

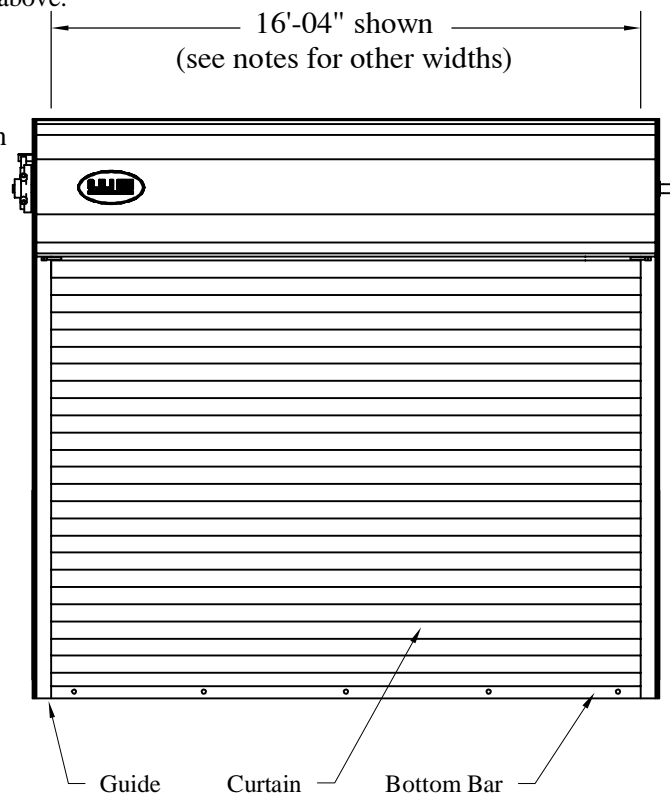
opening width	fastener size	approximately 110mph			approximately 120mph			approximately 130mph or more														
		spacing	psf	mph	spacing	psf	mph	spacing	psf	mph	spacing	psf	mph	spacing	psf	mph						
12'-04"	3/8"	20"	45.0/-42.0	164	18"	47.8 / -44.7	169	16"	51.4 / -48.0	175	14"	55.9 / -52.2	182	12"	62.0 / -57.9	192	10"	70.5 / -65.9	205	8"	74.1/-74.1	217
14'-04"	3/8"	20"	32.2/-30.2	140	18"	34.5 / -32.3	144	16"	37.3 / -35.0	150	14"	41.0 / -38.4	158	12"	45.9 / -43.0	167	10"	52.7 / -49.5	179	8"	63.0/-59.1	195
16'-04"	3/8"	20"	24.4/-23.0	123	18"	26.3 / -24.7	127	16"	28.7 / -27.0	133	14"	31.7 / -29.8	140	12"	35.7 / -33.6	148	10"	41.4 / -39.0	160	8"	49.9/-47.0	175
17'-04"	3/8"	20"	21.6/-20.4	115	18"	23.3 / -22.0	120	14"	28.3 / -26.7	132	14"	28.3 / -26.7	132	12"	32.0 / -30.2	141	10"	37.2 / -35.1	152	8"	45.0/-42.4	167
18'-04"	3/8"	20"	19.3/-18.2	110	16"	22.9 / -21.6	119	13"	27.0 / -25.5	130	12"	28.9 / -27.3	134	10"	33.7 / -31.8	145	8"	40.8 / -38.6	160	6"	46.1/-46.1	175
19'-04"	3/8"	17"	19.7/-18.7	111	14"	23.1 / -21.8	120	12"	26.2 / -24.8	128	11"	28.3 / -26.7	133	9"	33.6 / -31.8	145	8"	37.3 / -35.3	153	6"	42.3/-42.3	167
20'-04"	3/8"	16"	18.9/-17.9	109	13"	22.4 / -21.2	119	11"	25.9 / -24.5	128	10"	28.1 / -26.6	133	8"	34.3 / -32.4	147	6"	38.9 / -38.9	161			

Install door on 2000psi concrete jambs with spacing as above.

This door has been evaluated in accordance with ASTM E 330-02 and ANSI/DASMA 108-05.

Per ASCE 7-05, design Pressures (DP) as charted on this drawing typically meet or exceed requirements for corresponding wind speeds.

These ASCE 7-05 exposure B wind speeds are for 8' high doors on fully enclosed flat roof buildings with dimensions 60' x 40' x 30'.



Use 1/2" fasteners on 2000psi concrete with spacing as shown below.

width	fastener	spacing	psf	Exposure "B"	spacing	psf (+/-)	Exposure "B"
12'-04"	1/2"	20"	56.5/-52.8	183 (mph)	10"	74.1	217 (mph)
14'-04"	1/2"	20"	41.5/-38.9	159 (mph)	10"	63.8	203 (mph)
16'-04"	1/2"	20"	32.1/-30.2	141 (mph)	9"	56.0	191 (mph)
17'-04"	1/2"	20"	28.7/-27.0	133 (mph)	9"	50.6	182 (mph)
18'-04"	1/2"	20"	25.8/-24.4	127 (mph)	9"	46.1	175 (mph)
19'-04"	1/2"	20"	23.4/-22.1	121 (mph)	9"	42.3	167 (mph)
20'-04"	1/2"	20"	21.4/-20.2	116 (mph)	9"	38.9	161 (mph)

width	fastener spacing	psf (+/-)	Exposure "B"
12'-04"	3/8" 20"	74.1	217 (mph)
14'-04"	3/8" 20"	63.8	203 (mph)
16'-04"	3/8" 20"	56.0	191 (mph)
17'-04"	3/8" 20"	50.6	182 (mph)
18'-04"	3/8" 20"	46.1	175 (mph)
19'-04"	3/8" 20"	42.3	167 (mph)
20'-04"	3/8" 20"	38.9	161 (mph)

Use self threading screws or welds with spacing above to install door on structural steel or equivalent. See page 4.

width	fastener spacing	psf (+/-)	Exposure "B"
12'-04"	1/2" 19"	74.1	217 (mph)
14'-04"	1/2" 16"	63.8	203 (mph)
16'-04"	1/2" 14"	56.0	191 (mph)
17'-04"	1/2" 14"	50.6	182 (mph)
18'-04"	1/2" 14"	46.1	175 (mph)
19'-04"	1/2" 14"	42.3	167 (mph)
20'-04"	1/2" 14"	38.9	161 (mph)

Use spacing above to through bolt on concrete, filled CMU, or equivalent. See page 4.

This page is for 2000psi concrete jamb and steel jamb fastener spacing details.

See Page 2 for 3000psi concrete jamb fastener spacing details.

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Date: 8-31-2015

Models: 6202, 6222, 6242, 6181, 6201, 6221, 6266

12'-04" through 20'-04"

C.H.I. Drawing: TZ12w-16-R1002

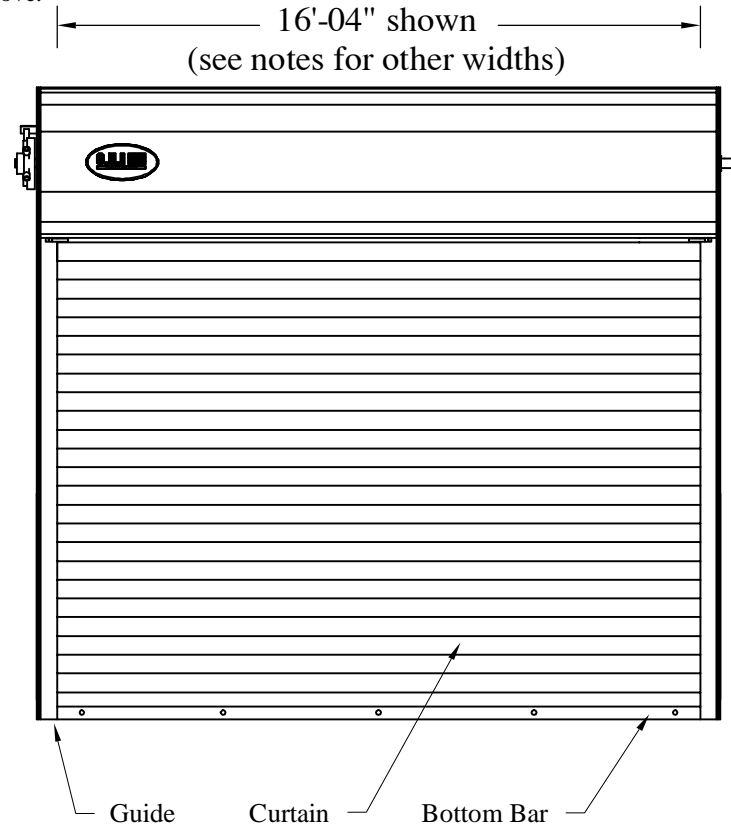
Open width	fastener size	approximately 110mph			approximately 120mph			approximately 130mph or more														
		spacing	psf	mph	spacing	psf	mph	spacing	psf	mph	spacing	psf	mph	spacing	psf	mph	spacing	psf	mph			
12'-04"	3/8"	20"	50.0/-46.7	173	18"	53.4 / -49.8	178	16"	57.6 / -53.8	185	14"	63.1 / -58.9	194	12"	70.3 / -65.7	205	11"	74.1 / -70.0	211	7"	74.1 / -74.1	217
14'-04"	3/8"	20"	36.2/-33.9	148	18"	38.9 / -36.5	154	16"	42.3 / -39.7	160	14"	46.7 / -43.8	168	12"	52.6 / -49.3	178	11"	56.3 / -52.8	185	7"	63.8 / -63.8	203
16'-04"	3/8"	20"	27.7/-26.1	131	18"	30.0 / -28.2	136	16"	32.8 / -30.9	142	14"	36.4 / -34.3	150	12"	41.2 / -38.8	159	11"	44.3 / -41.7	165	7"	56.0 / -56.0	191
17'-04"	3/8"	20"	24.6/-23.2	123	18"	26.7 / -25.2	128	16"	29.3 / -27.6	134	14"	32.6 / -30.8	142	12"	37.1 / -34.9	151	11"	39.9 / -37.6	157	7"	50.6 / -50.6	182
18'-04"	3/8"	20"	22.1/-20.9	117	18"	24.0 / -22.7	122	16"	26.4 / -24.9	128	14"	29.5 / -27.8	136	12"	33.5 / -31.7	145	11"	36.1 / -34.1	150	7"	46.1 / -46.1	175
19'-04"	3/8"	20"	20.0/-18.9	112	16"	24.0 / -22.6	122	14"	26.8 / -25.3	129	13"	28.5 / -27.0	134	11"	33.0 / -31.2	144	8"	42.3 / -41.4	165	7"	42.3 / -42.3	167
20'-04"	3/8"	18"	19.8/-18.8	112	16"	21.9 / -20.7	117	14"	24.5 / -23.2	124	13"	26.1 / -24.7	128	11"	30.2 / -28.6	138	8"	38.9 / -38.1	159	7"	38.9 / -38.9	161

Install door on 3000psi concrete jambs with spacing as above.

This door has been evaluated in accordance with ASTM E 330-02 and ANSI/DASMA 108-05.

Per ASCE 7-05, design Pressures (DP) as charted on this drawing typically meet or exceed requirements for corresponding wind speeds.

These ASCE 7-05 exposure B wind speeds are for 8' high doors on fully enclosed flat roof buildings with dimensions 60' x 40' x 30'.




Use 1/2" fasteners on 3000psi concrete with spacing as shown below.

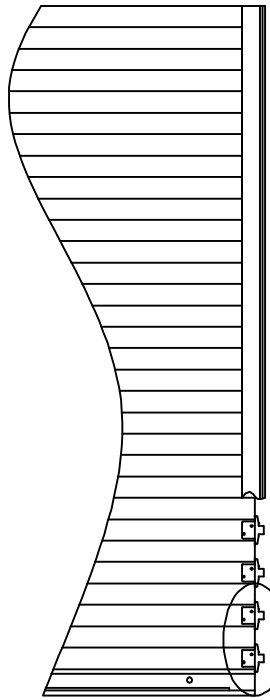
width	fastener	spacing	psf	Exposure "B"	spacing	psf (+/-)	Exposure "B"
12'-04"	1/2"	20"	66.2/-61.8	198 (mph)	11"	74.1	217 (mph)
14'-04"	1/2"	20"	49.2/-46.2	173 (mph)	11"	63.8	203 (mph)
16'-04"	1/2"	20"	38.5/-36.3	154 (mph)	11"	56.0	191 (mph)
17'-04"	1/2"	20"	34.5/-32.6	146 (mph)	11"	50.6	182 (mph)
18'-04"	1/2"	20"	31.2/-29.5	140 (mph)	11"	46.1	175 (mph)
19'-04"	1/2"	20"	28.4/-26.9	133 (mph)	11"	42.3	167 (mph)
20'-04"	1/2"	20"	26.0/-24.6	128 (mph)	11"	38.9	161 (mph)

This page is for 3000psi concrete jamb fastener spacing details.

See Page 1 for 2000psi concrete jamb and steel jamb fastener spacing details.

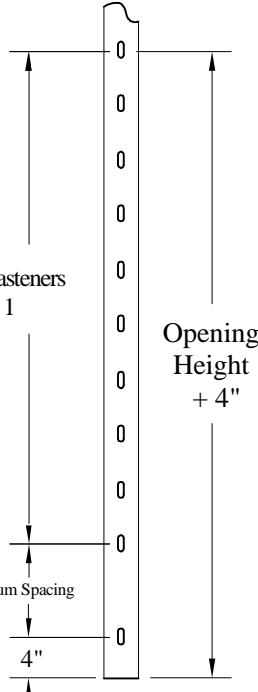
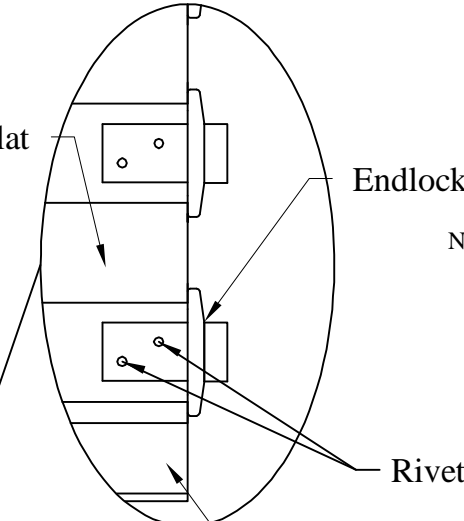
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 <small>ROLLING STEEL DOORS</small> <small>1485 Sunrise Drive, Arthur, IL 61911</small>	Date: 8-31-2015
	Models: 6202, 6222, 6242, 6181, 6201, 6221, 6266
12'-04" through 20'-04"	
C.H.I. Drawing: TZ12w-16-R1002	

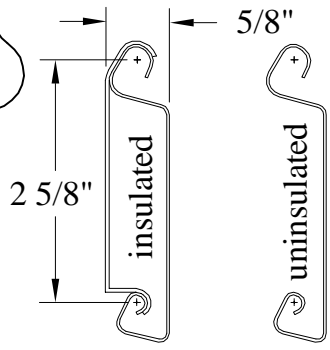
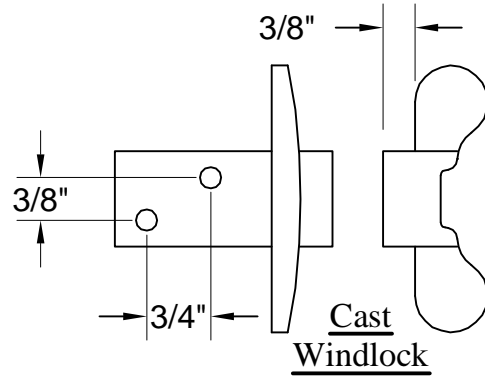


Rivet Diameter: 1/4"
 Rivet Body: Steel
 Rivet Mandrel: Steel

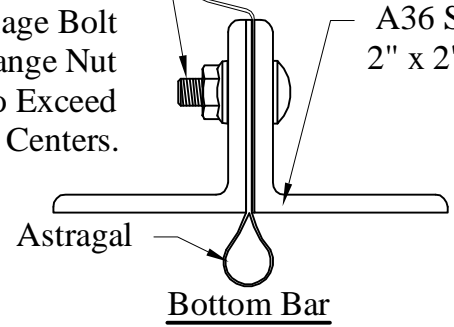
Note:
 Construction of the door above the header is not part of the windload design and not detailed on this drawing.



Opening Height	MAXIMUM SPACING												
	6"	7"	8"	9"	10"	11"	12"	13"	14"	16"	17"	18"	20"
08'-00"	17	15	13	12	11	10	9	9	8	7	7	7	6
09'-00"	19	17	15	13	12	11	10	10	9	8	8	7	7
10'-00"	21	19	16	15	13	12	11	11	10	9	9	8	7
11'-00"	23	20	18	16	15	13	12	12	11	10	9	9	8
12'-00"	25	22	19	17	16	15	13	13	12	10	10	9	9
13'-00"	27	24	21	19	17	16	14	13	13	11	11	10	9
14'-00"	29	25	22	20	18	17	15	14	13	12	11	11	10
15'-00"	31	27	24	21	19	18	16	15	14	13	12	11	10
16'-00"	33	29	25	23	21	19	17	16	15	13	13	12	11
17'-00"	35	31	27	24	22	20	18	17	16	14	13	13	12
18'-00"	37	32	28	25	23	21	19	18	17	15	14	13	12
19'-00"	39	34	30	27	24	22	20	19	18	16	15	14	13
20'-00"	41	36	31	28	25	23	21	20	19	16	16	15	13
21'-00"	43	37	33	29	27	24	22	21	19	17	16	15	14
22'-00"	45	39	34	31	28	25	23	22	20	18	17	16	15
23'-00"	47	41	36	32	29	27	24	23	21	19	18	17	15
24'-00"	49	43	37	33	30	28	25	24	22	19	18	17	16
25'-00"	51	44	39	35	31	29	26	25	23	20	19	18	16
26'-00"	53	46	40	36	33	30	27	25	24	21	20	19	17
27'-00"	55	48	42	37	34	31	28	26	25	22	21	19	18
28'-00"	57	49	43	39	35	32	29	27	25	22	21	20	18
29'-00"	59	51	45	40	36	33	30	28	26	23	22	21	19
30'-00"	61	53	46	41	37	34	31	29	27	24	23	21	19



Starter Slat
 5/16" x 1"
 Grade 2
 Carriage Bolt
 With Flange Nut
 Not To Exceed
 45" On Centers.



See charts on Pages 1 and 2 for maximum fastener spacing.
 See Page 4 for fastener descriptions.

Maximum door height: 30'-0"

Steel Slat Thickness
 .024/.024 insulated
 .029 uninsulated

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C.H.I. ROLLING STEEL DOORS
 1485 Sunrise Drive, Arthur, IL 61911
 Date: 8-31-2015
 Models: 6202, 6222, 6242, 6181, 6201, 6221, 6266
 12'-04" through 20'-04"

C.H.I. Drawing: TZ12w-16-R1002

Professional Engineer's seal provided only for verification of windload construction details

Guide Details

1. Jamb Material:

- a. A500 Structural Steel (3/16" thick, see page 1) or
- b. Concrete (2000psi, see page 1) or (3000psi, see page 2) or
- c. Filled CMU or Concrete: Bolt Through (2000psi, see page 1)

2. Wall Angle: (A36 Structural Steel Angle)

- a. 3-1/2" x 3-1/2" x 1/4"
"E" Guide Configuration for Steel Jamb.
- b. 4" x 3-1/2" x 5/16"
"Z" Guide Configuration for Concrete Jamb.

3. Jamb Fastener: (Quantity Shown On Page 3)

- a. Steel: 3/8" - 16 x 1" Self Tapping Bolt
An alternative to self tapping bolts is
Welding of Guides: 3/16" Fillet Weld
Along Perimeter of Slots Utilizing an E60 Electrode.
Slot Quantity and Spacing Same as Steel Fasteners (see page 3).
- b. Concrete: Simpson Strong-Tie
Titen HD 3/8" x 4" or Titen HD 1/2" x 6"
- c. Filled CMU or Concrete: Bolt Through
1/2"-13 Bolt or Rod (minimum 115,000 psi), Nut, 1"OD flat washers,
with Square crush plate: 3.5"x3.5"x0.25" thick (A36 steel or better)

4. Guide to Guide Fastener :

1/2"-13 x 1-1/4" Grade 5 Carriage Bolt
with Steel Serrated-Flange Hex Locknut 1/2"-13
not to exceed 24" on centers.

5. Back Angle: (A36 Structural Steel Angle)

2" x 3" x 3/16"

6. Face Angle: (A36 Structural Steel Angle)

3-1/2" x 3-1/2" x 1/4"

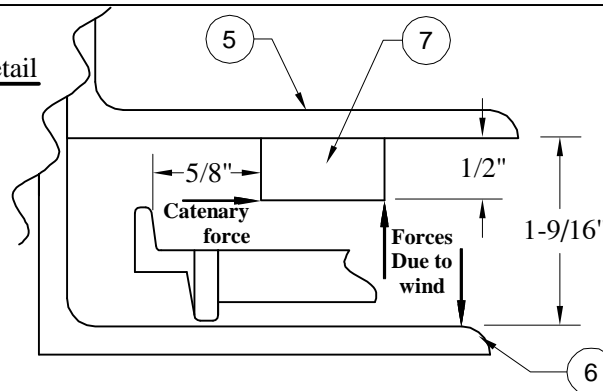
7. Windlock Bar:

1/2" x 1" Hot Rolled Steel
1/2" Diameter Plug Welds
every 16" maximum or
3/16" Fillet x 3/8" Long Welds
every 16" maximum on
Alternating Sides of Windlock Bar

8. Slat Cut-Length:

Slat Length = Opening Width plus 4-3/4"

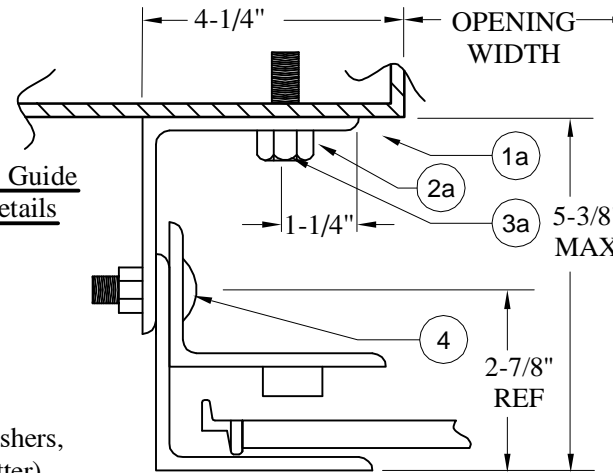
Slip Detail



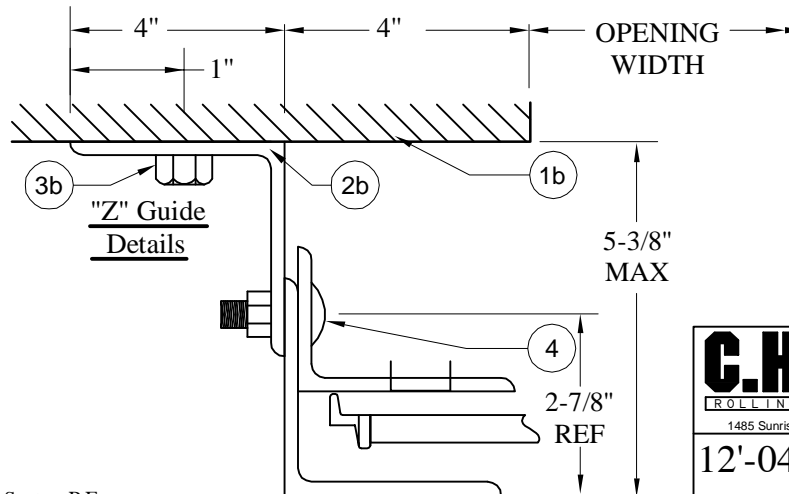
The jambs must be designed (by others) to withstand direct forces due to wind (width x psf/2) and catenary forces created by this door. Forces are in units of "pounds per foot tall". Catenary is always in the direction shown. Direct forces due to wind occur in both (+) and (-) directions. Theoretical catenary forces are tabulated below. While lower psf may generate lesser forces, these doors are capable of enduring at least 150% of design pressure resulting in higher theoretical catenary forces.

width	dp max	catenary force
12'-04"	74.1(psf)	1700 (lbs/ft)
14'-04"	63.8(psf)	2000 (lbs/ft)
16'-04"	56.0(psf)	2200 (lbs/ft)
17'-04"	50.6(psf)	2200 (lbs/ft)
18'-04"	46.1(psf)	2200 (lbs/ft)
19'-04"	42.3(psf)	2200 (lbs/ft)
20'-04"	38.9(psf)	2200 (lbs/ft)


"E" Guide Details



"Z" Guide Details



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	Models: 6202, 6222, 6242, 6181, 6201, 6221, 6266
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