.

* Only use 9131 side lite base for exterior application w/o sill flashing

Continuous bead of sealant is mandatory, & blocking to level if required.

Fig. # 80
SECTION IV: E. 2 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE INSTALLATION

STEP 1) Assemble the base verticals to the base horizontal sill member. Refer to pages 54 and 55 for preps. See figures below.

STEP 2) Start at the door jamb and run a continuous bead of sealant on the floor at the inside line of the glazing pocket to the next vertical. Proceed to page 76.

Fig. # 81

Assemble the base verticals to the base horizontal sill member.

Fig. # 82

FILL GLAZING POCKET WITH SEALANT TO DIVERT WATER ONTO 9160 (APPROXIMATELY 1/4" THICK) AND TOOL TO SEAL INTERIOR TO FLOOR.
These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.
SECTION IV: E.  2 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE

STEP 4) Apply sealant to the vertical - Fig. # 84 below. Place the brake metal in the base sill track and pivot it in place. Do both sides in this manner. Place the base head member over the brake metal and fasten with STT7 screws. (# 10-12 x 1” PH.SMS)

Seal across the jamb and the vertical panel receptor.

401 APPLICATION

403/403 APPLICATION

1/4" diameter weep holes at 1/4 points

Fig. # 84
SECTION IV: E. 4 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE INSTALLATION

STEP 1) Place the vertical in a bed of silicone profiling the inside edges of the mullion as shown. Leave the exterior face open for water to weep and also marry into the bead of sealant under the threshold. Tool the exposed edges. See figure # 85 below.

STEP 2) Fill the glazing pocket with silicone tooled to create a 1/4" high end dam which will divert water onto the bottom horizontal. See figure # 86 below.

STEP 3) Apply double beads of silicone across the side lite opening that marries into the previously applied silicone. Apply a 1/4" bead of silicone along the mullion sides at the finished floor. See figure # 86 below.

NOTE: If the overall length of the base is over 36 inches, a vertical intermediate will be required. Match drill the top and bottom base members and attach the prepped vertical (1G14) before setting the sill member.

STEP 4) Apply a continuous bead of silicone from the bottom of the vertical to the height of the side lite base at the interior gasket race. Align the bottom horizontal over the silicone and press firmly in place. See figure # 86 below.

Fig. # 85

Fig. # 86
SECTION IV: E. 4 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE INSTALLATION

STEP 5) Anchor the sill to the floor at 4" from the ends and 24" on center. Seal over the screw heads with silicone. See figure # 88 below.

STEP 6) Tool silicone along the end profile of the horizontal to the vertical mullion/jamb and up the brake metal captured legs to form a gutter. See figure # 88 below.

STEP 7) Seal behind the interior half of the verticals (1G14) at the top as shown and attach with (4) or (6) # SPZ3 # 8 X 3/4" PH-SMS as required. See figures above.

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.
SECTION IV: E.  4 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE INSTALLATION

STEP 8) Apply a silicone cap seal to the edge of the base vertical (1G14) and mullion. Apply a thin continuous bead of silicone inside the interior brake metal track. Pivot the brake metal into the base sill track and press firmly in place. Continue this process at the opposite side of the side lite base. See figure # 89 and # 90 below.

STEP 9) Apply a continuous bead of silicone over the thermal strut to prevent water from traveling through the seam. See figure # 91 below.

STEP 10) Install the side lite base head over the verticals and fasten with (4) #STT7 # 10 x 1" -PH-SMS. See figure # 88 below. Apply a continuous cap bead of silicone over the glass stop track and up the ends to create a water dam. See figure # 92 below.

NOTE:
FOURTH SCREW NOT SHOWN FOR CLARITY

Fig. # 89

Fig. # 90

Adjustable base shown, adjustable intermediate horizontal similar

Fig. # 91

Cap seal vertical adaptor (1G14) to jamb/mullion.

401 APPLICATION 402/403 SIMILAR

Fig. # 92

Apply a thin continuous bead of silicone inside the interior brake metal track for a water tight seal.

1/8" BRAKE METAL WIDTH = D.L.O. MINUS 1/32"

BASE HEIGHT - 1 11/16" @ 1" GLAS
BASE HEIGHT - 1 1/4" @ 1/4" GLAS

NOTE:
FOURTH SCREW NOT SHOWN FOR CLARITY

Apply a silicone cap seal to the edge of the base vertical (1G14) and mullion. Apply a thin continuous bead of silicone inside the interior brake metal track. Pivot the brake metal into the base sill track and press firmly in place. Continue this process at the opposite side of the side lite base. See figure # 89 and # 90 below.

Apply a continuous bead of silicone over the thermal strut to prevent water from traveling through the seam. See figure # 91 below.

Install the side lite base head over the verticals and fasten with (4) #STT7 # 10 x 1" -PH-SMS. See figure # 88 below. Apply a continuous cap bead of silicone over the glass stop track and up the ends to create a water dam. See figure # 92 below.

NOTE:
FOURTH SCREW NOT SHOWN FOR CLARITY

Apply a silicone cap seal to the edge of the base vertical (1G14) and mullion. Apply a thin continuous bead of silicone inside the interior brake metal track. Pivot the brake metal into the base sill track and press firmly in place. Continue this process at the opposite side of the side lite base. See figure # 89 and # 90 below.

Apply a continuous bead of silicone over the thermal strut to prevent water from traveling through the seam. See figure # 91 below.

Install the side lite base head over the verticals and fasten with (4) #STT7 # 10 x 1" -PH-SMS. See figure # 88 below. Apply a continuous cap bead of silicone over the glass stop track and up the ends to create a water dam. See figure # 92 below.

NOTE:
FOURTH SCREW NOT SHOWN FOR CLARITY
SECTION IV: E. 4 1/2" ADJUSTABLE HEIGHT INTERMEDIATE HORIZONTAL INSTALLATION

STEP 1) Place preassembled frame elevation onto the sill flashing and anchor into the opening as previously outlined.

STEP 2) Apply a continuous bead of silicone to the interior gasket race of the mullions located at the area of the intermediate horizontal. See figure # 93 below.

STEP 3) Seal behind the interior half of the vertical (1G14) at the top as shown in figure # 93 below and marry to sealant in step 2. Attach with # SPZ1 # 8 x 3/4” PH-SMS screws as required.

STEP 4) Apply a continuous bead of silicone over the thermal strut to prevent water from traveling through the seam. Attach the bottom horizontal to the verticals with #STT7 # 10x 1" screws as required. See figures # 93 and # 95 below.

STEP 5) Tool silicone along the end profile of the horizontal and up the brake metal captured legs to form a gutter. See figure # 93.

STEP 6) Install the center vertical, if required, and refer to page 80 of the adjustable base instructions for brake metal and top horizontal installation.

Fig. # 93

Fig. # 94

FORM GUTTER

# STT7 (4 or 6)

LOWER GLASS STOPS

# SPZ1

STEP 5)
SECTION IV: F. - CAN SYSTEM  
PREPARATION / INSTALLATION

1) Be familiar with typical storefront installation procedures before proceeding with any material preps for the can receptor system.

2) The can receptor system does not accommodate door jambs. If doors are a requirement, a standard shear block storefront system will have to be used.

3) The cut length formula for the can receptor is horizontal rough opening minus 1/2".

4) The can receptor at the head and sill is intended to be installed without shims, but the condition must be level and flat within 1/8", otherwise shims will be required.

5) The use of end caps are at the discretion of the architect / general contractor.

6) Exterior and interior perimeter seals are mandatory with this can system.

7) The cut length formula for jambs and verticals is frame dimension minus .75".

8) Seal the inside of the receptor to the condition at the jamb and set the jamb members into a bead of sealant in the sill receptor.

9) Locate 1/4" diameter weep holes at quarter points of each D.L.O. at the sill can receptor as shown below.

10) Set the sill and head receptor can with 1/4" diameter minimum fasteners, 4" from jambs and verticals and then 16" on centers.

11) Seal over all fasteners (typ.).

12) If end caps are being incorporated, install them now with sealant at the ends of the receptor can.

13) Tip up the jamb in place being sure the sill end is set in sealant maintaining a perimeter seal between jamb, sill can, and the condition. Fasten the jamb in place using 1/4" diameter minimum fastener on 16" centers.

14) Apply a bead of sealant to the receiving race for the can filler prior to installing the filler. Fill this cavity completely to ensure an adequate seal. Clean off any excess.

15) Snap-in the head and sill can fillers, locating them tight against the jamb member.

16) Rotate the first vertical in place in the sill can, locating the vertical tight against the previous can fillers. The can fillers will hold the vertical on center line.

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.
SECTION IV: F. CAN SYSTEM PREPARATION / INSTALLATION

17) Snap-in the head and sill can fillers, locate the next verticals at the desired center lines. Repeat the previous steps for multiple verticals.

18) Apply a bead of sealant to the inside of the receptor to condition at the jamb, and set the jamb members into a bead of sealant in the sill receptor. If end caps are incorporated, seal the can receptor cavity at the jamb condition with the end cap completely.

19) Apply a small bead of sealant across the face of the verticals and jambs at the can line connecting the bead of sealant from the filler track to the other side.

20) This is to ensure a continuous seal across the interior / exterior of the head and sill can. Exterior and interior perimeter seals are mandatory with this can system.

Fig. #97

Fig. #98

INTERIOR PERIMETER SEAL
SEAL INSIDE OF CAN RECEPTOR TO CONDITION WHEN NOT USING END CAPS.

SEAL ACROSS ALL VERTICALS CLEAN OFF EXCESS

APPLY A BEAD OF SEALANT TO THE INTERIOR RECEIVING RACE FOR THE CAN FILLER PRIOR TO INSTALLING THE FILLER. FILL THIS CAVITY COMPLETELY TO ENSURE AN ADEQUATE SEAL, CLEAN OFF ANY EXCESS.
Tap vertical mullion tight against the can fillers already in place, and then repeat the installation of the next can fillers and vertical mullions. Check every third mullion for correct spacing.

**NOTE:** Install the last can filler of a run before the second to last. This will allow the tilting of the last vertical mullion into place, which will then finish the run. See Fig. #99 below.
**SECTION V: A. WATER DEFLECTOR INSTALLATION (TYPICAL FOR S-402 AND S403)**

Seal the inside glazed horizontal to the vertical at the inside face of the glazing pocket. The seal to the vertical is critical in this area.

Seal HWD1 in a continuous bed of sealant as shown, 1.5" away from the jamb.

The seal to the vertical is critical in this area.

**Glass Stop -** Ensure that the glass stop hook is clean and free of oil and dirt. Run a continuous bead of silicon at area shown above.

Before sealant cures, place stop as shown and rotate into final position as shown to the right. Strong hand pressure or a slight tap with a mallet will ensure the glass stop is fully engaged. This step is for both outside and inside glazed units.
SECTION V: B.  POCKET DIMENSIONS AND GLASS SIZE FORMULAS

Pockets for System 401 (1 3/4" sight line) are 11/16" (.688) wide and will accept 1/4" glass, dry glazed.

Pockets for Systems 402 and 403 (2" sight line) are 1 7/16" (1.438) wide and will accept 1" glass, dry glazed. See Fig. # 102.

SECTION V: C.  GLASS SIZE FORMULAS

System 401 (1 3/4" sight line) = D.L.O. + 5/8" (HORIZONTAL)

System 401 (1 3/4" sight line) = D.L.O. + 5/8" (VERTICAL)

Systems 402 & 403 (2" sight line) = D.L.O. + 7/8" (HORIZONTAL)

Systems 402 & 403 (2" sight line) = D.L.O. + 7/8" (VERTICAL)

See FIG. # 103 below.
SECTION V: C. OUTSIDE GLAZING

STEP 1)

A) Apply sealant to the ends of all horizontals to seal the intersections at the verticals. At all 4 corners of the D.L.O., apply sealant in the gasket race for 1” away from the intersection of the vertical and the horizontal members. See Fig. # 104 below.

B) Cut the interior and exterior push-in gaskets to an approximate length of D.L.O + 3.0”.

NOTE: Vertical gaskets run through.

C) Start at each end and work toward the center, firmly pushing the gasket in place. See page 89 for gasket installation.

DO NOT STRETCH THE GASKET OR IT WILL RETURN TO ITS ORIGINAL FORM, CREATING GAPS AT THE GASKET INTERSECTIONS.

D) Clean the glazing gaskets with denatured alcohol at the intersection area. Apply a small amount of sealant at the intersect area to marry the vertical and horizontal glazing gaskets. Tool all sealant to present a neat, clean appearance.

NOTE: These steps are included in the test lab procedure and are required to achieve the test report results for air and water infiltration.

GASKET RACE

W199

Fig. # 104
SECTION V:C. OUTSIDE GLAZING

Step 2) Installation of Glazing Gasket

For inside glazed applications, install the exterior gasket prior to glass installation. For outside glazed applications, install the interior gasket prior to glass installation.

SIZE THE GASKET LENGTH BY USING THE FOLLOWING FORMULA.

\[ \text{D.L.O.} + 3.0" \]

NOTE: To install glazing gasket, start by pushing the gasket in place at the ends. Move to the middle, then to quarter points and work the "waves" toward the ends. Do not stretch the gasket or it will return to its original form, creating gaps at the gasket intersection. See Figure 105 below.

Fig. #105

SEAL 1" VERTICALLY AND HORIZONTALLY IN THE GASKET RACES WITH SILICONE TYPE SEALANT AT ALL CORNERS. SEAL THE ENDS OF HORIZONTAL GASKETS. CLEAN OFF ANY EXCESS SEALANT. SEALING RACES AND GASKET ENDS IS REQUIRED AT THE INTERIOR OF THE SYSTEM. EXTERIOR SEALANT AT RACE AND GASKET IS OPTIONAL.
SECTION V: C. OUTSIDE GLAZING

STEP 3) GLASS INSTALLATION

A) Position the glass on the side of the framing with the removable stop (interior or exterior), and then shift the glass into the deep pocket.
B) Swing the opposite edge of the glass around to align with the glazing pocket.
C) Shift the glass into the shallow pocket until there is equal glass bite on both edges of the glass.
D) Lift the glass into the head member glass pocket.
E) Insert the setting blocks under the glass at the proper locations and then lower the glass onto the setting blocks.
F) Snap-on the removable glass stop, and install the glazing gasket. See step # 1 on page 87.

NOTE: If using antiwalk blocks, refer to page 90.

Customer / Installer Note:
EFCO setting blocks are typically 4" in length with different depths. If the glazing infill is "NOT BY EFCO" and glazing sizes are larger than 40 square feet, then the glazing details must be reviewed by the glazing manufacturer for proper setting block size.

Fig. # 106
SECTION V: C. OUTSIDE GLAZING

STEP 4) ANTIWALK BLOCK INSTALLATION

A) Install interior gasket following the steps on page 87.
B) Position glass as described in the steps on page 88.
C) Stretch the antiwalk block as shown in Fig. 107 below and insert from the exterior at midlite and deep pocket only.
D) Recenter the glass unit to maintain equal glass bite all around.
E) Install exterior gasket.

STEP 5) ANTIWALK BLOCK DEGLAZING

A) Remove interior and exterior glazing gasket.
B) Push glass back to the interior side.
C) Remove antiwalk block with sharp hook shaft tool from exterior side.
SECTION V: D. INSIDE GLAZING

ALL SYSTEMS CAN BE INSIDE GLAZED. PREP AND ASSEMBLE THE FRAMES WITH THE REMOVABLE GLASS STOP LOCATED AT THE HEAD ON THE INTERIOR SIDE. FOLLOW THE FABRICATION AND ASSEMBLY STEPS AS OUTLINED IN SECTION III.

STEP 1) GLASS INSTALLATION

A) Cut the interior and exterior glazing gaskets to an approximate length of D.L.O + 3.0”.

B) Install the exterior glazing gasket by starting at one end and working toward the center, firmly pushing the gasket into place. See page 89 for gasket installation.

DO NOT STRETCH THE GASKET OR IT WILL RETURN TO ITS ORIGINAL FORM, CREATING GAPS AT THE GASKET INTERSECTIONS.

C) Locate and position the glass setting blocks in the sill member's glazing pocket. Setting blocks are typically located at 1/4 points of the D.L.O.

D) Position the glass at the interior of the opening to be glazed.

E) Lift the glass into the head member's glass pocket with the glass stop removed.

F) Then, shift the glass into the deep pocket at the vertical.

G) Swing the opposite edge of the glass around to align with that glazing pocket.

H) Shift the glass into the shallow pocket until there is equal glass bite on both edges of the glass.

I) Lower the glass onto the setting blocks.

J) Snap-on the removable glass stop and install the interior glazing gasket as outlined on page 87. Be sure to seal the gasket ends as described.

Fig. # 109
SECTION V: E.  WINDOW ADAPTORS

PREP for #9938 EQUAL LEG SHADOWLINE ADAPTOR

FOR 1" GLAZING POCKETS ONLY

HORIZONTAL CUT LENGTH = D.L.O. minus 1/16"
THE HORIZONTAL PIECES RUN THROUGH.

VERTICAL CUT LENGTH = D.L.O. minus 11/32"
NOTCH THE BACK LEG OF THE VERTICAL PIECE
1/8" x 5/8" TO CLEAR THE HORIZONTAL LEG.

SEAL JOINT COMPLETELY

FOR EQUAL LEG SHADOWLINE WINDOWS
WINDOW DIM. = D.L.O. minus 9/16"

Fig. # 110

PREP for #8643 EQUAL LEG SYSTEM II ADAPTOR

FOR 1/4" AND 1" GLAZING POCKETS

HORIZONTAL CUT LENGTH = D.L.O. minus 1/16"
THE HORIZONTAL PIECES RUN THROUGH.

VERTICAL CUT LENGTH = D.L.O. minus 5/16"
NOTCH THE BACK LEG OF THE VERTICAL PIECE
1/8" x 7/8" TO CLEAR THE HORIZONTAL LEG.

SEAL THE JOINTS COMPLETELY

FOR EQUAL LEG SYSTEM II WINDOWS
WINDOW DIM. = D.L.O. minus 1/2"

Fig. # 111
Due to extrusion tolerances and varying thickness of painted finishes, it may be necessary to tap the pocket reducers into place using a hammer and a 6” long block of wood. Care must be taken not to bend the pocket reducer as it is being tapped into position. This may be a permanent installation and careful locating procedures must be taken.
Series 401, 402, & 403 Installation Instructions

Revisions:

Fixed Step 1 on page 65 MH 5/10/2018