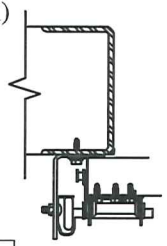
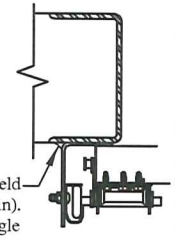
Self tapping screws (with steel)



Anchor: 1/4" dia x 3/4" self tapping screw; must conform to ANSI/ASME B18.2.1.
3/16" steel Jambs; allowable load per screw= 444 lbs.
12 gauge steel Jambs; allowable load per screw= 209 lbs.
Washer: 1-1/8" O.D. / 3/8" I.D. min; must conform to ANSI B18.22.1 type A.
Lowest fastener to be within 10-inches of the floor
Minimum of 3 anchors per jamb allowed.
Maximum spacing shown in chart. Lesser spacing may be used to avoid interference with door component system.
Add holes to continuous angle as required to satisfy fastener spacing in these charts.
These charts do not address spring pad connections to the building.
Load per jamb = 0.5 x door width x max positive pressure x door height
Calculation reference: DASMA TDS #161h, ITW Buildex Online Performance Data.

.100" x 1" fillet welds



.100" x 1" long fillet weld (E60XX Electrodes Min). Weld to be located vertically on angle at spacing specified in chart and tack weld toe of angle at same spacing.

Anchor: welds performed by a Certified Welder or inspected by a Certified Welding Inspector to verify integrity of welds.
12 gauge or 3/16" steel Jambs; allowable load per weld= 1,272 lbs.
Use all necessary precautions when welding galvanized steel.
Welds to be evenly spaced between header and floor.
Lowest weld to be within 10-inches of the floor
Minimum of 3 welds per jamb allowed.
Fillet welds to have a straight or convex face surface.
Tack weld toe of angle at same spacing to prevent rotation of track angle.
Cracks and blemishes shall be ground to a smooth contour and checked to ensure soundness.
These charts do not address spring pad connections to the building.
Load per jamb = 0.5 x door width x max positive pressure x door height
Calculation reference: DASMA TDS #161g.

ATTACHMENT SPACING (inches)			DOOR WIDTH (feet and inches) at a given DESIGN PRESSURE (PSF)																	
SCREWS		WELDS																		
12 ga jamb	3/16" jamb	12 ga jamb	28.5psf	30.2psf	31.4psf	32.9psf	34.6psf	36.5psf	38.7psf	41.6psf	44.4psf	47.5psf	51.2psf	55.5psf	60.5psf	66.5psf	74psf	82.8psf	86.6psf	95.3psf
24	24	24	7'-4"	6'-11"	6'-7"	6'-4"	6'-0"	5'-8"	5'-4"	5'-0"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
23	24	24	7'-7"	7'-2"	6'-11"	6'-7"	6'-3"	5'-11"	5'-7"	5'-2"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
22	24	24	8'-0"	7'-6"	7'-3"	6'-11"	6'-7"	6'-2"	5'-10"	5'-5"	5'-1"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
21	24	24	8'-4"	7'-10"	7'-7"	7'-3"	6'-10"	6'-6"	6'-2"	5'-8"	5'-4"	5'-0"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
20	24	24	8'-9"	8'-3"	7'-11"	7'-7"	7'-2"	6'-10"	6'-5"	6'-0"	5'-7"	5'-3"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
19	24	24	9'-3"	8'-8"	8'-4"	8'-0"	7'-7"	7'-2"	6'-9"	6'-4"	5'-11"	5'-6"	5'-1"	n/a	n/a	n/a	n/a	n/a	n/a	n/a
18	24	24	9'-9"	9'-2"	8'-10"	8'-5"	8'-0"	7'-7"	7'-2"	6'-8"	6'-3"	5'-10"	5'-5"	5'-0"	n/a	n/a	n/a	n/a	n/a	n/a
17	24	24	10'-4"	9'-9"	9'-4"	8'-11"	8'-6"	8'-1"	7'-7"	7'-1"	6'-7"	6'-2"	5'-9"	5'-3"	n/a	n/a	n/a	n/a	n/a	n/a
16	24	24	11'-0"	10'-4"	9'-11"	9'-6"	9'-0"	8'-7"	8'-1"	7'-6"	7'-0"	6'-7"	6'-1"	5'-7"	5'-2"	n/a	n/a	n/a	n/a	n/a
15	24	24	11'-8"	11'-0"	10'-7"	10'-1"	9'-7"	9'-1"	8'-7"	8'-0"	7'-6"	7'-0"	6'-6"	6'-0"	5'-6"	5'-0"	n/a	n/a	n/a	n/a
14	24	24	12'-6"	11'-10"	11'-4"	10'-10"	10'-4"	9'-9"	9'-3"	8'-7"	8'-0"	7'-6"	6'-11"	6'-5"	5'-11"	5'-4"	n/a	n/a	n/a	n/a
13	24	24	13'-6"	12'-9"	12'-3"	11'-8"	11'-1"	10'-6"	9'-11"	9'-3"	8'-8"	8'-1"	7'-6"	6'-11"	6'-4"	5'-9"	5'-2"	n/a	n/a	n/a
12	24	24	14'-7"	13'-10"	13'-3"	12'-8"	12'-0"	11'-5"	10'-9"	10'-0"	9'-4"	8'-9"	8'-1"	7'-6"	6'-10"	6'-3"	5'-7"	5'-0"	n/a	n/a
11	23	24	16'-0"	15'-1"	14'-6"	13'-10"	13'-2"	12'-5"	11'-9"	10'-11"	10'-3"	9'-7"	8'-10"	8'-2"	7'-6"	6'-10"	6'-1"	5'-6"	5'-3"	n/a
10	22	24	16'-11"	16'-0"	15'-5"	14'-8"	13'-11"	13'-3"	12'-6"	11'-7"	10'-10"	10'-2"	9'-5"	8'-8"	8'-0"	7'-3"	6'-6"	5'-10"	5'-7"	5'-0"
10	21	24	17'-7"	16'-7"	16'-0"	15'-3"	14'-6"	13'-9"	12'-11"	12'-0"	11'-3"	10'-6"	9'-9"	9'-0"	8'-3"	7'-6"	6'-9"	6'-0"	5'-9"	5'-3"
9	20	24	18'-6"	17'-5"	16'-9"	16'-0"	15'-2"	14'-5"	13'-7"	12'-8"	11'-10"	11'-1"	10'-3"	9'-6"	8'-8"	7'-11"	7'-1"	6'-4"	6'-1"	5'-6"
9	19	24	19'-5"	18'-4"	17'-8"	16'-10"	16'-0"	15'-2"	14'-4"	13'-4"	12'-6"	11'-8"	10'-10"	10'-0"	9'-2"	8'-4"	7'-6"	6'-8"	6'-4"	5'-9"
8	18	24	20'-6"	19'-4"	18'-7"	17'-9"	16'-11"	16'-0"	15'-1"	14'-0"	13'-2"	12'-3"	11'-5"	10'-6"	9'-8"	8'-9"	7'-10"	7'-0"	6'-9"	6'-1"
8	17	24	21'-8"	20'-6"	19'-8"	18'-9"	17'-10"	16'-11"	16'-0"	14'-10"	13'-11"	13'-0"	12'-1"	11'-1"	10'-2"	9'-3"	8'-4"	7'-5"	7'-1"	6'-6"
7	16	24	23'-4"	22'-0"	21'-2"	20'-2"	19'-2"	18'-2"	17'-2"	16'-0"	15'-0"	14'-0"	13'-0"	12'-0"	11'-0"	10'-0"	9'-0"	8'-0"	7'-8"	6'-11"
7	15	24	24'-11"	23'-6"	22'-7"	21'-7"	20'-6"	19'-5"	18'-4"	17'-0"	16'-0"	14'-11"	13'-10"	12'-9"	11'-8"	10'-8"	9'-7"	8'-6"	8'-2"	7'-5"
6	14	24	26'-8"	25'-2"	24'-2"	23'-1"	21'-11"	20'-10"	19'-8"	18'-3"	17'-1"	16'-0"	14'-10"	13'-8"	12'-6"	11'-5"	10'-3"	9'-2"	8'-9"	7'-11"
6	13	24	n/a	27'-1"	26'-1"	24'-10"	23'-8"	22'-5"	21'-2"	19'-8"	18'-5"	17'-3"	16'-0"	14'-9"	13'-6"	12'-3"	11'-0"	9'-10"	9'-5"	8'-7"
5	12	24	n/a	n/a	n/a	26'-11"	25'-7"	24'-3"	22'-11"	21'-4"	20'-0"	18'-8"	17'-4"	16'-0"	14'-8"	13'-4"	12'-0"	10'-8"	10'-3"	9'-3"
5	11	24	n/a	n/a	n/a	n/a	27'-11"	26'-6"	25'-0"	23'-3"	21'-9"	20'-4"	18'-11"	17'-5"	16'-0"	14'-6"	13'-1"	11'-8"	11'-2"	10'-1"
4	10	24	n/a	n/a	n/a	n/a	n/a	n/a	27'-6"	25'-7"	24'-0"	22'-5"	20'-9"	19'-2"	17'-7"	16'-0"	14'-4"	12'-10"	12'-3"	11'-2"
4	9	24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	26'-8"	24'-11"	23'-1"	21'-3"	19'-6"	17'-9"	16'-0"	14'-3"	13'-8"	12'-5"
3	8	23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	27'-11"	25'-11"	23'-10"	21'-11"	19'-11"	17'-11"	16'-0"	15'-3"	13'-11"
3	7	22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	27'-1"	25'-0"	22'-11"	20'-10"	18'-9"	16'-9"	16'-0"	14'-6"
3	7	21	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	26'-2"	24'-0"	21'-10"	19'-7"	17'-6"	16'-9"	15'-3"
3	7	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	27'-6"	25'-2"	22'-11"	20'-7"	18'-5"	17'-7"	16'-0"
3	6	19	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	26'-6"	24'-1"	21'-8"	19'-4"	18'-6"	16'-10"
SCREWS		WELDS	28.5psf	30.2psf	31.4psf	32.9psf	34.6psf	36.5psf	38.7psf	41.6psf	44.4psf	47.5psf	51.2psf	55.5psf	60.5psf	66.5psf	74psf	82.8psf	86.6psf	95.3psf
12 ga jamb	3/16" jamb	12 ga jamb	DOOR WIDTH (feet and inches) at a given DESIGN PRESSURE (PSF)																	
ATTACHMENT SPACING (inches)																				

Alternative design may be approved by a registered professional engineer.

Supporting structural elements shall be designed by a registered professional engineer for wind loads in addition to other loads.

This drawing does not address the jamb/wall design, but only door attachment. Jamb/wall construction is shown only for illustration purposes. The building designer is responsible for ensuring that the jamb/wall is sufficient to carry the door live and static loads.

STATE OF TEXAS JOHN E. SCATES 56308 REGISTERED PROFESSIONAL ENGINEER

John E. Scates 9/28/11

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

John E. Scates, P.E.
3121 Fairgate Drive
Carrollton, Texas 75007
TXPE 56308, F-2203

C.H.I. OVERHEAD DOORS

SCALE none

DATE 4-18-2011

Steel Attachment Detail

C.H.I. Drawing: BJA-103-01