SCHWEISS DOORS — BIFOLD DOOR SPECS

PHONE: 507-426-8273 / FAX: 507-426-7408 / SchweissDoors.com

A-1 SPEC SHEET

Order Number: | **Bid Number:** 113022-SA

BILL TO:	SHIP TO:	BUILDING MANUFACTURER
Sam Adams - Mercer Island, WA		
Sam Adams	Mercer Island WA 98040	

Door Width	Door Height	Wdg.	Overall Height	Door Style	Drive Type	Lift Type	Truss	Hinge Style	Tot W - Inches	Tot H - Inches
39'-0.00"	13'-11.00"	30"	16'-5.00"	SCHWEISS	Bottom Drive	Strap Lift	Internal	Single Hinges	472"	197"

NOT FOR CONSTRUCTION

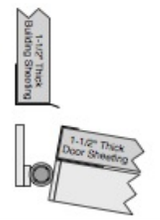
PRELIMINARY SPECS

1. We are providing PRELIMINARY SPECS primarily for you to pass on to your Building Manufacturer / Engineer / Architect / Contractor for the overall size and hinge locations for this door.
2. These are PRELIMINARY SPECS and the WEIGHTS and REACTIONS will change, therefore DO NOT design or manufacture the Doors Building Header and the Doors Building Side Columns using these Preliminary Spec Weights and Reactions.
3. FINAL SPECS will be provided with the FINAL WEIGHTS AND REACTIONS after contract and engineering are finalized. ONLY use FINAL WEIGHTS AND REACTIONS to design and manufacture the Doors Building Header and the Doors Building Side Columns.

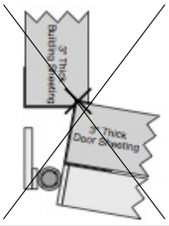
PRELIMINARY - Bi-Fold Door Specifications

	Inches	Feet & Inches	
A-	**468.00"**	*39'- 0.00"*	Clear Opening between side columns or finished clear opening. ***(steel or wood***
AA-	**480.00"**	*40'- 0.00"*	Total distance to stay back with the building sheeting on the side columns.
B-	**167.00"**	*13'- 11.00"*	Clear Opening from bottom truss to finished floor - or total height opening.
C-	**197.00"**	*16'- 5.00"*	Distance from finished floor to the very top of hinge (B+D=C).
CCC-	**185.00"**	*15'- 5.00"*	When using stubs to attach your bi-fold door to - the stub columns should hang no lower than 12 inches below the C measurement.
	(Steel Only) **IMPORTANT**		**NOTIFY SCHWEISS if stub columns are lower than 12".**
D-	**30.00"**	*2'- 6.00"*	Distance from top of clear height to top of single hinges.
E-	**29.00"**	*2'- 5.00"*	Distance from top of clear height to center of mounting hole for single hinges.
F-	**198.00"**	*16'- 6.00"*	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-	**196.00"**	*16'- 4.00"*	Distance from the finished floor to the center of single hinge bolt holes. ***YOU WILL BOLT THROUGH YOUR HEADER AT THIS HEIGHT***
H2-	**1/2 x 6 HB**		**Header Bolts Schweiss providing, unless otherwise specified by customer / contractor.**

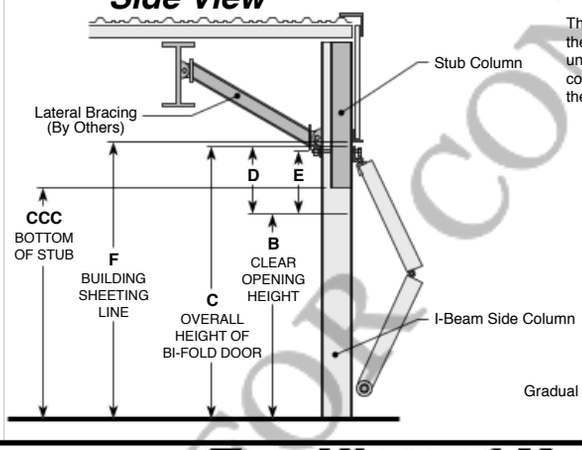
S1 - Clears



S2 - Collision



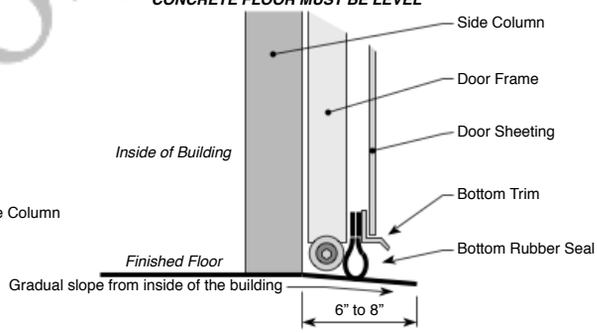
Side View



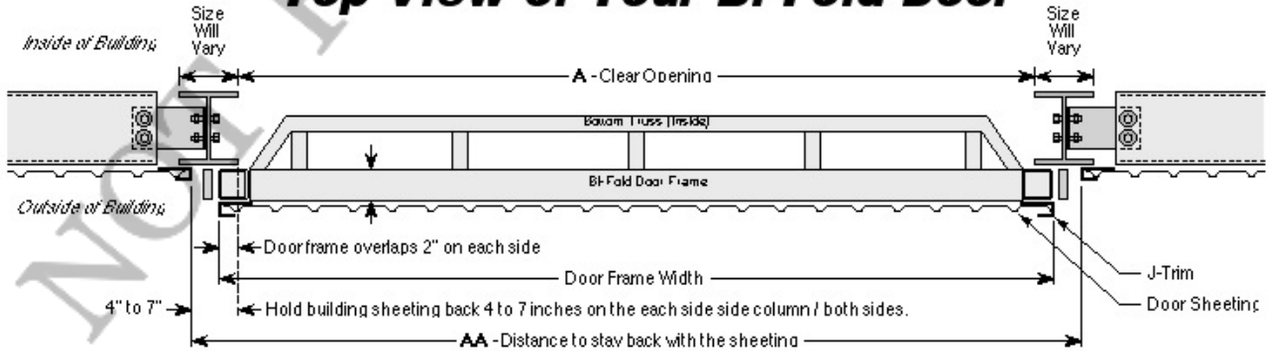
Your Concrete Floor

There must be a solid base or floor under the door frame. The door rests on the face of the building column or building line. To provide a weather tight seal under the bifold door and to keep moisture out of the building, have the concrete floor extend beyond the opening 6 to 8 inches sloping away from the building.

CONCRETE FLOOR MUST BE LEVEL



Top View of Your Bi-Fold Door



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SCHWEISS DOORS — BIFOLD DOOR SPECS

PHONE: 507-426-8273 / FAX: 507-426-7408 / SchweissDoors.com

A-2 SPEC SHEET

Order Number: **Bid Number:** 113022-SA

Door Width	Door Height	Wdg.	Overall Height	Door Style	Drive Type	Lift Type	Truss	Hinge Style	Tot W - Inches	Tot H - Inches
39'-0.00"	13'-11.00"	30"	16'-5.00"	SCHWEISS	Bottom Drive	Strap Lift	Internal	Single Hinges	472"	197"

NOT FOR CONSTRUCTION

PRELIMINARY SPECS

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PRELIMINARY - Design Criteria - Required Door Information

Building Code	**2018 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	**Component**	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	**17'**	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: 30 mph** **Do not operate door if wind speed exceeds the maximum door operating speed. Door must be closed with floor pins and locks engaged when unattended or when wind speed is expected to exceed the maximum door operating speed.**

PRELIMINARY - Technical Information For Your Bi-Fold Door

A1-	**7**	Number of Hinges
A2-	**4**	Number of Lift Points Distributed Equally.
A3-	**240-1PH**	Electrical System with Up/Stop/Down Switch and Power Unit on the **(LI) - Left/Inside**

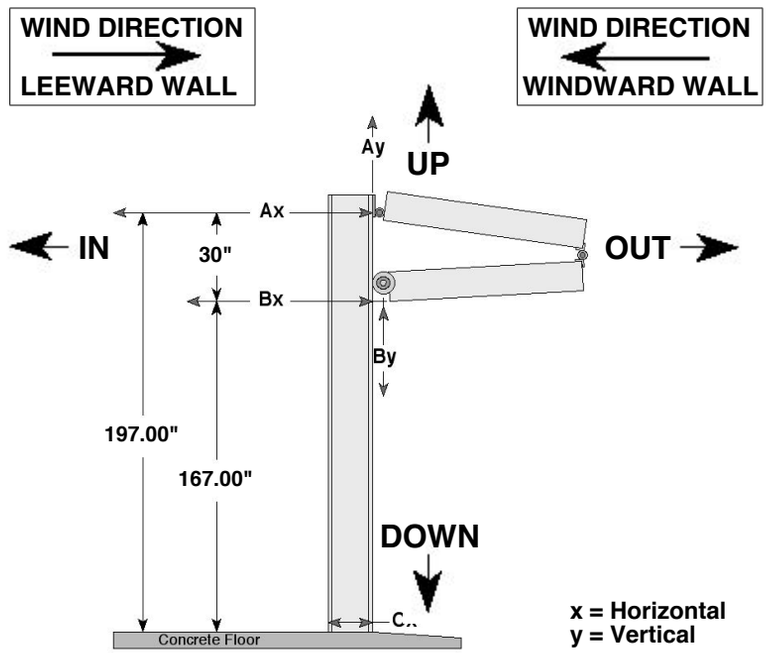
WARNING - These are PRELIMINARY WEIGHTS that will change due to Final Engineering, if you pass these on to your Building Manufacturer / Engineer / Architect / Contractor, please inform them that these are not the FINAL WEIGHTS. DO NOT manufacture the Doors Building Header or the Doors Building Side Columns using these PRELIMINARY SPEC WEIGHTS.

Door Weights		
B1-	**2771 lbs**	Structural Framing Weight
B2-	**639 lbs**	Exterior Sheeting & Trim Weight (29ga. = 0.82 psf. -- 26ga. = 0.99 psf.)
B3-		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-	**759 lbs**	Optional - added accessories
B6-	**4169 lbs**	**Estimated Total Door Weight**

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	382 ⌄	0	764 ⌄
WINDWARD WALL	115 MPH WIND LOAD				
Internal Pressure	2156 ‹	395 ‹	0	790 ‹	0
Internal Suction	3648 ‹	669 ‹	0	1338 ‹	0
LEEWARD WALL					
Internal Pressure	4063 ›	745 ›	0	1490 ›	0
Internal Suction	2570 ›	471 ›	0	942 ›	0

DOOR OPEN		END HINGES		CENTER HINGES	
	Roller Forces (lbs.) Ea. Side	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	3382 ‹	620 ›	382 ⌄	1240 ›	764 ⌄
WINDWARD WALL	30 MPH MAXIMUM WIND FOR DOOR OPERATION				
Internal Pressure	1102 ‹	183 ‹	120 ⌃	367 ‹	240 ⌃
Internal Suction	936 ‹	156 ‹	102 ⌃	311 ‹	204 ⌃
LEEWARD WALL					
Internal Pressure	1161 ›	193 ›	127 ⌃	386 ›	253 ⌃
Internal Suction	1076 ›	179 ›	117 ⌃	358 ›	235 ⌃



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 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!

52224 8:40

SCHWEISS DOORS — BIFOLD DOOR SPECS

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A-3 SPEC SHEET

Order Number: **Bid Number:** 113022-SA

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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. **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.
8. The door side columns and door header must be on the same plane - flush with each other.

Design the door side columns for:

9. Major axis bending due to the Roller Forces (Bx) shown on the Door Reactions Chart.
10. Axial load by the building framing on the door side column (including the dead load of the door).
11. 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:

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

General Design Notes:

13. The door side columns, header and bracing should be designed by a qualified Professional Engineer.
14. Specific building conditions other than those indicated in the Spec Sheets may exist which require further engineering consideration.
15. 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.
16. Door Dead Load is applied to the building when the door is open or closed.
17. 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.

SCHWEISS DOORS — BIFOLD DOOR SPECS

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A-4 SPEC SHEET

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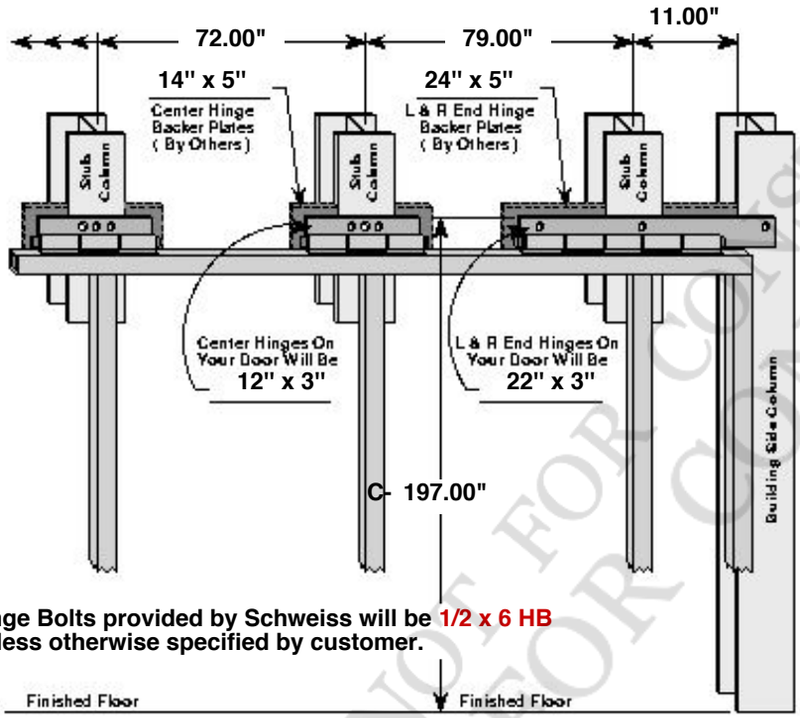
Attaching Bi-Fold Door To Your Building

Typical I-Beam Building Side Column With Stub Columns

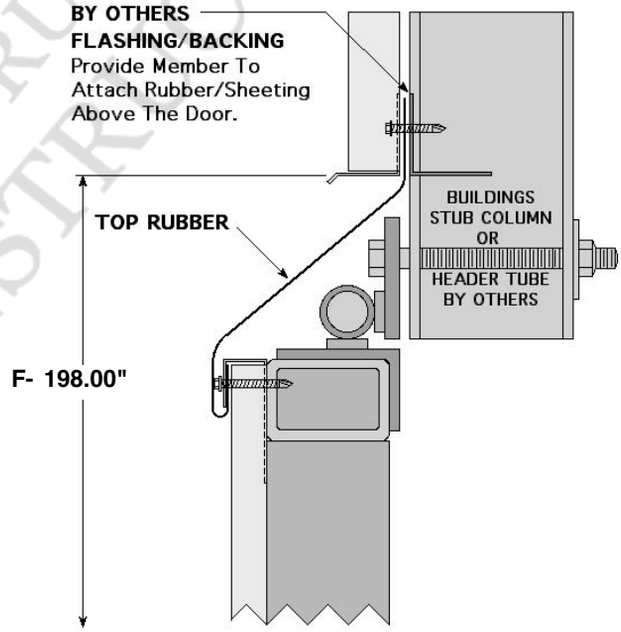
- Bolt Through Side Columns and Stub Columns.
- Hinge Backer Plate Provided By Building Manufacturer/Owner/Contractor.
- Hinge Backer Plate Thickness Determined By Building Manufacturer.
- Recommended Hinge Backer Plate Sizes - See Below...



Hinge Bolts provided by Schweiss will be 1/2 x 6 HB
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.



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Owners / Building Manufacturers / Engineers / Architects / Contractors:

When working with contractors or construction companies **it is your responsibility to pass** this information on to them. The Building Manufacturer ***/ Engineer / Architect*** / 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!

Building Manufacturer / Engineer / Architect / Contractor / Owner 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 ***Building Manufacturer / Engineer / Architect / Contractor / Owner*** using an obsolete or PRELIMINARY version of the A-1 thru A-7 Spec Sheets.

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

Customer: _____
SIGNATURE REQUIRED

Thank You :
Sales Person **Jeremy Rieke**

SCHWEISS DOORS

BIFOLD DOOR SPECS

PHONE: 507-426-8273 / FAX: 507-426-7408 / SchweissDoors.com

A-5 SPEC SHEET

Order Number: **Bid Number:** 113022-SA

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39'-0.00"	13'-11.00"	30"	16'-5.00"	SCHWEISS	Bottom Drive	Strap Lift	Internal	Single Hinges	472"	197"

Schweiss furnishes the bi-fold door frame.

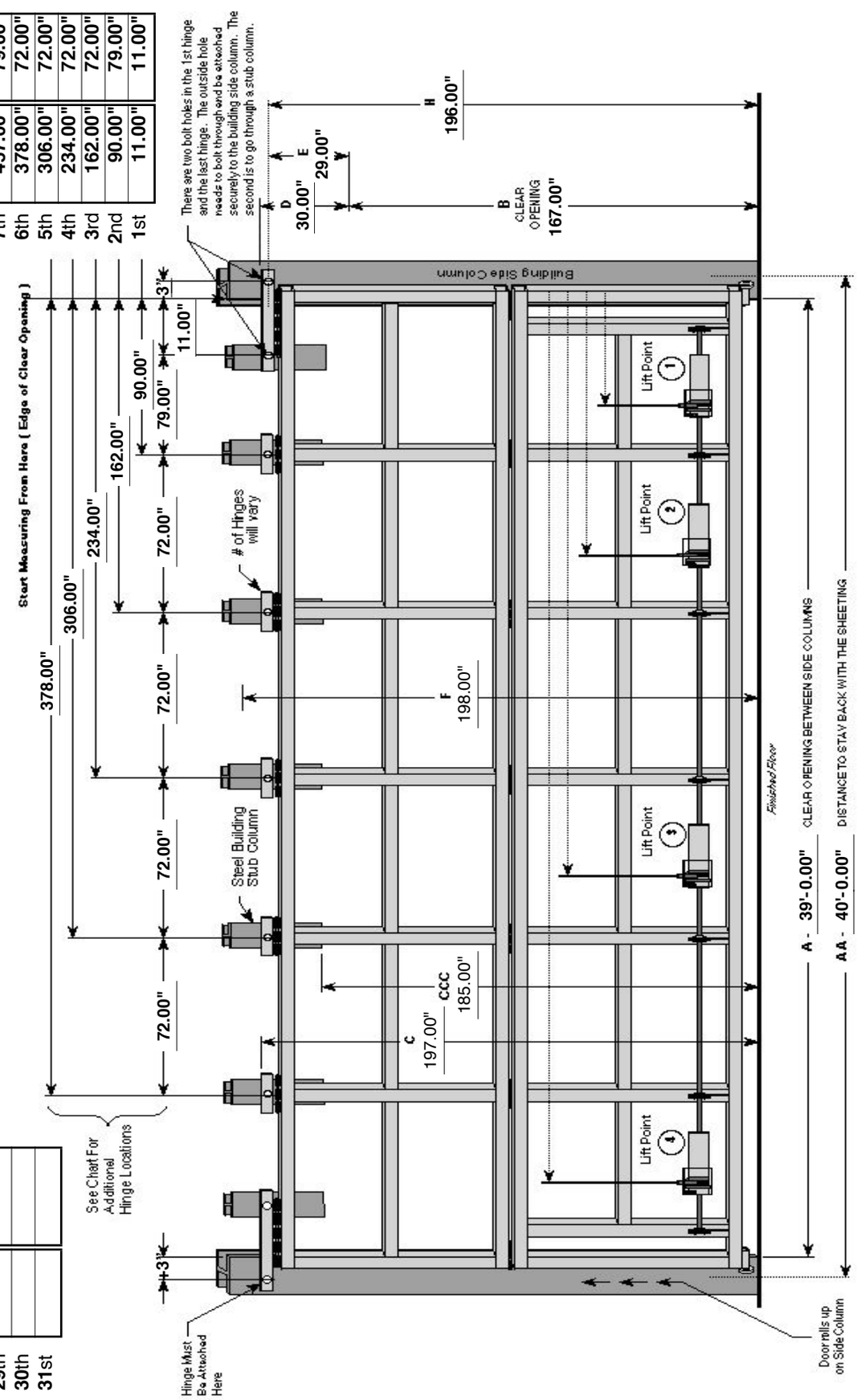
Hinge Locations for your Bi-Fold Door

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
39' 0"	x	13' 11"	30"

	Hinge Locations	Distance Between Hinges
18th		
17th		
16th		
15th		
14th		
13th		
12th		
11th		
10th		
9th		
8th	457.00"	11.00"
7th	378.00"	79.00"
6th	306.00"	72.00"
5th	234.00"	72.00"
4th	162.00"	72.00"
3rd	90.00"	72.00"
2nd	79.00"	79.00"
1st	11.00"	11.00"

	Hinge Locations	Distance Between Hinges
19th		
20th		
21st		
22nd		
23rd		
24th		
25th		
26th		
27th		
28th		
29th		
30th		
31st		



SCHWEISS DOORS

BIFOLD DOOR SPECS

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A-6 SPEC SHEET

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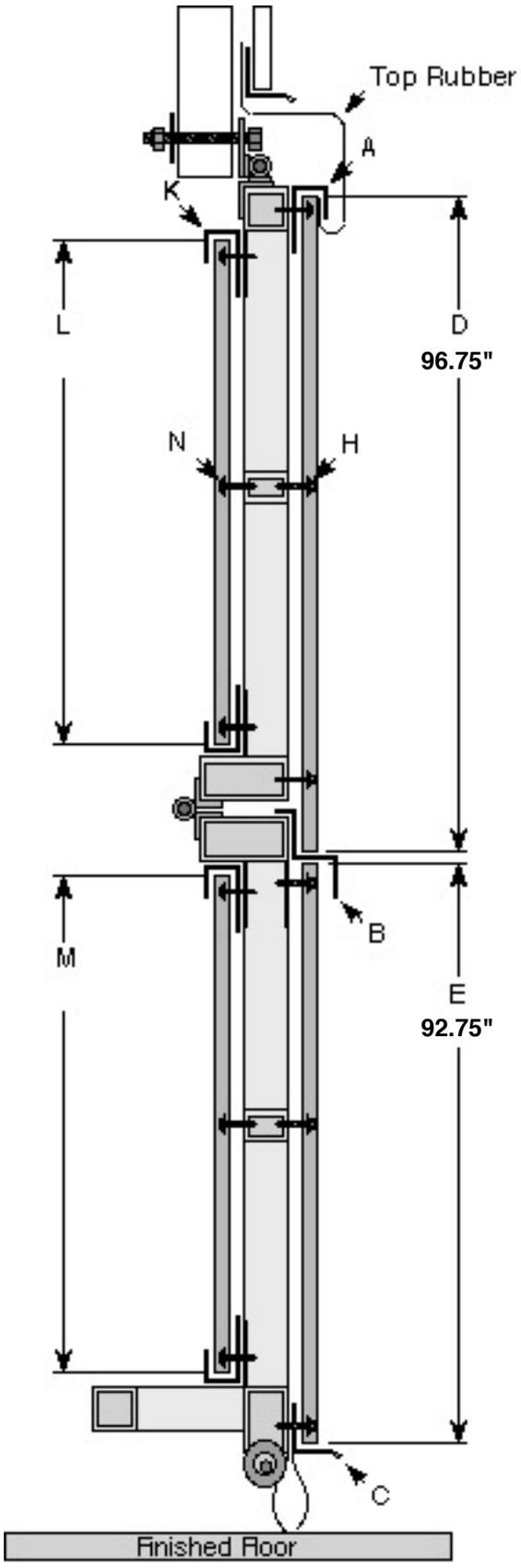
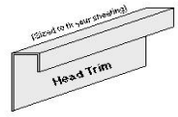
External Sheeting and Trim Provided By: Customer Responsibility



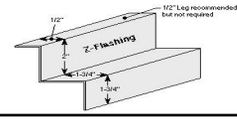
Leave your end wall open or un-sheeted until the door is installed! If the end wall is to be fully sheeted before the door is completed, do not nail or fasten the bottom of the sheets above the door frame.

NOTE: SD = Sheeting Depth

A 41' H-Trim 26g. - 3xSDx1



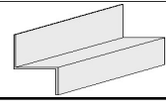
B 41' Z-Trim 26g. - 1x2xSDx1.75



C 41' B-Trim 26g. - 2.75xSDx.75

	Qty	Length	
D	14	96.75"	Sheeting
E	14	92.75"	Sheeting

F
H2
G

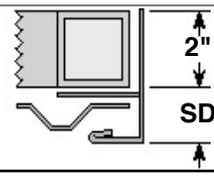


H 397 1" Fine Thread Tek Screws w/ Seal Washer

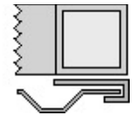
I 35' F-Trim 26g. - 2x2.75xSDx1

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

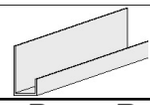
IA-



IB-



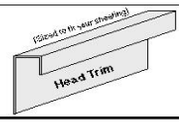
J



Liner Sheeting and Trim Prov. By: Customer Responsible

Flash For Liner Sheeting = Not Set-Up for Liner Sheeting

K



	Qty	Length	
L			
M			

N

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Unless otherwise specified by customer.

SCHWEISS DOORS

BIFOLD DOOR SPECS

PHONE: 507-426-8273 / FAX: 507-426-7408 / SchweissDoors.com

A-7 SPEC SHEET

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39'-0.00"	13'-11.00"	30"	16'-5.00"	SCHWEISS	Bottom Drive	Strap Lift	Internal	Single Hinges	472"	197"

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 8" back at 6" up.

X - Strap Latches..... - Allow 9" In at 84" up.