

Order Number: 24109 Building Manufacturer: _____
 Bid Number: 3216-BC Contact: _____
 Bid Date: 7/25/17 Fax/E-Mail: _____

Company: Overhead Door Company of Portland ME Name: _____
 Customer: David Pinkham Job Loc: Portland ME 04101

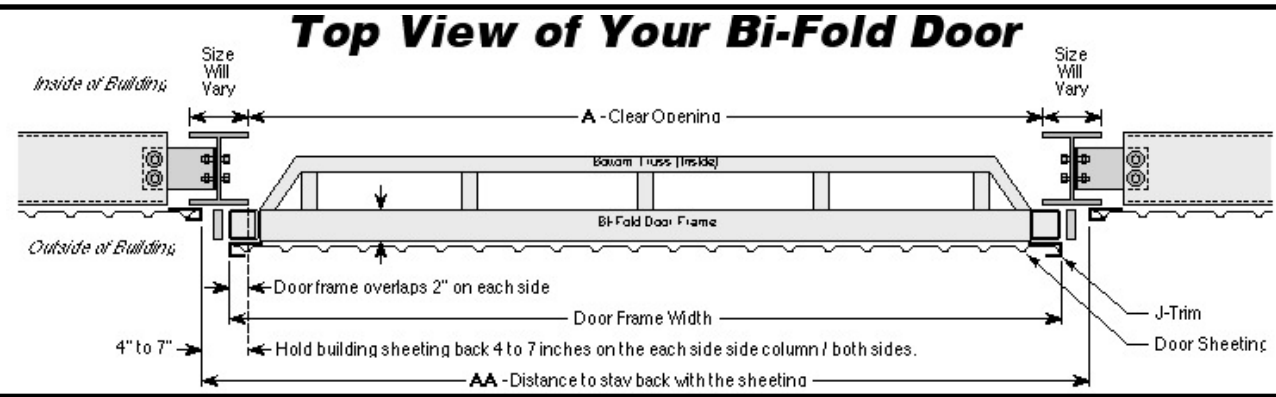
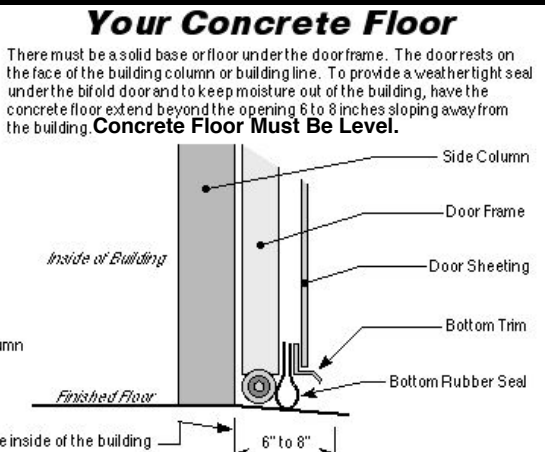
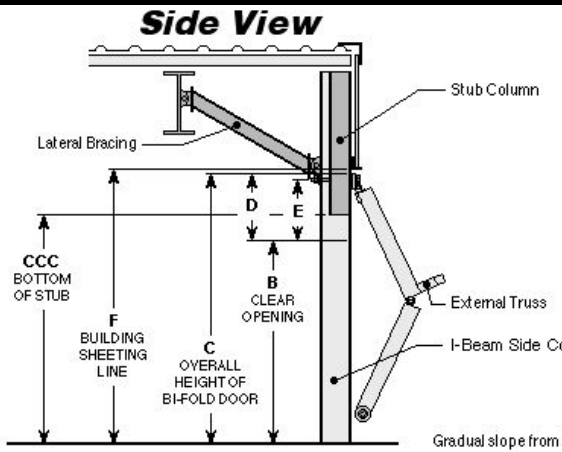
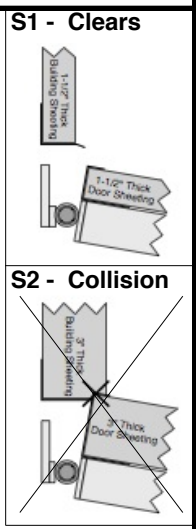
Door Width	Door Height	Wdg.	Overall Height	Door Style	Drive Type	Lift Type	Truss	Hinge Style	Tot W - Inches	Tot H - Inches
100'-0.00"	27'-11.00"	85"	35'-0.00"	SCHWEISS	Bottom Drive	Strap Lift	External	Single Hinges	1,204"	420"

PRELIMINARY SPECS - These are Preliminary Spec Sheets - do not manufacture the building header/columns using these specifications.

FINAL SPECS - AS OF 9/1/17 Will be provided when the door contract is finalized.

Preliminary - Bi-Fold Door Specifications

	Inches	Feet & Inches	Description
A-	1,200.00"	100'- 0.00"	Clear Opening between side columns or (steel or wood) - finished clear opening.
AA-	1,212.00"	101'- 0.00"	Total distance to stay back with the building sheeting on the side columns.
B-	335.00"	27'- 11.00"	Clear Opening from bottom truss to finished floor - or total height opening.
C-	420.00"	35'- 0.00"	Distance from finished floor to the very top of hinge (B+D=C).
CCC-	408.00"	34'- 0.00"	When using stubs to attach your bi-fold door to - the stub columns should hang no lower than 12 inches below the C measurement. IMPORTANT NOTIFY SCHWEISS if stub columns are lower than 12".
<i>(Steel Only)</i>			
D-	85.00"	7'- 1.00"	Distance from top of clear height to top of single hinges.
E-	84.00"	7'- 0.00"	Distance from top of clear height to center of mounting hole for single hinges.
F-	423.00"	35'- 3.00"	Distance from finished floor to the building sheeting line above the door. Hold the sheeting to this elevation from the finished floor. These Specs are designed for up to 1-1/2" Thick Sheeting Panels and Trim. When using 2" Thick Insulated Panel and Trim Add 2" to F Measurement Above. When using 3" Thick Insulated Panel and Trim Add 3" to F Measurement Above.
IMPORTANT - It is the Contractors/Owners Responsibility to Ensure the Door Sheeting does not Collide with the Building Sheeting - See Illustrations S1 and S2 on the right of this page.			
H-	419.00"	34'- 11.00"	Distance from the finished floor to the center of single hinge bolt holes. YOU WILL BOLT THROUGH YOUR HEADER AT THIS HEIGHT



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Preliminary - Design Criteria - Required Door Information

Building Code	2012 IBC	Building Code - (Default is 2012 IBC)
Wind Speed	115 mph	3 second gust - (Default is 115 mph)
Risk Category	II	II, III, or IV - (Default is II) - (2009 IBC = Standard Occupancy)
Wind Exposure	C	Exposure - (Default is C)
Wind Type	Main Wind	Component Wind or Main Wind Force (MWFRS) - (Component if less than 700sqft.)
Enclosure	Enclosed	Enclosed or Partially Enclosed - (Default is Enclosed)
Topographic Factor - Kzt	1	Must Be Provided by the Engineer of Record- (Default is 1)
Building Height	33'	Mean Roof Height or Eave Height for Building with Roof Slope of 10 Degrees or Less.
Roof Slope	1 : 12	Roof Slope - (Default is 1 : 12)
Door Operational Wind Speed	30 mph	Maximum Wind Speed for Door Operation is: <u>30 mph</u> Do not operate door if wind speed exceeds the maximum door operating speed. Door must be closed with floor pins and locks engaged when un-attended or when wind speed is expected to exceed the maximum door operating speed.

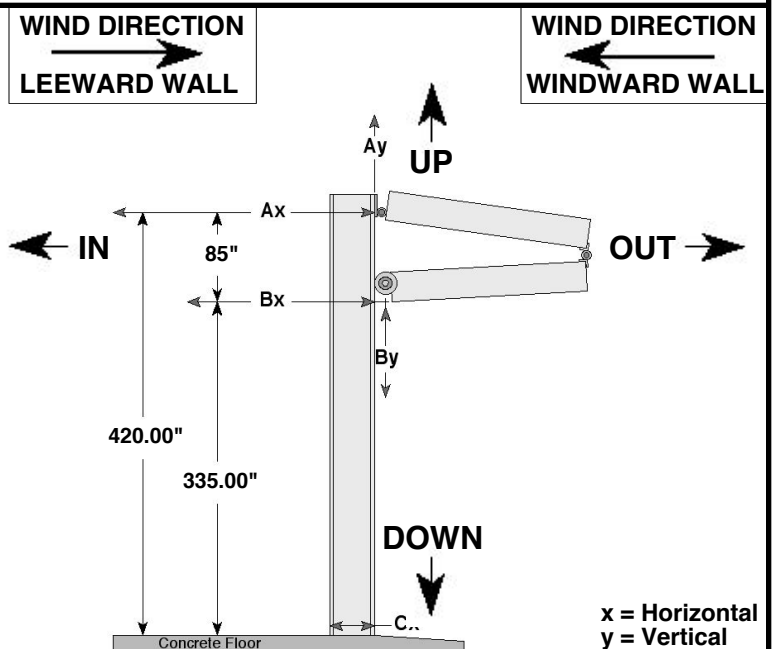
Preliminary - Technical Information For Your Bi-Fold Door

A1-	21	Number of Hinges	X033_A1B1_Frame_Weight_Tot_2
A2-	15	Number of Lift Points Distributed Equally.	
A3-	460-3PH	Electrical System with Up/Stop/Down Switch and Power Unit on the	(LI) - Left/Inside
Door Weights			
B1-	32617 lbs	Structural Framing Weight	
B2-	3477 lbs	Exterior Sheeting & Trim Weight (29ga. = 0.82 psf. -- 26ga. = 0.99 psf.)	
B3-	3477 lbs	Liner Sheeting & Trim Weight (29ga. = 0.82 psf. -- 26ga. = 0.99 psf.) / 2 If Only Bottom Half	
B4-		Insulation Weight (4" Blanket = 0.5 psf. -- 6" Blanket = 0.65 psf.)	
B5-	2243 lbs	Optional - added accessories	
B6-	41814 lbs	Estimated Total Door Weight	

WARNING - Schweiss manufactures the door based on the listed weights above. DO NOT modify the weight of the door.

Preliminary - Door Reactions

DOOR CLOSED	END HINGES			CENTER HINGES	
	Column React. at Base (lbs.)	Side Column and 1st Hinge Loc. from Each End (lbs.)		Interior Hinges (lbs.)	
	(C _x)	(A _x)	(A _y)	(A _x)	(A _y)
Dead Load	0	0	1150	0	2300
WINDWARD WALL 115 MPH WIND LOAD					
Internal Pressure	3529 <	194 <	0	388 <	0
Internal Suction	9303 <	512 <	0	1023 <	0
LEEWARD WALL					
Internal Pressure	7538 >	415 >	0	829 >	0
Internal Suction	1764 >	97 >	0	194 >	0
DOOR OPEN	END HINGES			CENTER HINGES	
	Roller Forces (lbs.)	Side Column and 1st Hinge Loc. from Each End (lbs.)		Interior Hinges (lbs.)	
	(B _x)	(A _x)	(A _y)	(A _x)	(A _y)
Dead Load	25292 <	1391 >	1150	2782 >	2300
WINDWARD WALL 30 MPH MAXIMUM WIND FOR DOOR OPERATION					
Internal Pressure	1915 <	112 <	82 ^	224 <	164 ^
Internal Suction	1123 <	66 <	48 ^	131 <	96 ^
LEEWARD WALL					
Internal Pressure	1365 >	80 >	58 ^	160 >	117 ^
Internal Suction	572 >	33 >	24 ^	67 >	49 ^



Important Note:

When your bi-fold door is opening or in the wide open position, the door tends to pull away from the building at the hinge line also putting stress on each building column where the roller moves along the column flange. The building manufacturer/contractor/owner is responsible to insure that the building structure is capable of handling all the imposed loads. All materials not supplied by Schweiss are the full responsibility of others!!

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100'-0.00"	27'-11.00"	85"	35'-0.00"	SCHWEISS	Bottom Drive	Strap Lift	External	Single Hinges	1,204"	420"	

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Minimum Bi-Fold Door Header Requirements

1. **Maximum Allowable Vertical Deflection** $L / 180$ Maximum under Dead + Live Load or Dead + Snow Load Combinations. Vertical Frame Deflection must be held so that the door will open when the full snow load is applied to the building.
2. Deflection Increases from 0" at Door Side Columns to the maximum allowable deflection at the center of the door.
3. **Maximum Allowable Horizontal Frame Drift** is $H/60$ in the plane of the wall containing the door.

Minimum Bi-Fold Door Side Column Requirements

4. $L / 90$ (Wind Load) **Maximum Allowable Inward or Outward Deflection** of Your Buildings Bi-Fold Door Side Columns:
5. $L / 180$ (Dead Load of Door)
6. 1-3/8" **Recommended Minimum Flange Thickness** of Your Buildings Bi-Fold Door Side Columns:

Information for Building Designers

Designing the Door Side Column for Bi-Fold Doors.

7. The door side column must be designed to withstand the roller forces as the door opens. Due to the door roller the column flange must be designed to limit the deflection of the flange as the door opens.

Design the door side columns for:

8. Major axis bending due to the Roller Forces (Bx) shown on the Door Reactions Chart.
9. Axial load by the building framing on the door side column (including the dead load of the door).
10. Design for combined major axis bending and axial load per the provisions of the governing building code, The 2005 Manual of Steel Construction Chapter H.

Deflection Requirements for door side column:

11. Design the door side column for the same deflection requirements as required by the building code.

General Design Notes:

12. The door side columns, header and bracing should be designed by a qualified Professional Engineer.
13. Specific building conditions other than those indicated in the Spec Sheets may exist which require further engineering consideration.
14. Schweiss is not responsible for the size or design of the door header and side columns for your building. All materials not supplied by Schweiss are the full responsibility of others.
15. Door Dead Load is applied to the building when the door is open or closed.
16. It is the building designers responsibility to combine the door reactions with the appropriate load combinations.

Upgrade Equipment - Customer's Choice

You may add any accessory to your Bi-Fold Door, Schweiss strongly recommends these accessories be used on every door.

Only included with your order if the box is checked

1. Top Override Jiggle Switches
2. Side Latch Jiggle Switches
3. Electric Photo Eye Sensors
4. 3 Button Automatic Switch
5. Door Base Safety Edge
6. Warning Lights and Horn
7. Emergency Back-Up Hand Crank

Read the Schweiss

"Safety Information and Operation Manual"

The Schweiss Bi-Fold Doors Safety Information and Operation Manual should be read by anyone involved in the design, specifications, selection or purchase of an industrial bi-fold door operator or automated bi-fold door system.

Call Us If You Have Any Questions

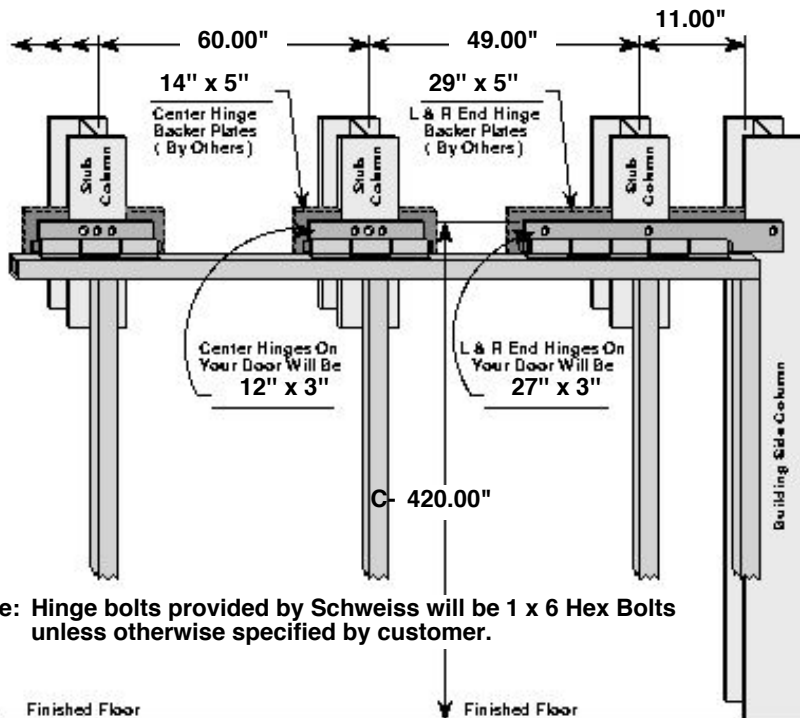
If you have any questions or comments about your bi-fold door's safe operation or its design, call us at the numbers listed at the top of the page and talk to our knowledgeable staff at the factory.

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Attaching Bi-Fold Door To Your Building

Typical I-Beam Building Side Column With Stub Columns

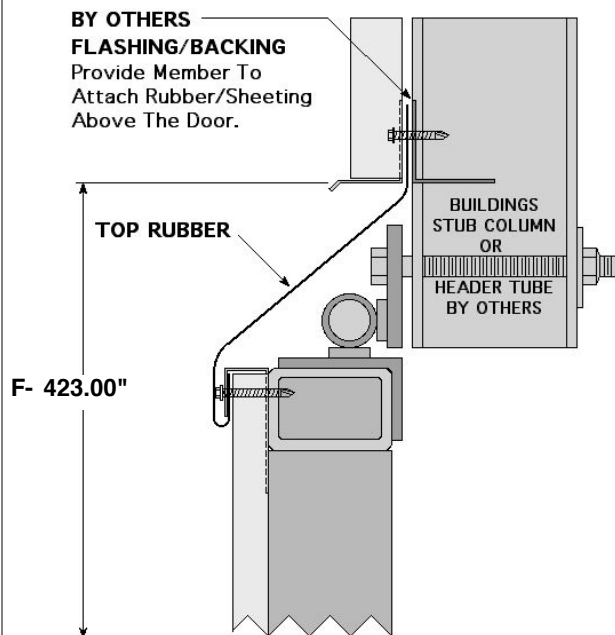
- Bolt Through Side Columns and Stub Columns.
- Hinge Backer Plate Provided By Building Manufacturer/Owner/Contractor.
- Hinge Backer Plate Thickness Determined By Building Manufacturer.
- Recommended Hinge Backer Plate Sizes - See Below ...



Note: Hinge bolts provided by Schweiss will be 1 x 6 Hex Bolts unless otherwise specified by customer.

Sheeting Above Your Bi-Fold Door

- Sheet above door at the height shown below.
- Provide proper backing to attach sheeting and door top rubber to at this height.



Owners / Contractors and Building Manufacturers:

When working with contractors or construction companies **it is your responsibility to pass** this information on to them. The Building Manufacturer / Contractor / Owner is responsible to ensure that the building structure is capable of handling all the imposed loads. All materials not supplied by Schweiss are the full responsibility of others!!

The Customer / Contractor / Building Manufacturer is responsible for ensuring that the correct version of the A-1 thru A-7 Spec Sheets are being used for their door. Schweiss Distributing is **Not** liable for the Customer / Contractor / Building Manufacturer using an obsolete version of the A-1 thru A-7 Spec Sheets.

I have read through Spec Sheets A-1, A-2, A-3, A-4, A-5, A-6, A-7 and agree to them.

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Customer: _____
 SIGNATURE

Thank You :
 Sales Person Jeremy Rieke

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Hinge Locations	Distance Between Hinges
60.00"	1020.00"
60.00"	960.00"
60.00"	900.00"
60.00"	840.00"
60.00"	780.00"
720.00"	60.00"
660.00"	60.00"
600.00"	60.00"
540.00"	60.00"
480.00"	60.00"
420.00"	60.00"
360.00"	60.00"
300.00"	60.00"
240.00"	60.00"
180.00"	60.00"
120.00"	60.00"
60.00"	49.00"
11.00"	11.00"

18th
17th
16th
15th
14th
13th
12th
11th
10th
9th
8th
7th
6th
5th
4th
3rd
2nd
1st

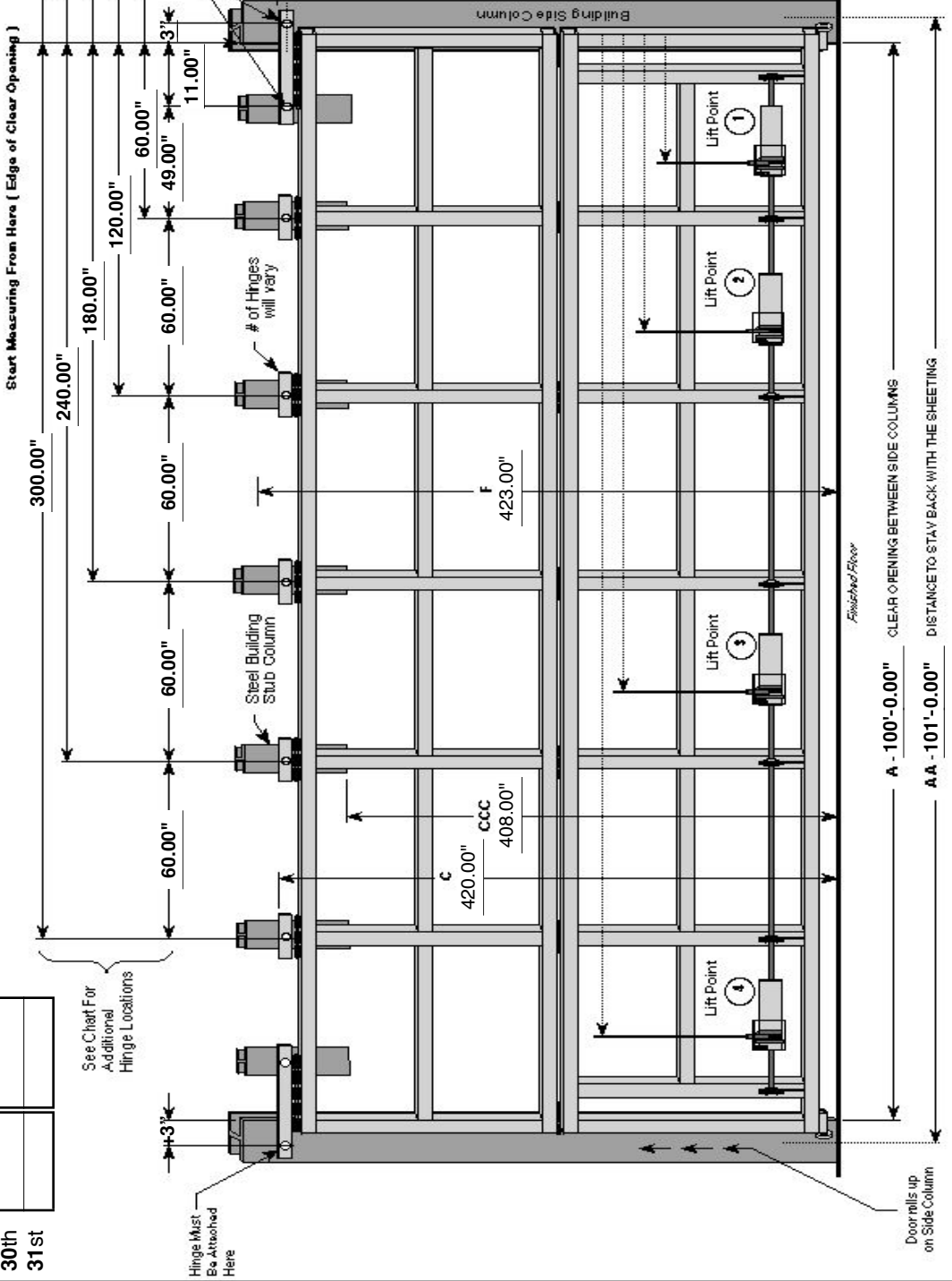
There are two bolt holes in the 1st hinge and the last hinge. The outside hole needs to bolt through and be attached securely to the building side column. The second is to go through a stub column.

Schweiss furnishes the bi-fold door frame. Hinge Locations for your Bi-Fold Door

Field drill the hinge header holes when you are installing the bi-fold door. Distance from the right side of the clear opening to the center of the holes on each of the single hinges. **Left and Right End Hinges:** Important: Each end hinge of the bi-fold door will overlap the building side column and must be attached securely to each building side column.

Door Width	Door Height	Wedge
100'	X 27' 11"	85"

Start Measuring From Here (Edge of Clear Opening)



Distance Between Hinges	Hinge Locations
60.00"	1080.00"
60.00"	1140.00"
49.00"	1189.00"
11.00"	

19th
20th
21st
22nd
23rd
24th
25th
26th
27th
28th
29th
30th
31st

See Chart For Additional Hinge Locations

Hinge Must Be Attached Here

Door mills up on Side Column

A - 100'-0.00" CLEAR OPENING BETWEEN SIDE COLUMNS
AA - 101'-0.00" DISTANCE TO STAY BACK WITH THE SHEETING

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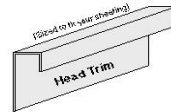
External Sheeting and Trim Provided By: Customer Responsibility

Leave your end wall open or un-sheeted until the door is installed! If the end wall is to be fully sheeted before the door is completed, do not nail or fasten the bottom of the sheets above the door frame.

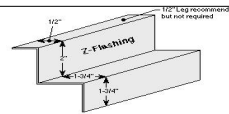
NOTE: SD = Sheeting Depth

A 102' H-Trim 26g. - 3xSDx1

WD



B 102' Z-Trim 26g. - 1x2xSDx1.75



C 102' B-Trim 26g. - 2.75xSDx.75

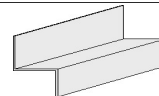


	Qty	Length	
D	34	206.75"	Sheeting
E	34	203.25"	Sheeting

F

H2

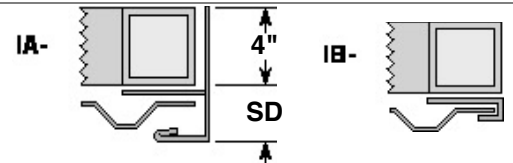
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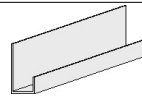
H 1,277 1" Fine Thread Tek Screws w/ Seal Washer

I 72' F-Trim 26g. - 4x2.75xSDx1

Customers choice on side trim style. Either style works well. If provided by Schweiss you will receive IA "F-Trim".



J

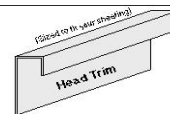


Liner Sheeting and Trim Prov. By: Customer Responsibility

Flash For Liner Sheeting = Yes - Both Halves

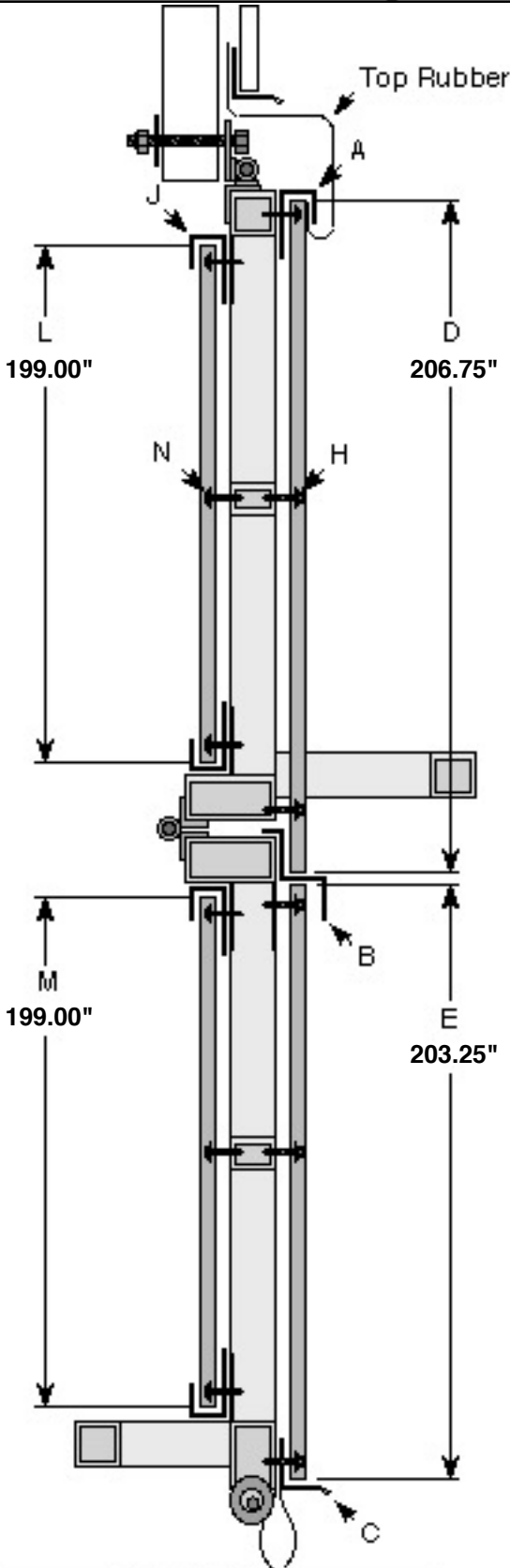
NOTE: SD = Sheeting Depth

K 371' H-Trim 26g. - 3xSDx1



	Qty	Length	
L	34	199.00"	Sheeting
M	34	199.00"	Sheeting

N 1,020 1" Fine Thread Tek Screws w/ Seal Washer



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DETAILED DRAWING
OBSTRUCTIONS INSIDE OF THE DOORS CLEAR OPENING

Door Opening - Internal Clearance Required

When the bi-fold door comes with internal trusses and/or automatic side latches, the building manufacturer must provide the proper internal clearances inside of the doors clear opening. Schweiss is calling out the distances below and it is the customers/building manufacturers responsibility to ensure these clearances are met for your door to function properly. Pass this information on to your building manufacturer.

VERY IMPORTANT: Keep This Area Clear of Obstructions

There must be no obstacles or obstructions inside of your clear opening at the dimensions listed below.
 Examples: No Tapered Main Frames, Interior Walls, etc...

- W - Bottom Truss..... - Allow 20" back at 7" up.
- X - Automatic Side Latches - Allow 17" back at 186" up.

