

Fig 1

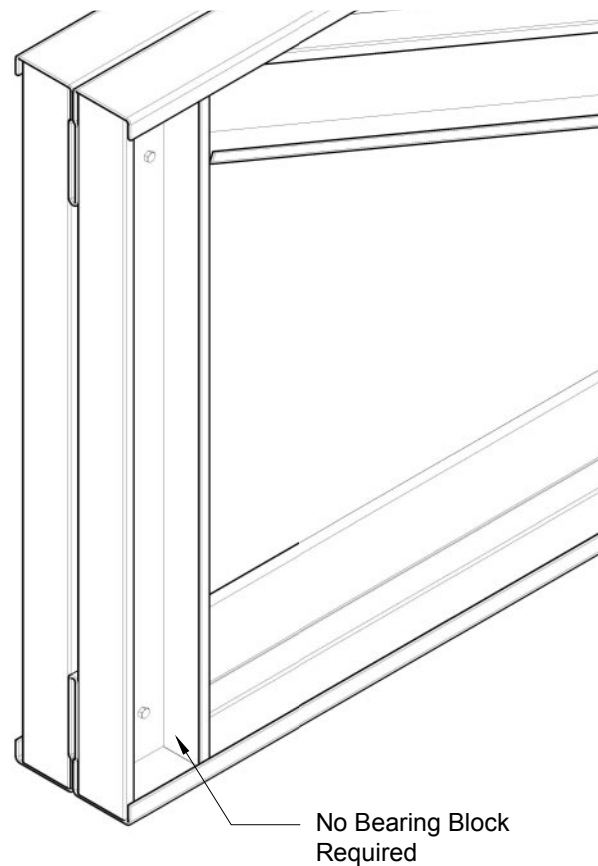


Fig 2

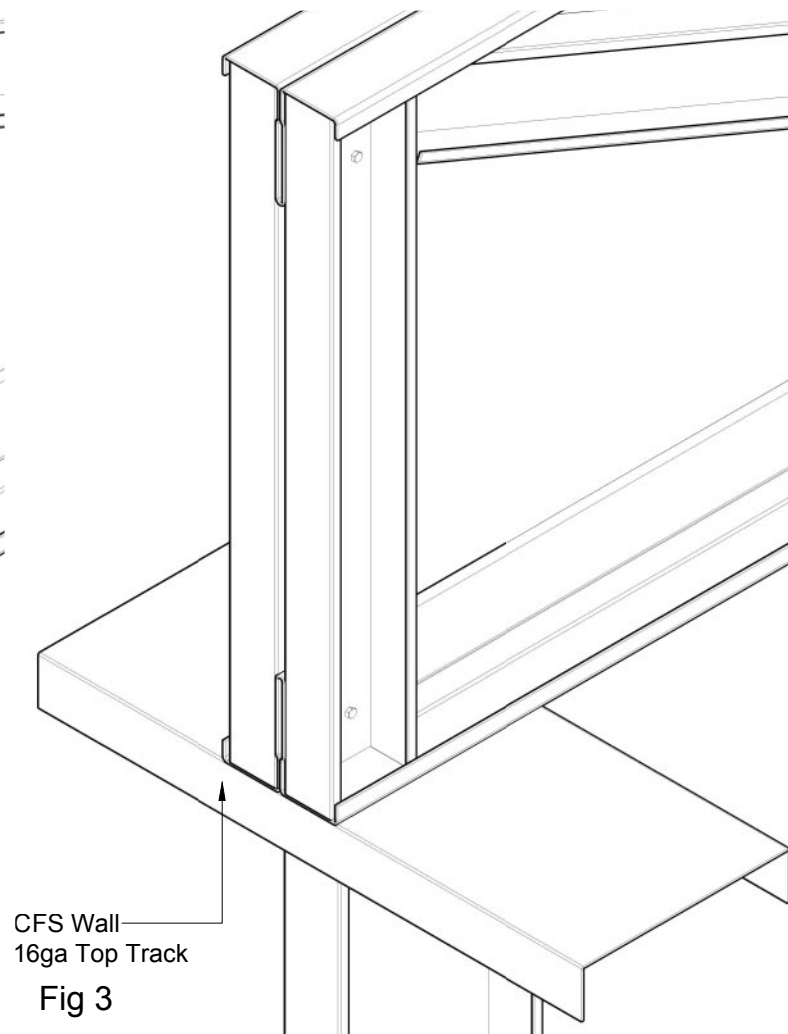


Fig 3

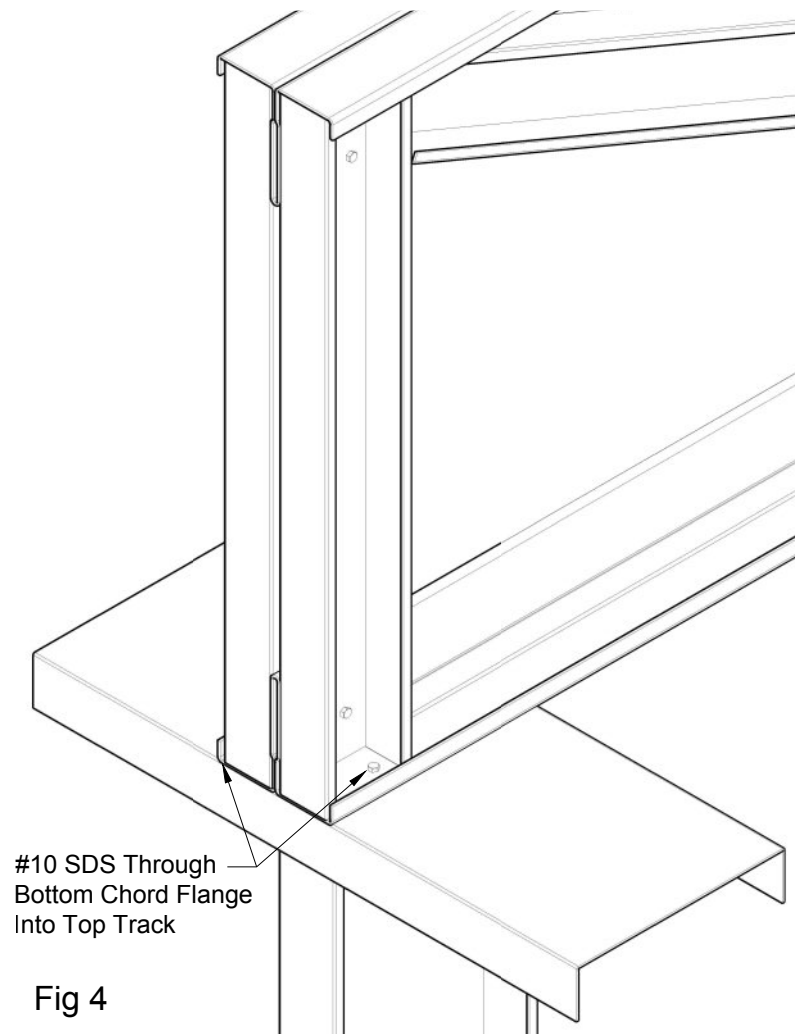


Fig 4

Bottom Chord Bearing Condition / Direct Attachment

Fig 1: AdvanT Truss Factory Assembled. Depth as required per design. Full Depth 250S-54 End Vertical Web at Each Face Attached to Chords via Double Shear #12 SDS as required per Design.

Fig 2: No Bearing Blocks Required.

Fig 3: AdvanT Truss Placed on Top of Wall. Aligned with Metal Studs Below.

Fig 4: Direct Connection to Bearing Surface with Fasteners as Required per Design.

Fig 4A: 3D Rendering of Installed Assembly.

Fig 5: Elevation of Installed Assembly.

Fig 5A: 3D Rendering of Installed Assembly.

Fig 6: Plan View of Installed Assembly.

Fig 6A: 3D Rendering of Installed Assembly.

Note: Uplift Capacity is Limited with Direct Attachment Method.

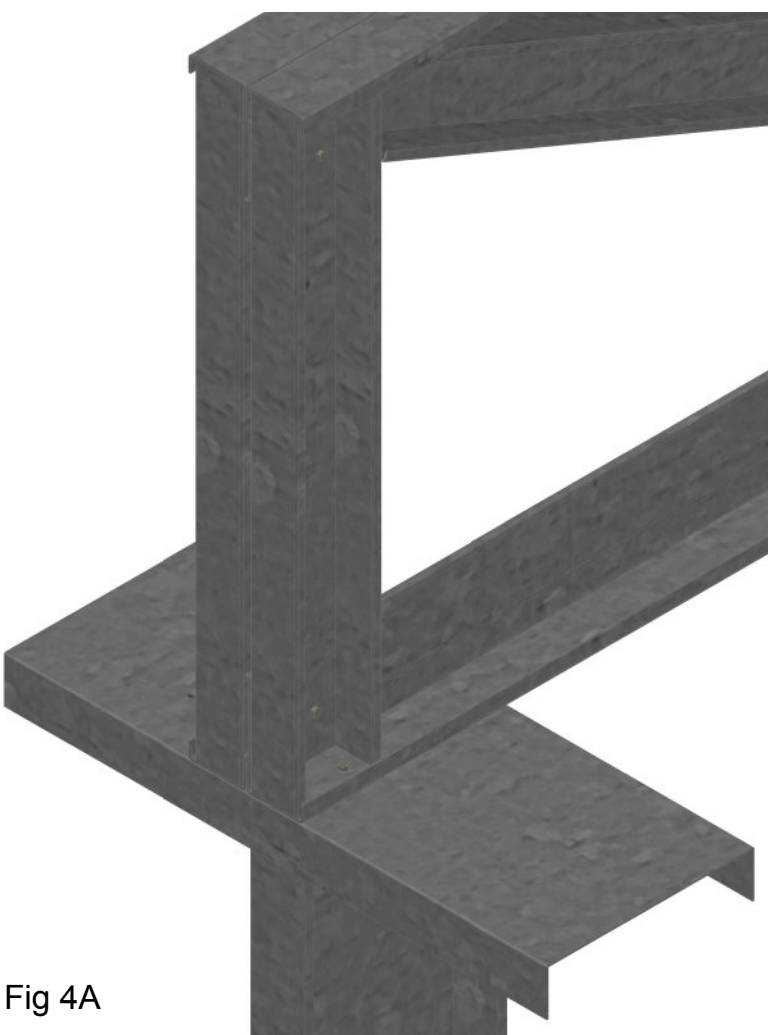


Fig 4A

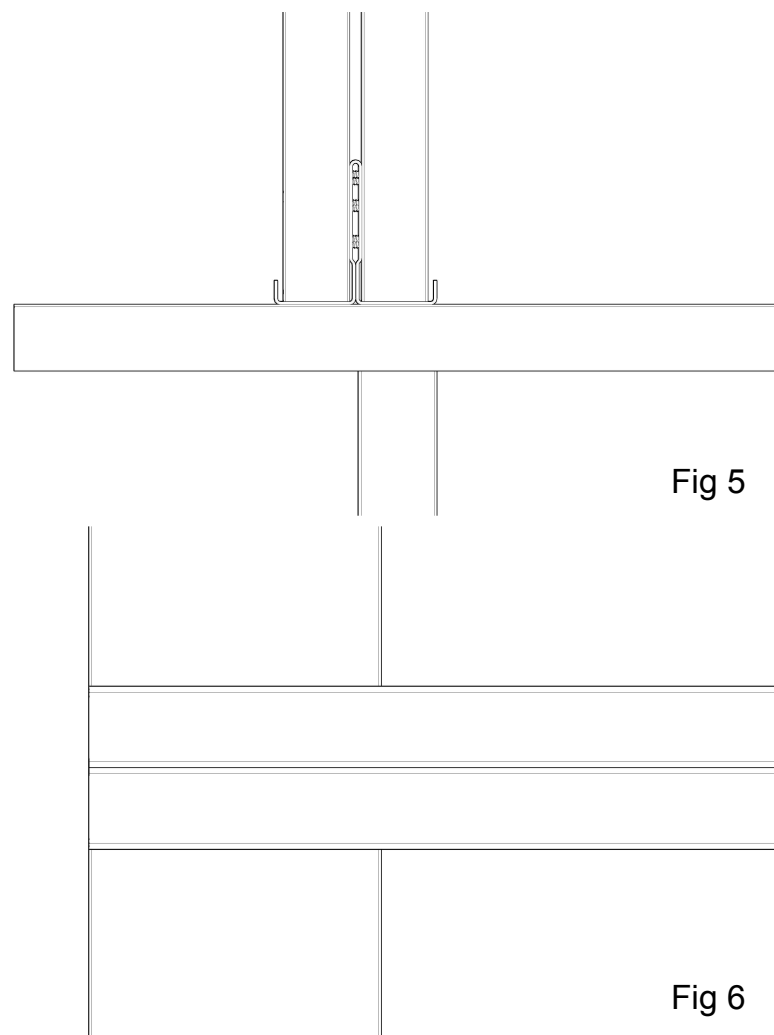


Fig 5

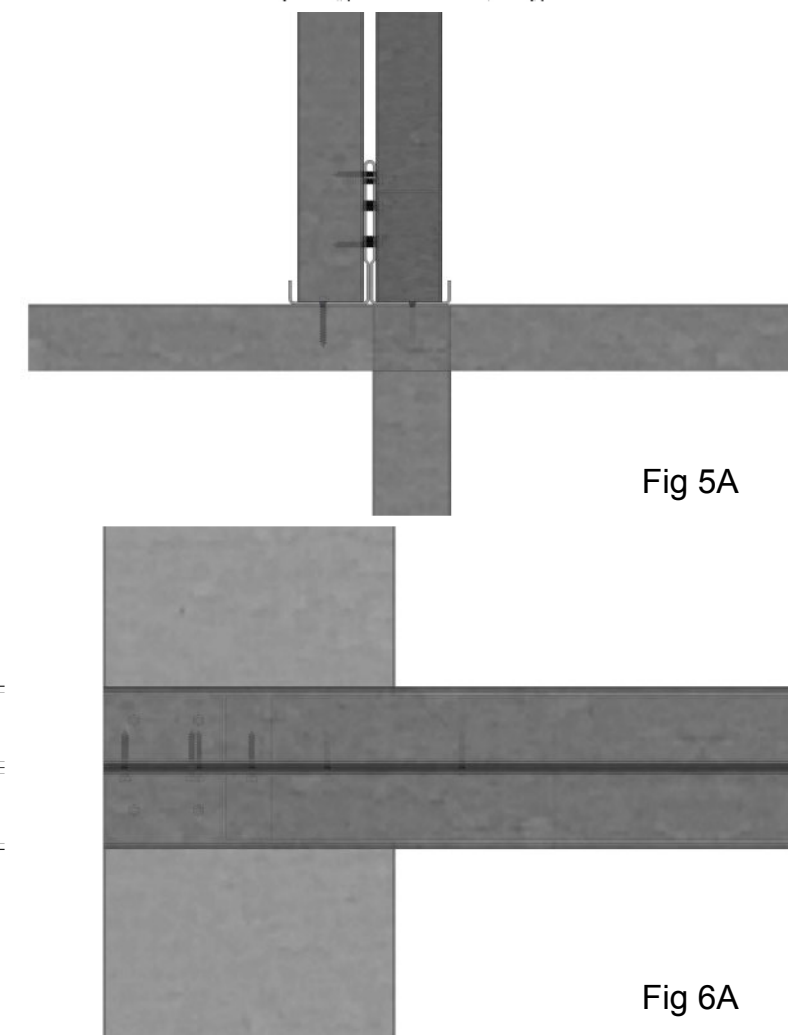


Fig 5A

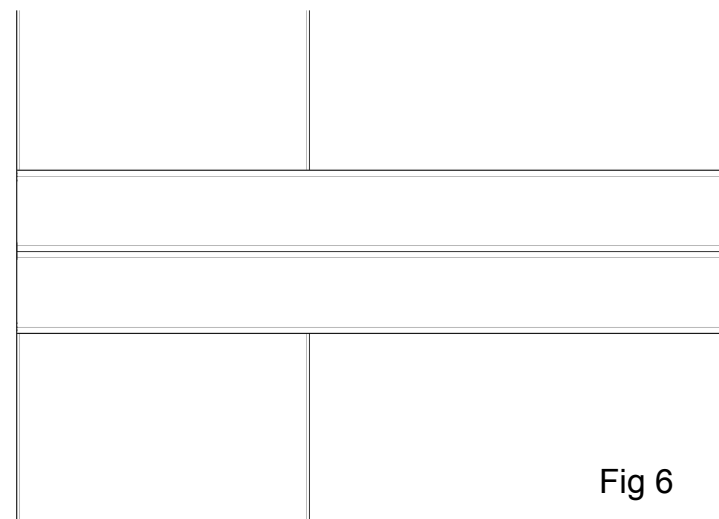


Fig 6

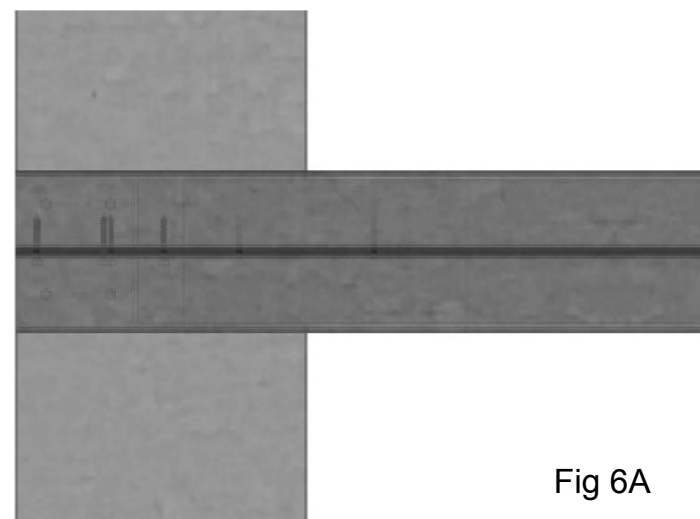
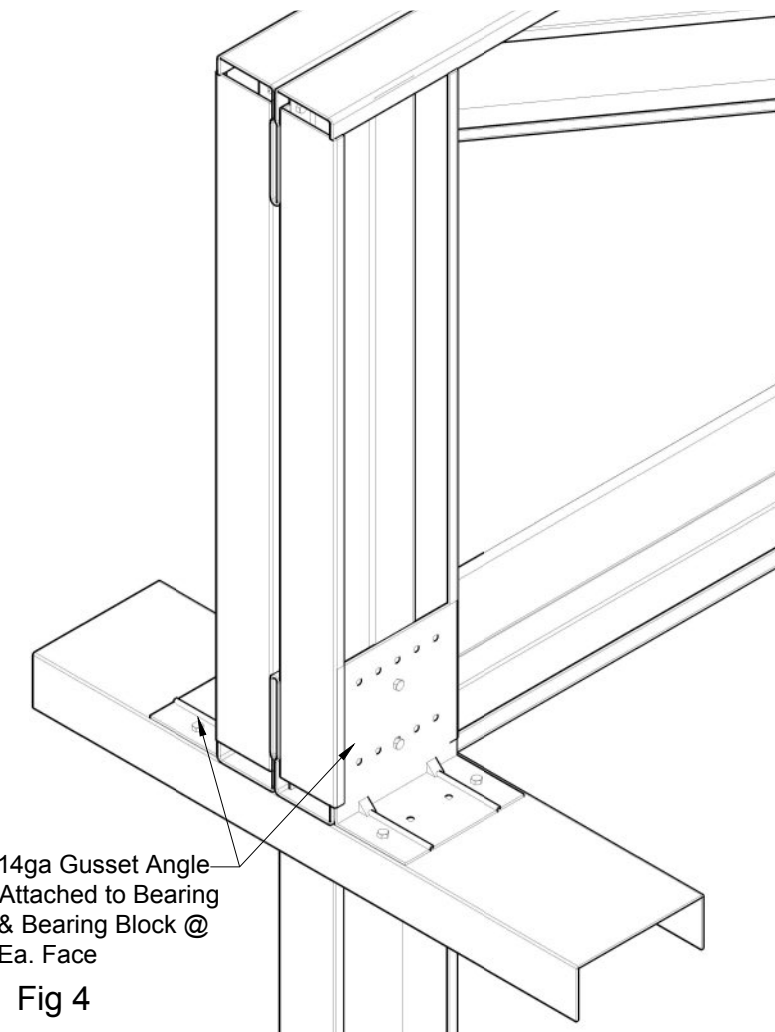
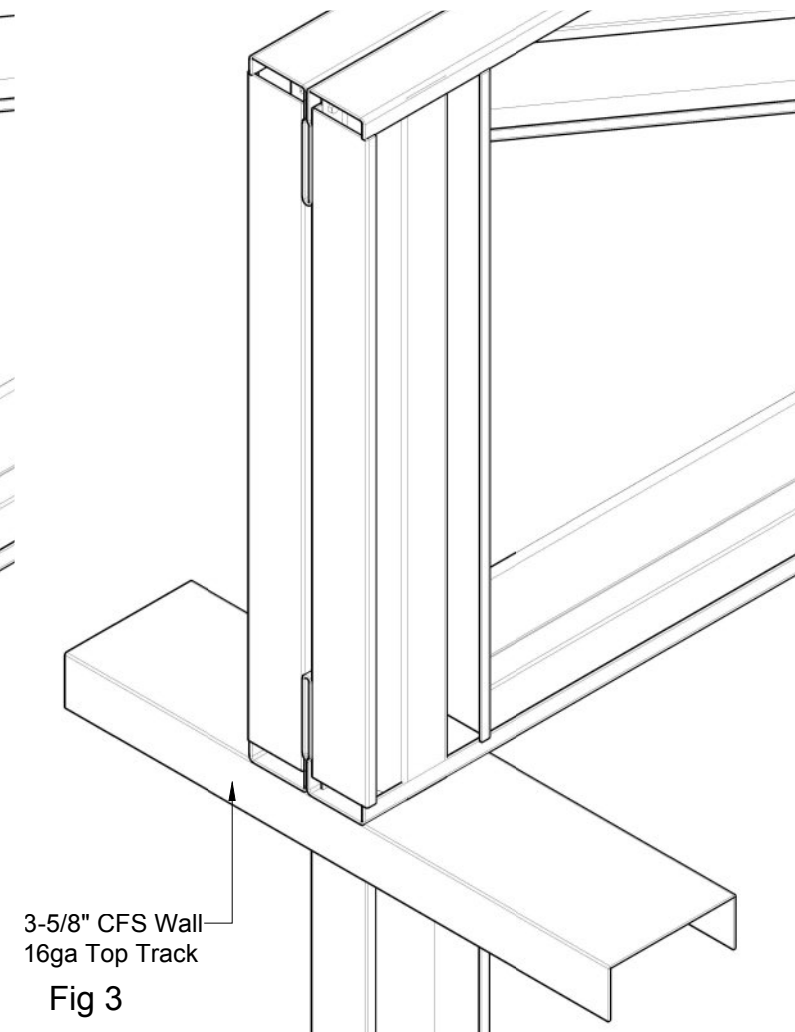
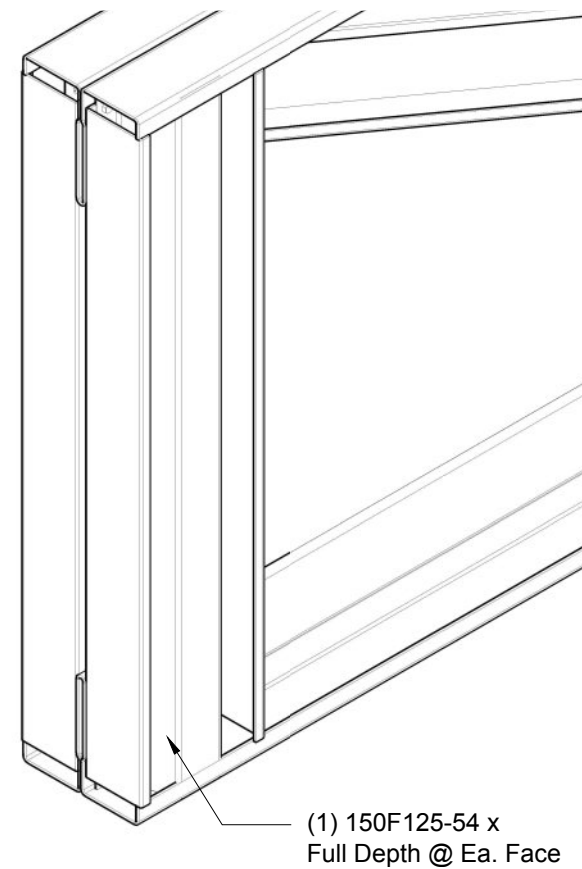
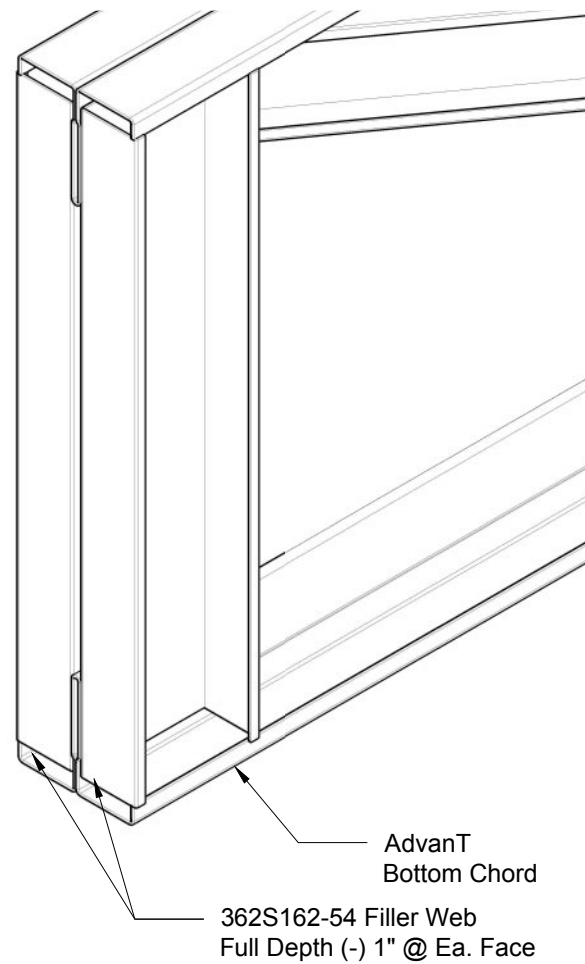


Fig 6A



Bottom Chord Bearing Condition / 3-5/8" Wall

Fig 1: Advant Truss Factory Assembled. Depth as required per design. Full Depth 362S162-54 (-) 1" Insert at Each Face Attached to Chord & Stitched Together via Double Shear #12 SDS as required per Design.

Fig 2: Single Full Depth 150F125-54 Bearing Blocks Attached to Advant Chords & Insert at Each Face via Double Shear #12 SDS as required per Design.

Fig 3: Advant Truss Placed on Top of Wall. Aligned with Metal Studs Below.

Fig 4: Single Gusset Angle Applied to Each Face of Truss with #10 SDS as Required per Design and Connected to Bearing Surface with Fasteners as Required per Design.

Fig 4A: 3D Rendering of Installed Assembly.

Fig 5: Elevation of Installed Assembly.

Fig 5A: 3D Rendering of Installed Assembly.

Fig 6: Plan View of Installed Assembly.

Fig 6A: 3D Rendering of Installed Assembly.

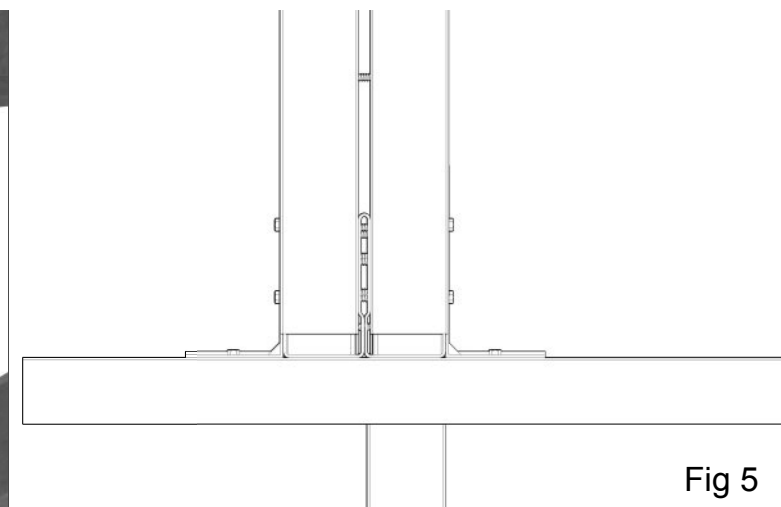
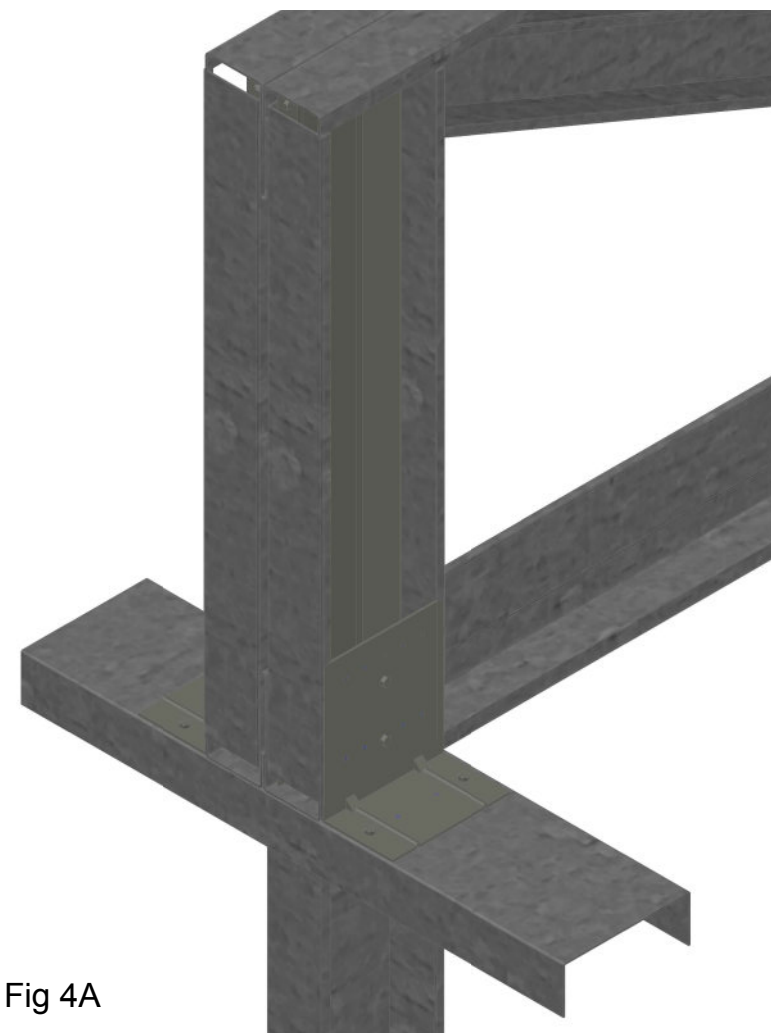


Fig 5

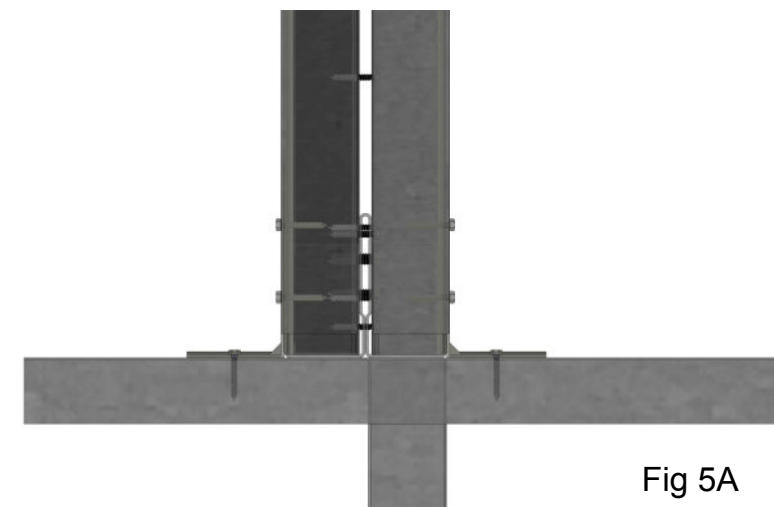


Fig 5A

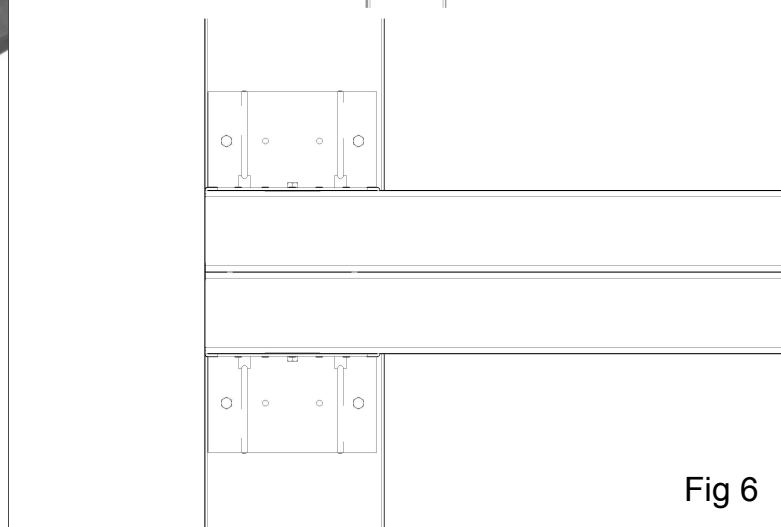


Fig 6

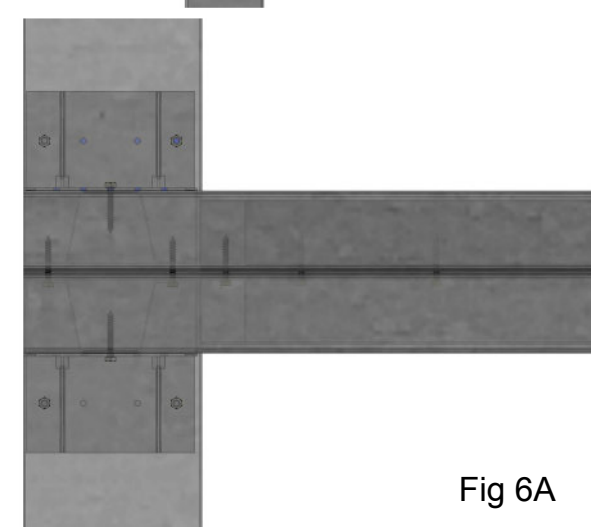


Fig 6A

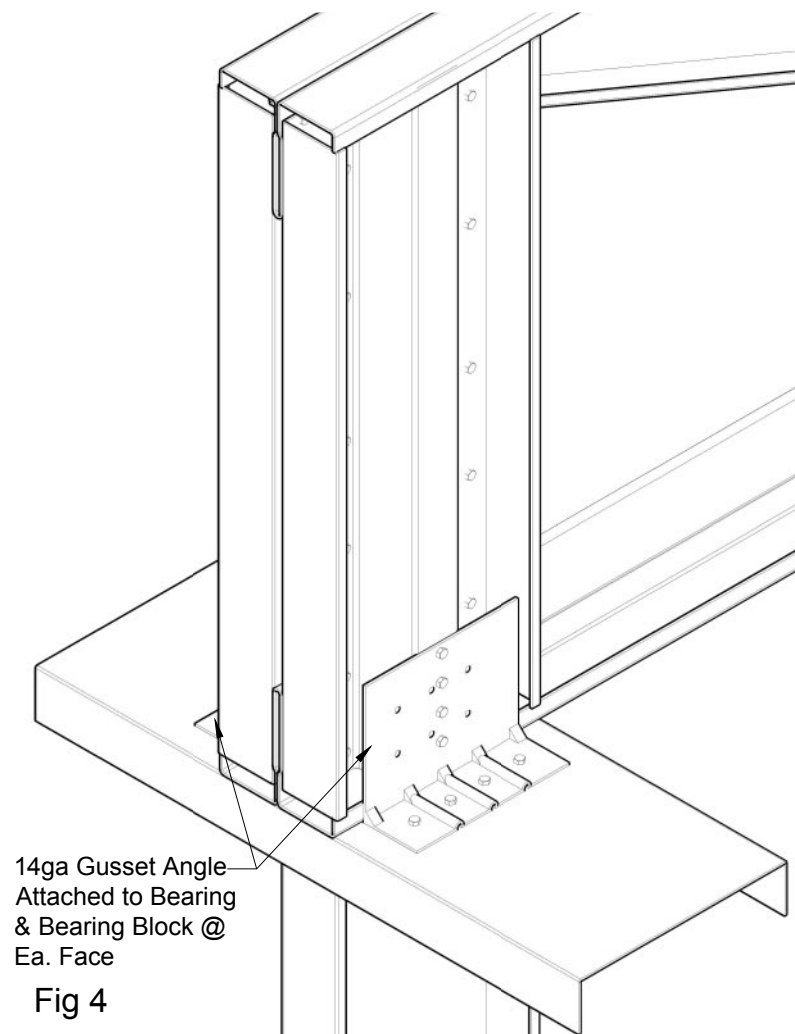
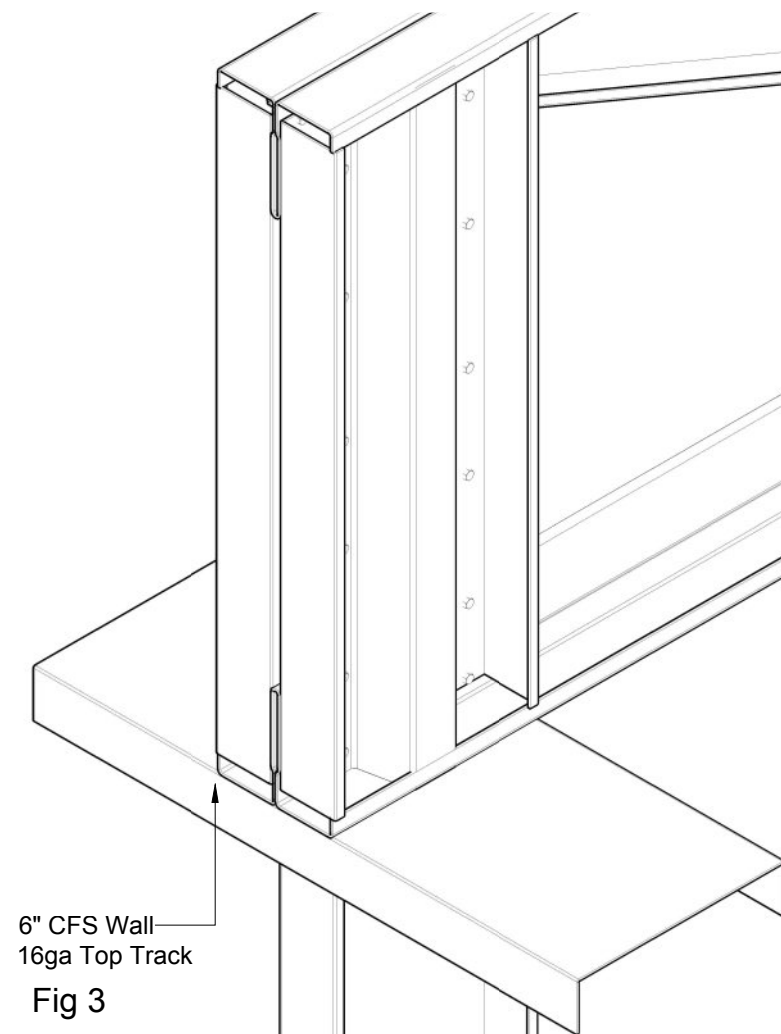
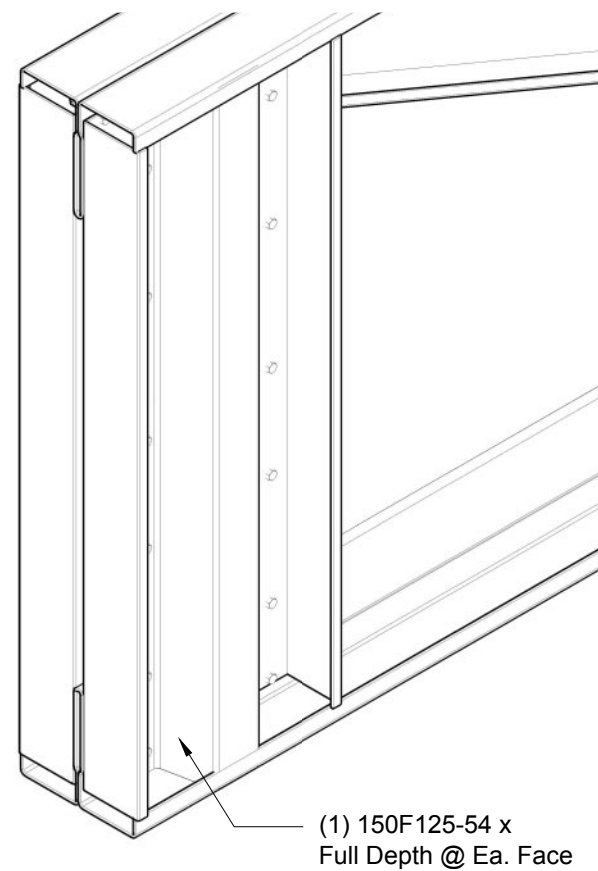
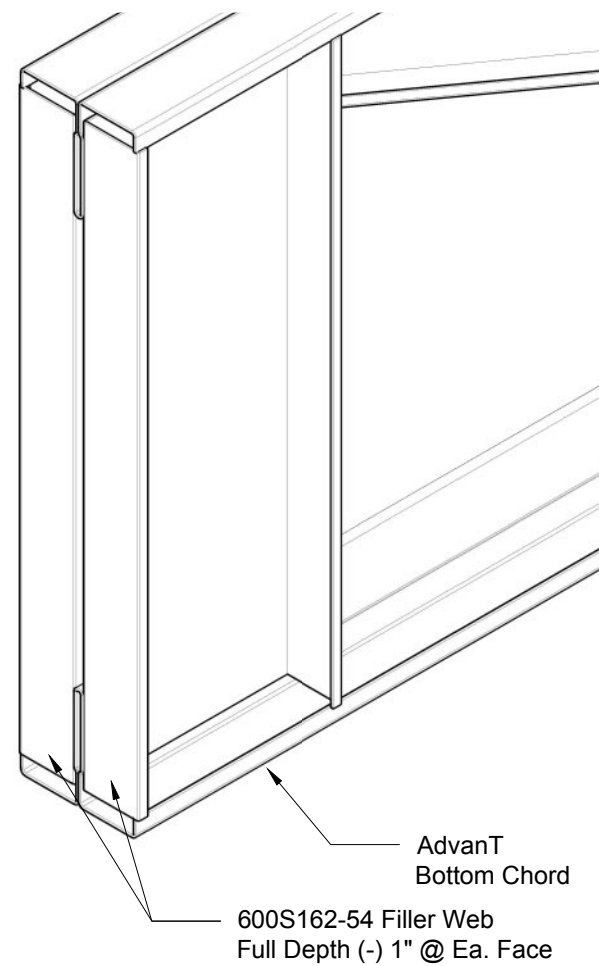
Fig 1

Fig 2

Fig 3

Fig 4

Fig 4A



Bottom Chord Bearing Condition / 6" Wall

Fig 1: AdvanT Truss Factory Assembled. Depth as required per design. Full Depth 600S162-54 (-) 1" Insert at Each Face Attached to Chord & Stitched Together via Double Shear #12 SDS as required per Design.

Fig 2: Single Full Depth 150F125-54 Bearing Blocks Attached to AdvanT Chords & Insert at Each Face via Double Shear #12 SDS as required per Design.

Fig 3: AdvanT Truss Placed on Top of Wall. Aligned with Metal Studs Below.

Fig 4: Single Gusset Angle Applied to Each Face of Truss with #10 SDS as Required per Design and Connected to Bearing Surface with Fasteners as Required per Design.

Fig 4A: 3D Rendering of Installed Assembly.

Fig 5: Elevation of Installed Assembly.

Fig 5A: 3D Rendering of Installed Assembly.

Fig 6: Plan View of Installed Assembly.

Fig 6A: 3D Rendering of Installed Assembly.

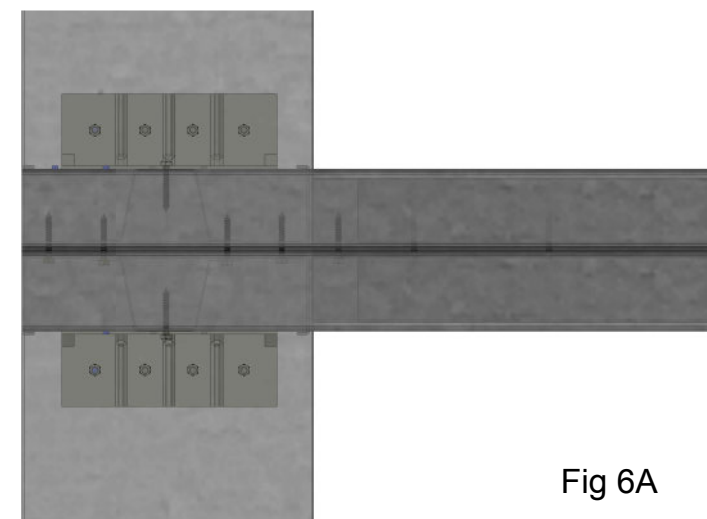
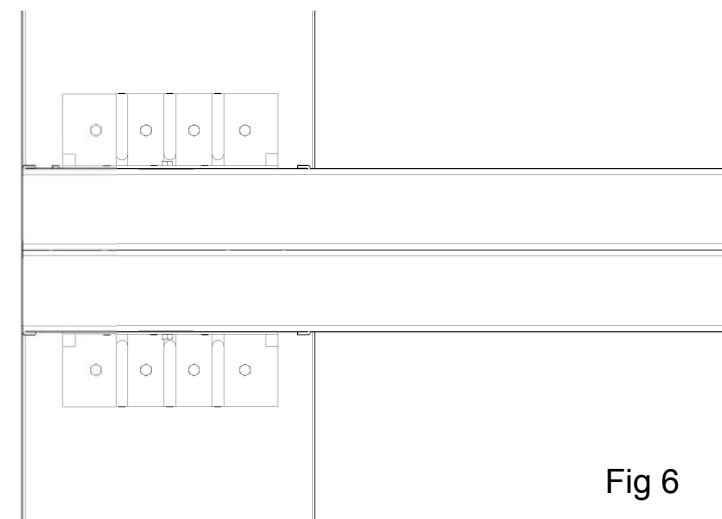
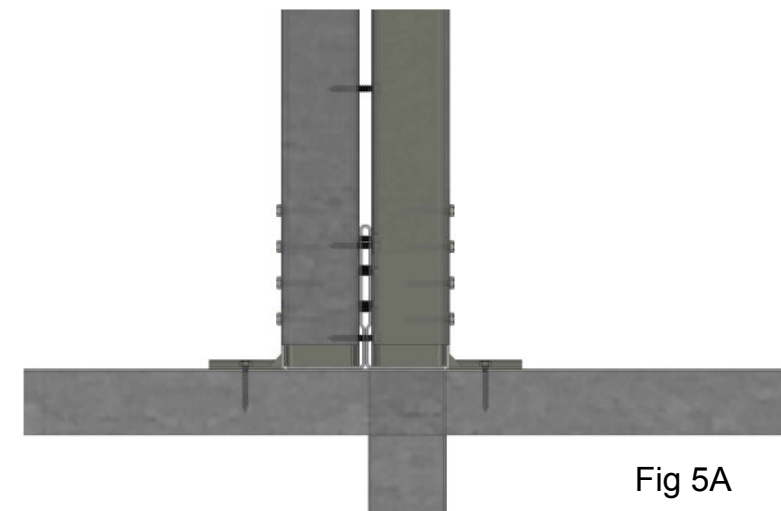
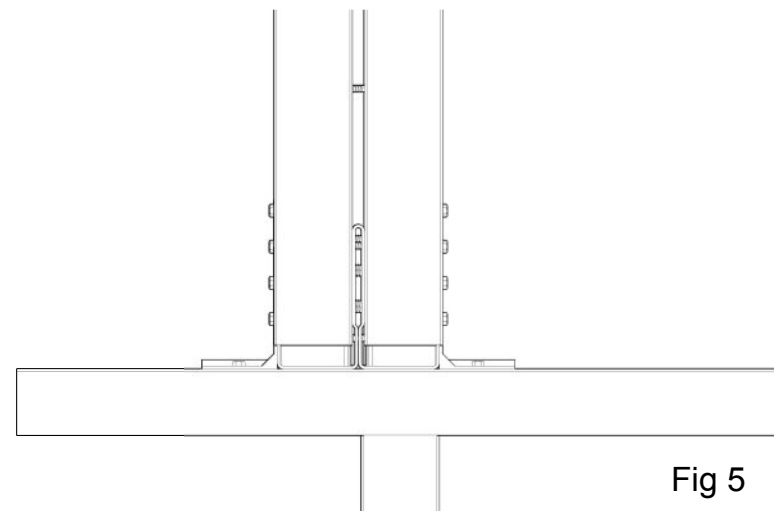
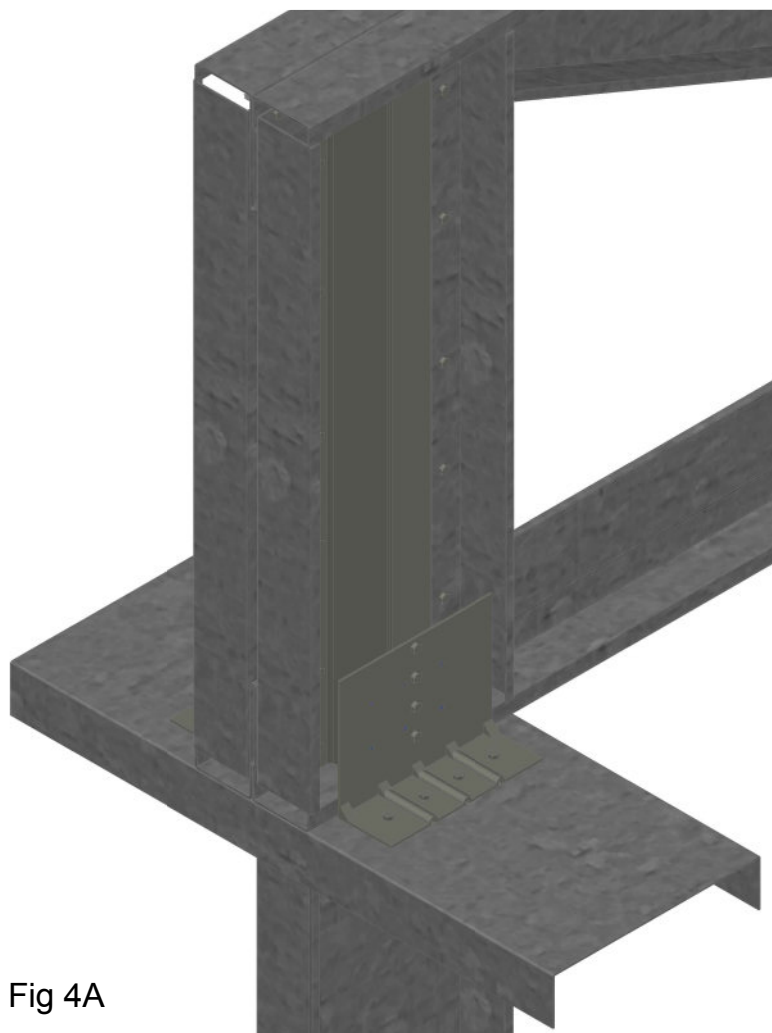


Fig 1

Fig 2

Fig 3

Fig 4

Bottom Chord Bearing Condition / 6" Wall

Fig 1: AdvanT Truss Factory Assembled. Depth as required per design. Full Depth 600S162-54 (-) 1" Insert at Each Face Attached to Chord & Stitched Together via Double Shear #12 SDS as required per Design.

Fig 2: Single Full Depth 150F125-54 Bearing Blocks Attached to AdvanT Chords & Insert at Each Face via Double Shear #12 SDS as required per Design.

Fig 3: AdvanT Truss Placed on Top of Wall. Aligned with Metal Studs Below.

Fig 4: Single Gusset Angle Applied to Each Face of Truss with #10 SDS as Required per Design and Connected to Bearing Surface with Fasteners as Required per Design.

Fig 4A: 3D Rendering of Installed Assembly.

Fig 5: Elevation of Installed Assembly.

Fig 5A: 3D Rendering of Installed Assembly.

Fig 6: Plan View of Installed Assembly.

Fig 6A: 3D Rendering of Installed Assembly.

Fig 4A

Fig 6

Fig 6A

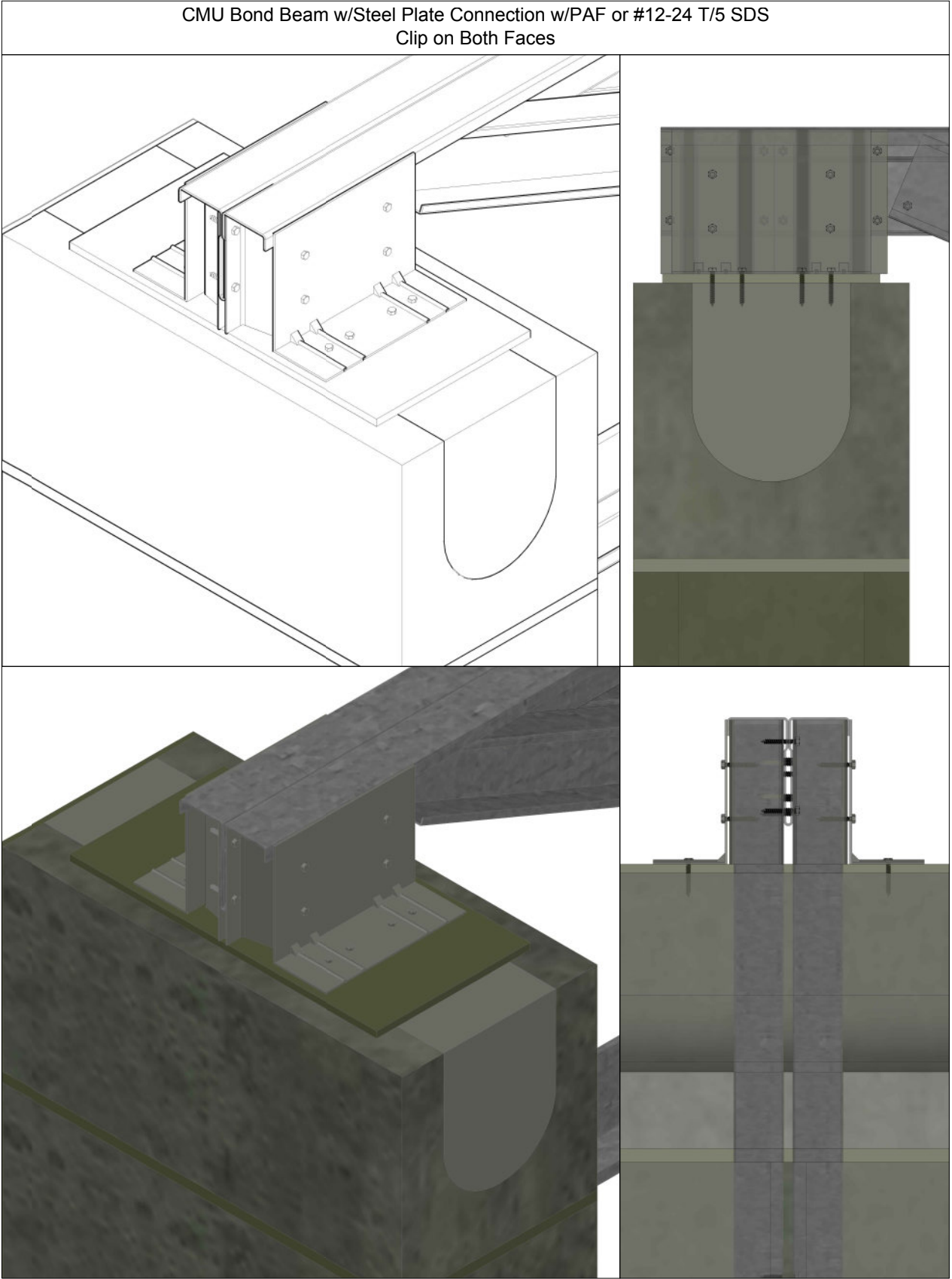


POWDER-ACTUATED FASTENER ALLOWABLE LOADS IN STRUCTURAL STEEL (lbs)													
Material thickness (mils)	Yield strength Fy (ksi)	PAF (Shank Dia. = 0.145", Head Dia. = 0.3"											
		Bearing (lbs)	Pullover (lbs)	3/16"		1/4"		3/8"		1/2"		3/4"	
				Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension
33	33	203	234	425	455	620	800	680	810	605	850	545	500
43	33	265	304	425	455	620	800	680	810	605	850	545	500
54	33	333	382	425	455	620	800	680	810	605	850	545	500
	50	480	552	425	455	620	800	680	810	605	850	545	500
68	33	418	481	425	455	620	800	680	810	605	850	545	500
	50	604	695	425	455	620	800	680	810	605	850	545	500
97	33	597	686	425	455	620	800	680	810	605	850	545	500
	50	863	992	425	455	620	800	680	810	605	850	545	500

- Notes:**
- 1 Bearing and pullover values were calculated using the 2001 AISI Specification w/2004 supplement.
  - 2 Powder-Actuated Fastener (PAF) - Minimum shank diameter of 0.145" with a minimum head diameter of 0.300" placed in 3/16" steel minimum.
  - 3 All PAF pins must have a 5.0 safety factor and an allowable capacity greater than the values shown in the allowable load charts herein, either as a single pin or in multiples per each chart.
  - 4 Minimum fastener spacing = 1-1/2". Minimum edge distance = 1/2".

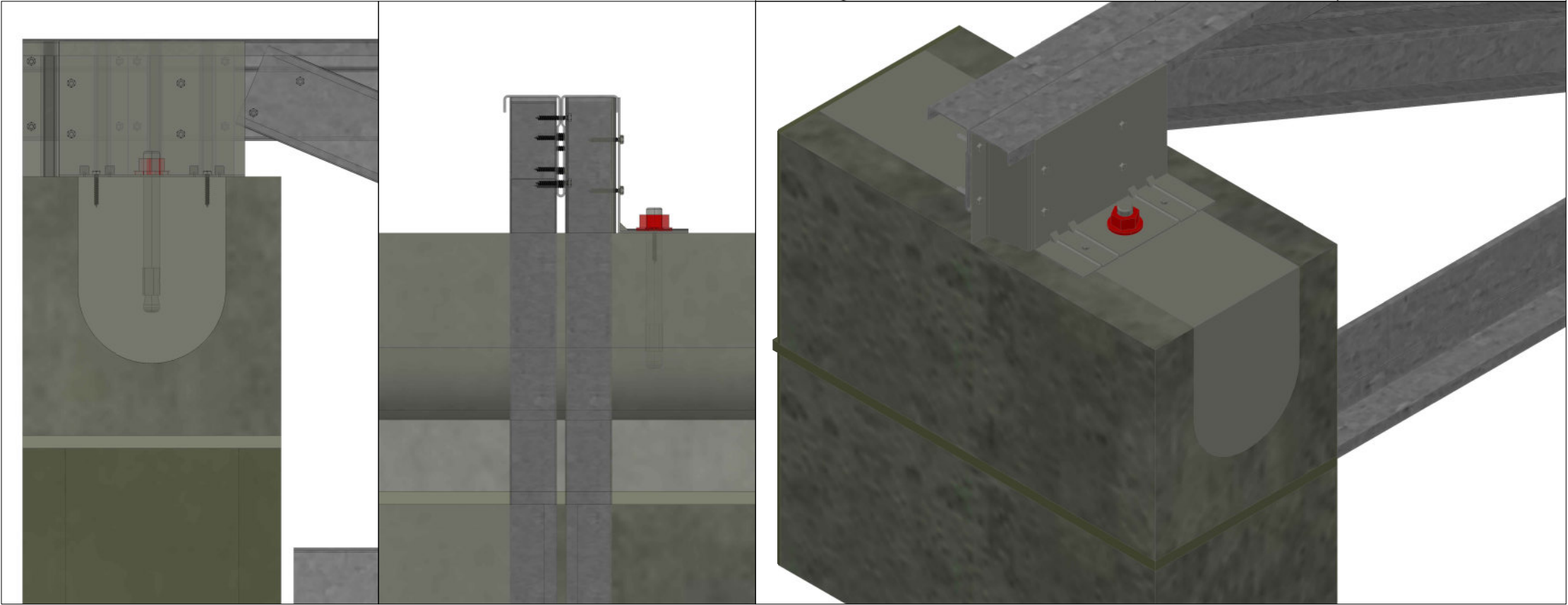
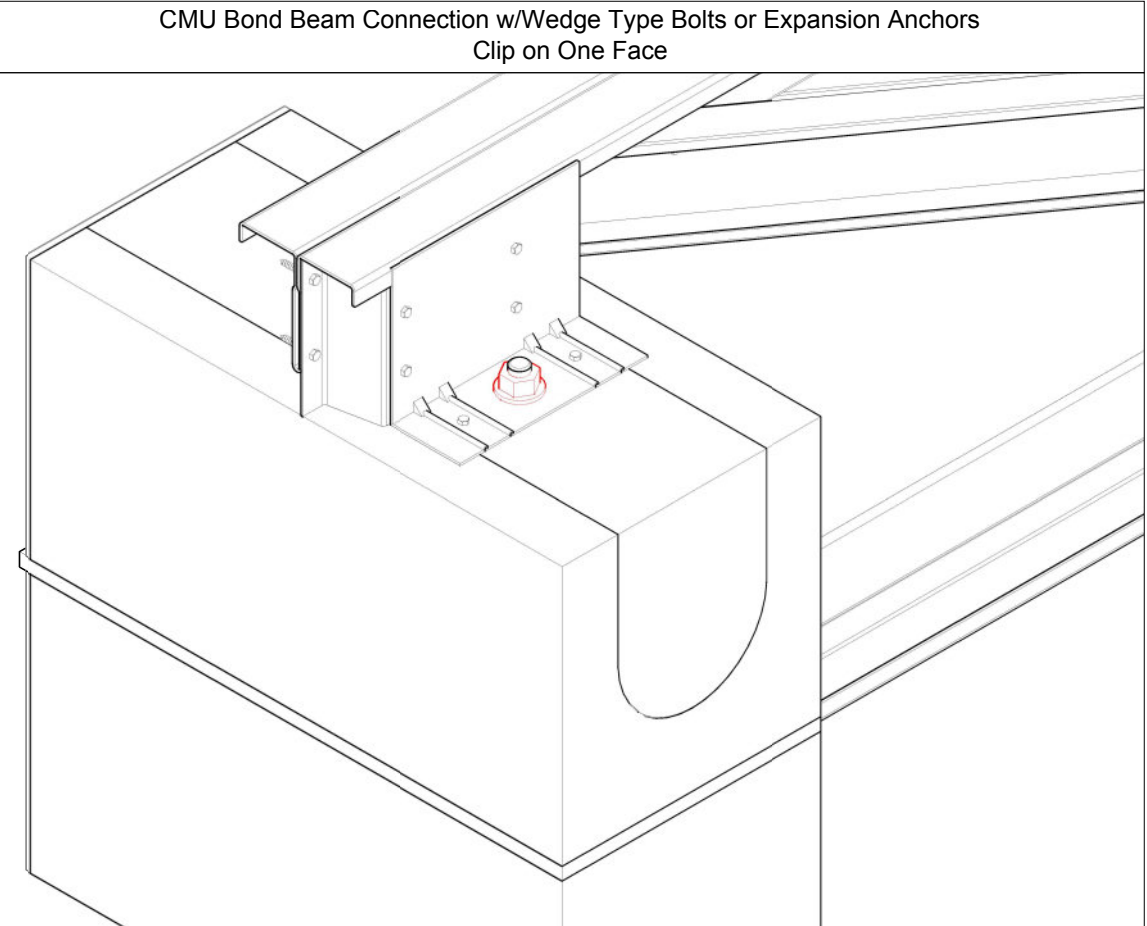
AISI CALCULATED ALLOWABLE LOADS FOR WELDED CONNECTIONS						
Material thickness (mils)	Material Strength		Fillet Weld		Flare Groove Weld	
	Fy (ksi)	Fu (ksi)	Longitudinal (lbs)	Transverse (lbs)	Longitudinal (lbs)	Transverse (lbs)
	Values for a single one (1) inch weld					
54	33	45	822	1084	682	832
	50	60	1188	1566	985	1202
68	33	45	1082	1365	859	1048
	50	60	1563	1972	1241	1514
97	33	45	1480	1480	1226	1480
	50	60	1480	1480	1480	1480
	Values for a single two (2) inch weld					
54	33	45	1253	2168	1364	1664
	50	60	1809	3131	1971	2404
68	33	45	1578	2731	1719	2096
	50	60	2279	3944	2483	3028
97	33	45	2884	2961	2452	2961
	50	60	2961	2961	2961	2961
	Values for a single three (3) inch weld					
54	33	45	1879	3251	2047	2496
	50	60	2714	4697	2956	3605
68	33	45	2367	4096	2578	3144
	50	60	3419	5916	3724	4542
97	33	45	3376	4441	3678	4441
	50	60	4441	4441	4441	4441

- Notes:**
- 1 All values were calculated using the 2001 AISI Specification w/2004 supplement (Section E2).
  - 2 Fxx values were based off of Fxx >= 70ksi and that Fxx > Fu.
  - 3 Values include a factor of safety that varies depending on the AISI code calculation used.
  - 4 Longer weld values can be found by following the AISI Specification; however, using multiples of lengths shown for longer welds may result in incorrect values.
  - 5 Weld values listed are based on a minimum effective throat of .707 times the design thickness.
  - 6 Welding requires a minimum 54 mil base metal thickness.



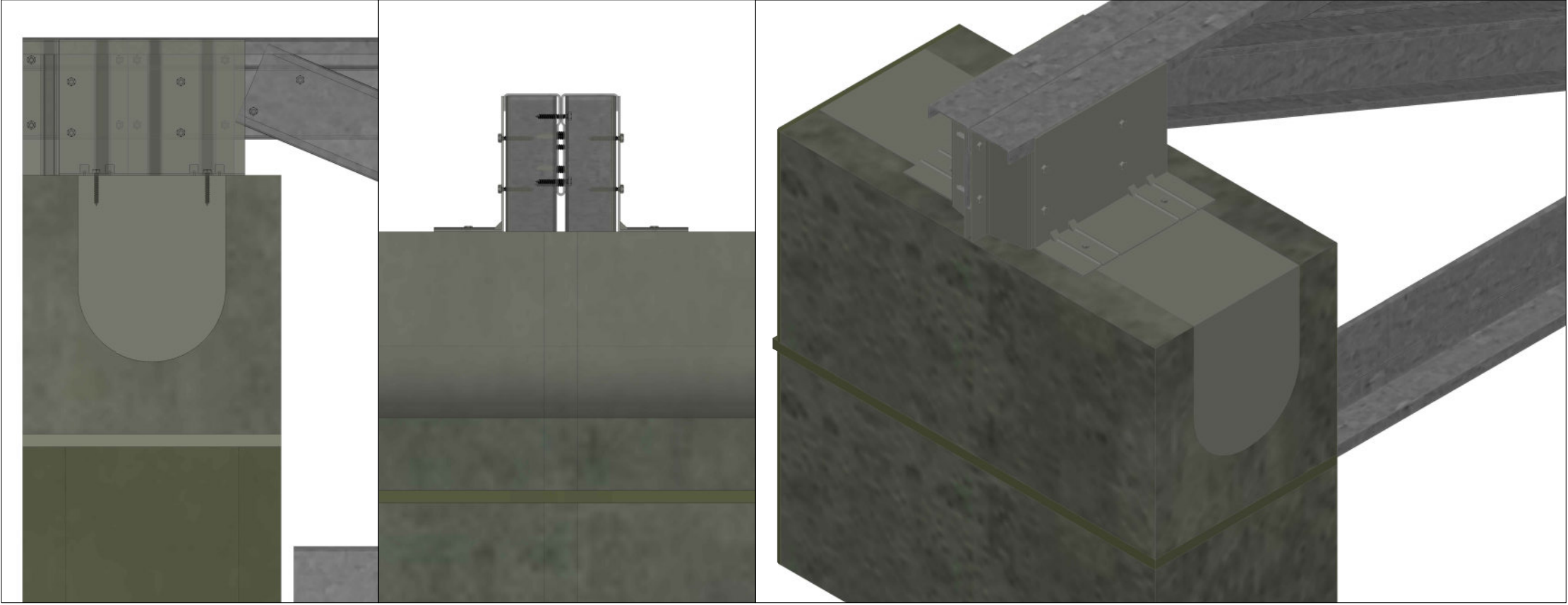
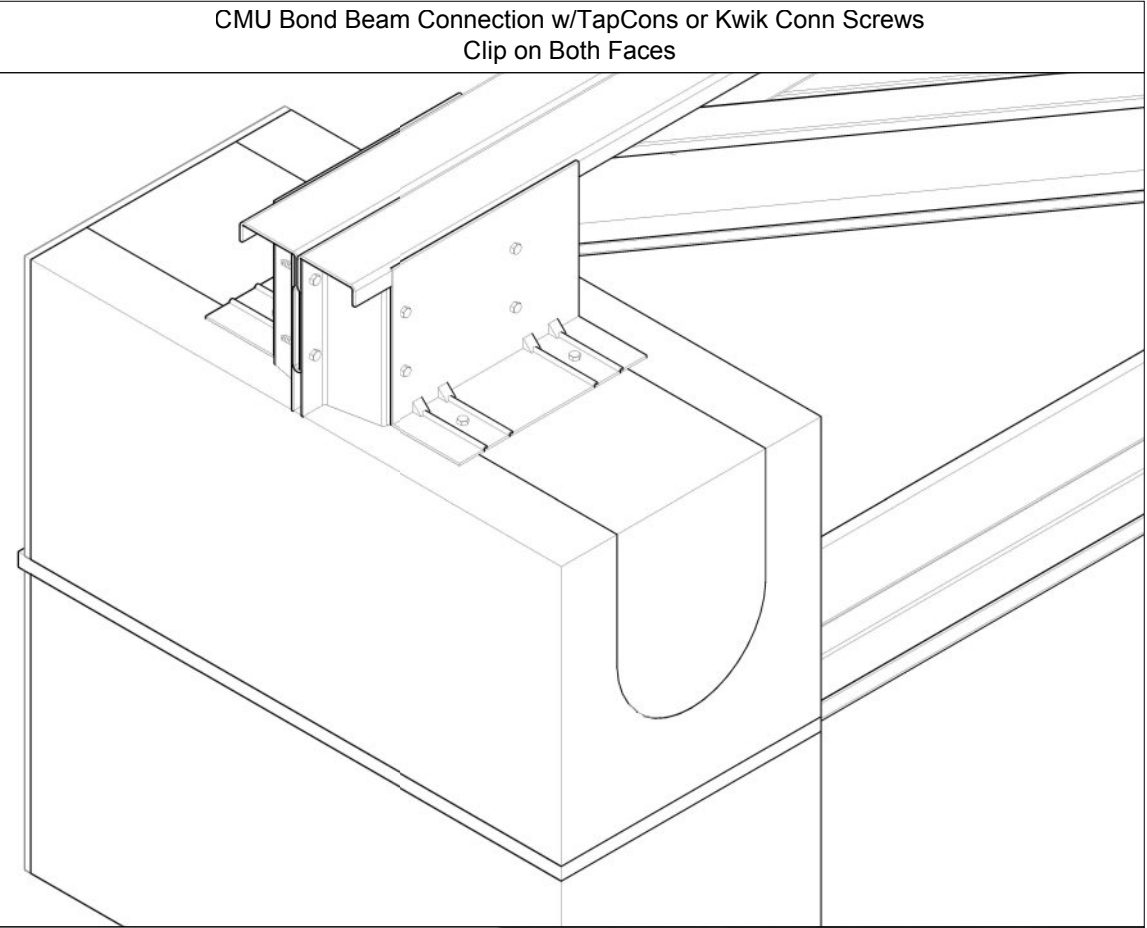
HILTI ANCHOR ALLOWABLE LOADS INSTALLED IN TOP OF GROUT FILLED CMU (lbs)								
Hilti anchor type	Nominal anchor diameter	Nominal embedment in.	Minimum edge distance in.	Minimum spacing in.	Minimum end distance in.	Tension	Shear	
							Perp to edge	Para to edge
KWIK-CONN II*	3/16"	1-3/4	2-1/2	3	2-1/2	275	260	260
KWIK CONN II*	1/4"	1-3/4	2-1/2	3	2-1/2	425	560	560
KWIK HUS	1/2"	4-1/4	1-3/4	8	4	680	305	1110
KWIK HUS	5/8"	5	1-3/4	10	5	1310	305	1165
KWIK BOLT 3	1/2"	3	1-3/4	8	4	645	310	615
KWIK BOLT 3	5/8"	3-1/2	1-3/4	10	4	850	310	615

- Notes:**
- <sup>1</sup> All values are for anchors installed in fully grouted concrete masonry with minimum masonry prism strength of 1,500 psi. Concrete masonry units may be lightweight, medium-weight or normal weight conforming to ASTM C90. Allowable loads are calculated using a safety factor of 4.
  - <sup>2</sup> Anchors must be installed a minimum of 1-3/8" from any vertical mortar joint.
  - <sup>3</sup> Anchor locations are limited to one per masonry cell (UNO \*)
  - <sup>4</sup> Embedment depth is measured from the outside face of the concrete masonry unit.
  - <sup>5</sup> Linear interpolation to determine load values at intermediate edge distances is permitted.
  - <sup>6</sup> All allowable loads based on a safety factor of 4.
  - <sup>7</sup> For substitution with equivalent anchors (Powers, Simpson, etc.,) refer to manufacturers catalogue for installation requirements and application limits.



HILTI ANCHOR ALLOWABLE LOADS INSTALLED IN TOP OF GROUT FILLED CMU (lbs)								
Hilti anchor type	Nominal anchor diameter	Nominal embedment in.	Minimum edge distance in.	Minimum spacing in.	Minimum end distance in.	Tension	Shear	
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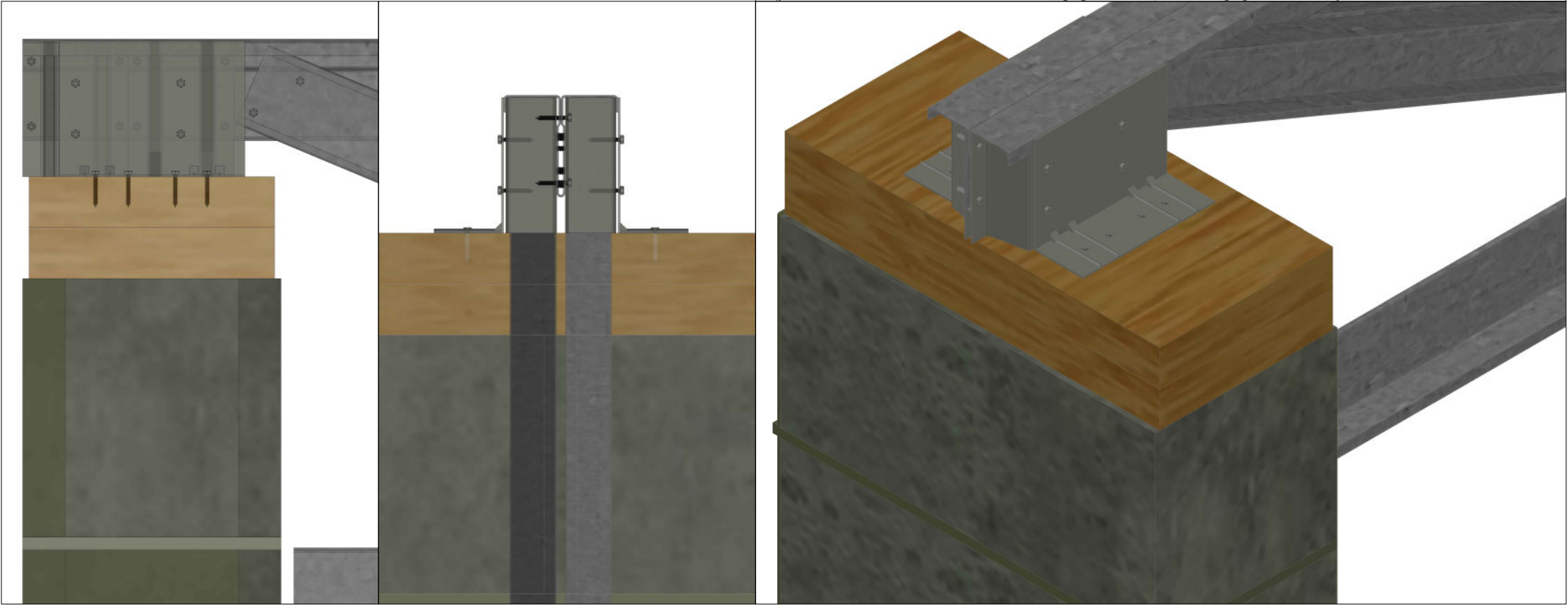
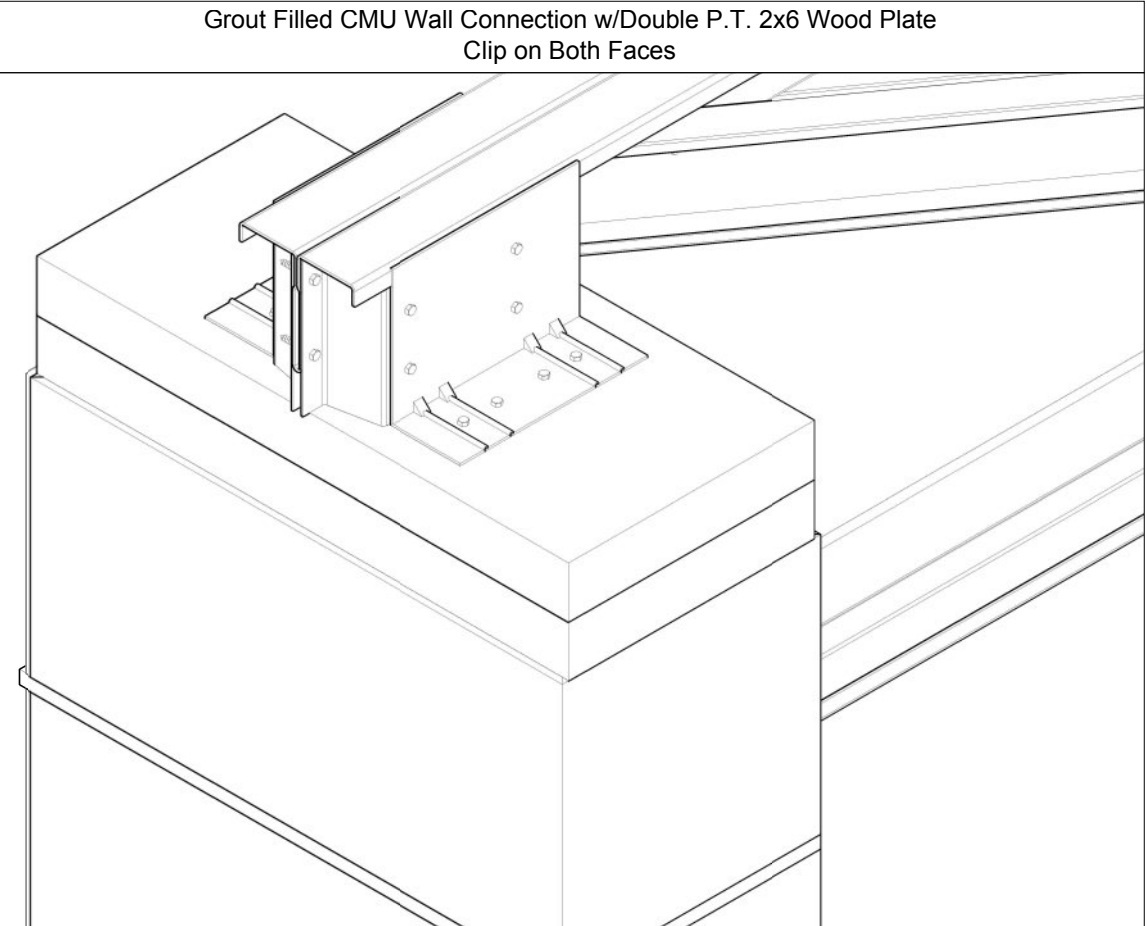
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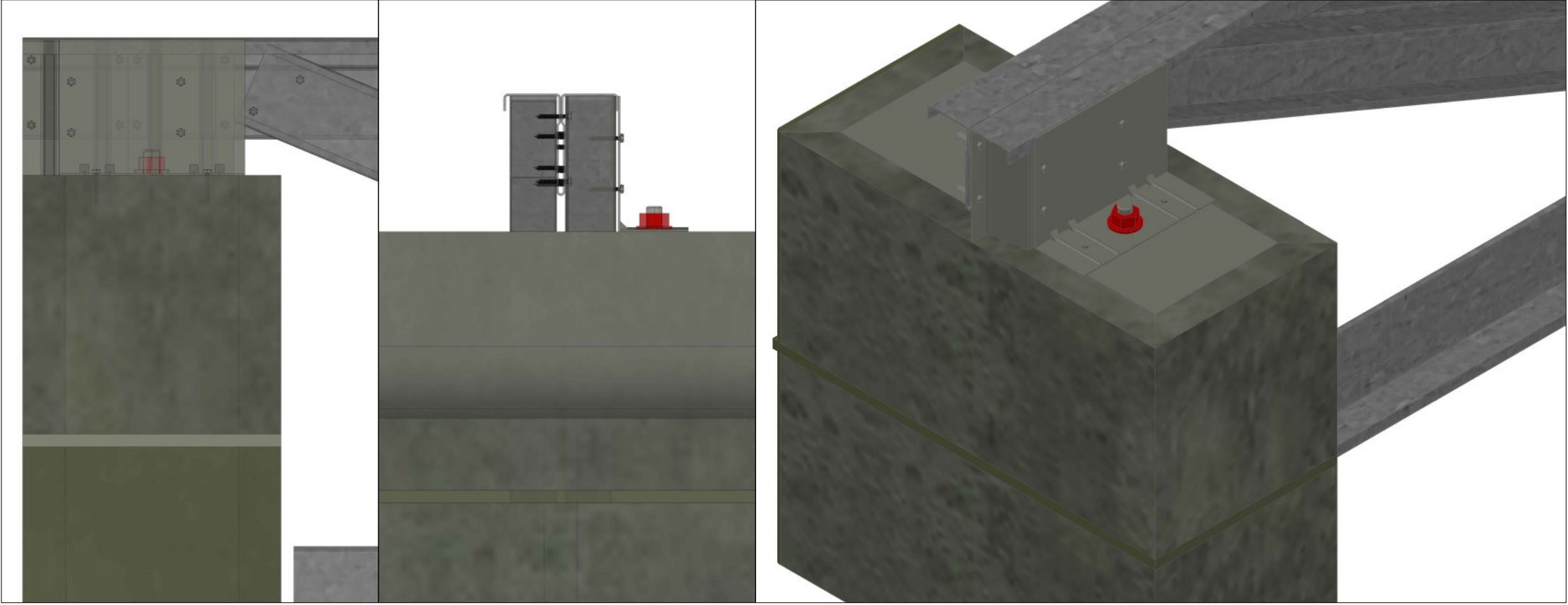
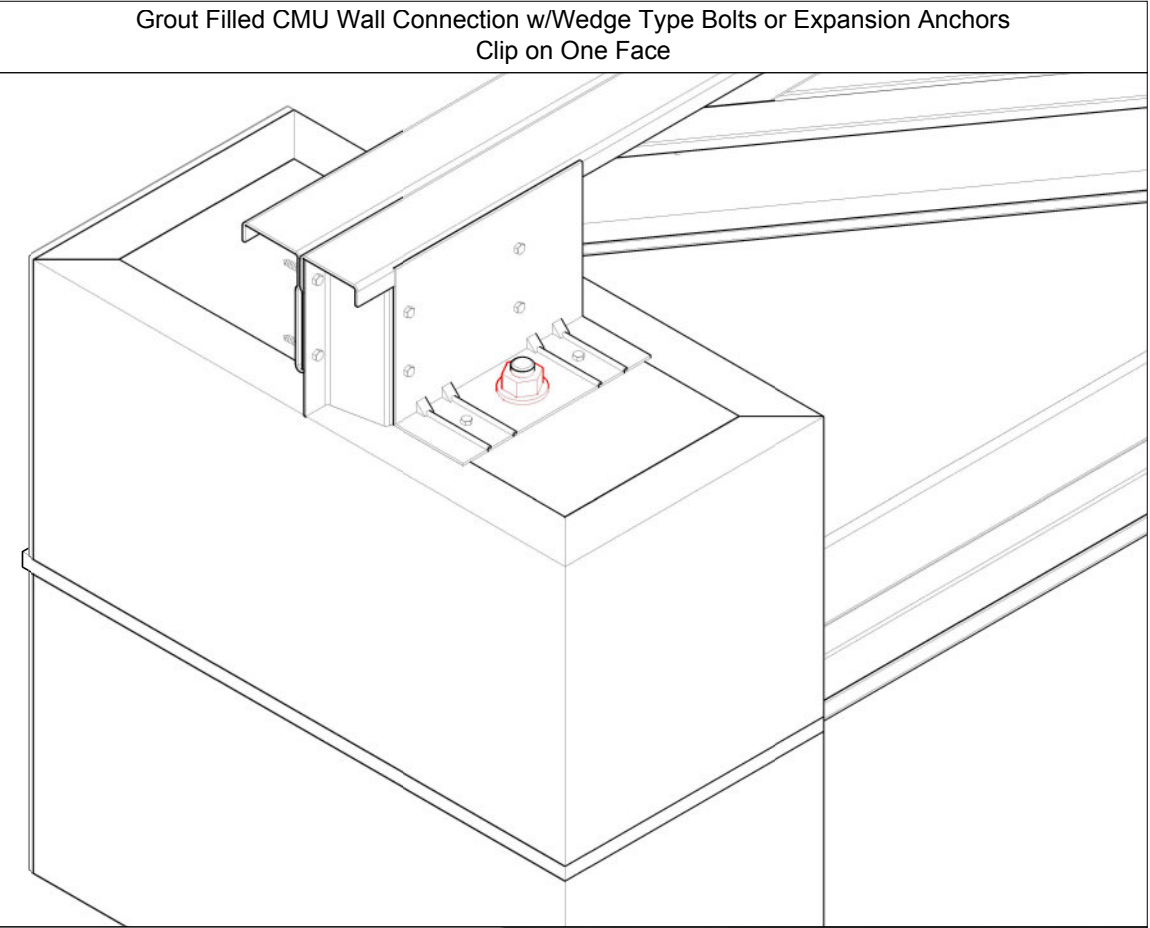
HILTI ANCHOR ALLOWABLE LOADS INSTALLED IN TOP OF GROUT FILLED CMU (lbs)								
Hilti anchor type	Nominal anchor diameter	Nominal embedment in.	Minimum edge distance in.	Minimum spacing in.	Minimum end distance in.	Tension	Shear	
							Perp to edge	Para to edge
KWIK-CONN II*	3/16"	1-3/4	2-1/2	3	2-1/2	275	260	260
KWIK CONN II*	1/4"	1-3/4	2-1/2	3	2-1/2	425	560	560
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- Notes:**
- <sup>1</sup> All values are for anchors installed in fully grouted concrete masonry with minimum masonry prism strength of 1,500 psi. Concrete masonry units may be lightweight, medium-weight or normal weight conforming to ASTM C90. Allowable loads are calculated using a safety factor of 4.
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HILTI ANCHOR ALLOWABLE LOADS INSTALLED IN TOP OF GROUT FILLED CMU (lbs)								
Hilti anchor type	Nominal anchor diameter	Nominal embedment in.	Minimum edge distance in.	Minimum spacing in.	Minimum end distance in.	Tension	Shear	
							Perp to edge	Para to edge
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KWIK CONN II*	1/4"	1-3/4	2-1/2	3	2-1/2	425	560	560
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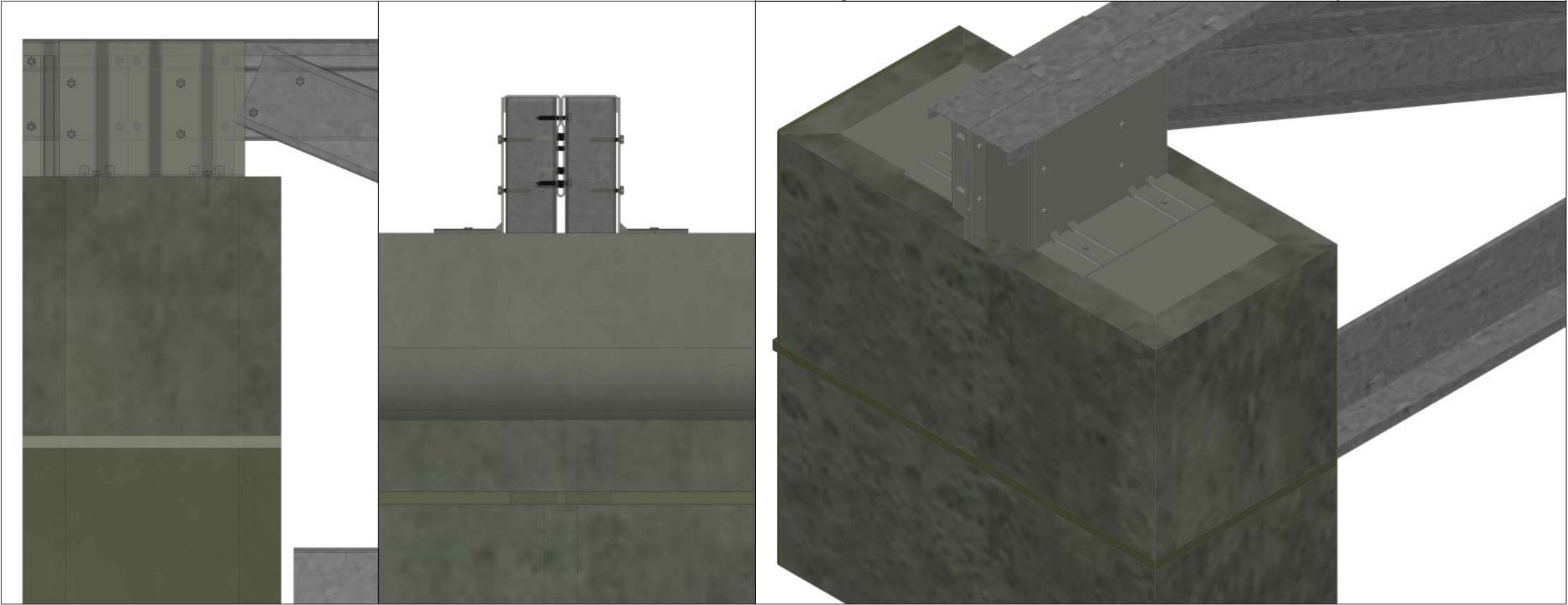
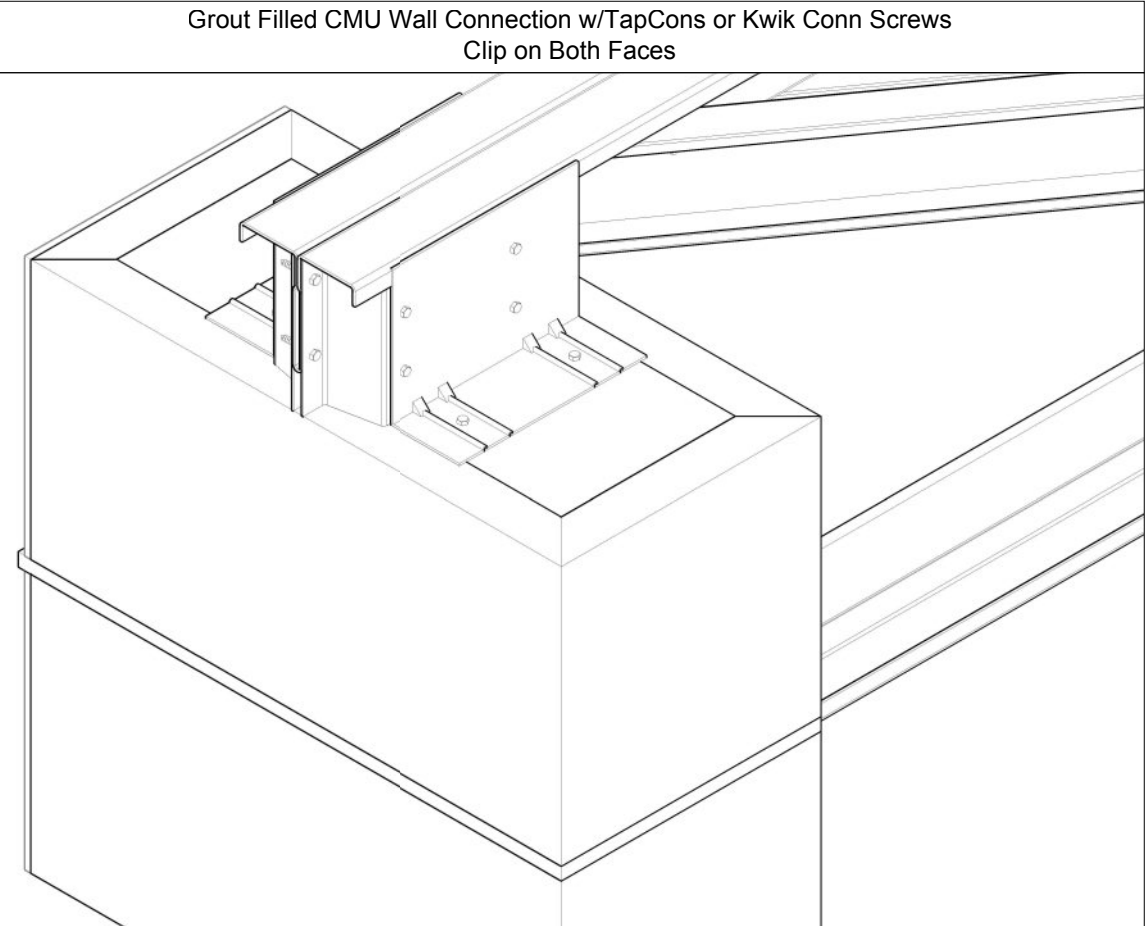
- Notes:**
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  - <sup>5</sup> Linear interpolation to determine load values at intermediate edge distances is permitted.
  - <sup>6</sup> All allowable loads based on a safety factor of 4.
  - <sup>7</sup> For substitution with equivalent anchors (Powers, Simpson, etc..) refer to manufacturers catalogue for installation requirements and application limits.





HILTI ANCHOR ALLOWABLE LOADS INSTALLED IN TOP OF GROUT FILLED CMU (lbs)								
Hilti anchor type	Nominal anchor diameter	Nominal embedment in.	Minimum edge distance in.	Minimum spacing in.	Minimum end distance in.	Tension	Shear	
							Perp to edge	Para to edge
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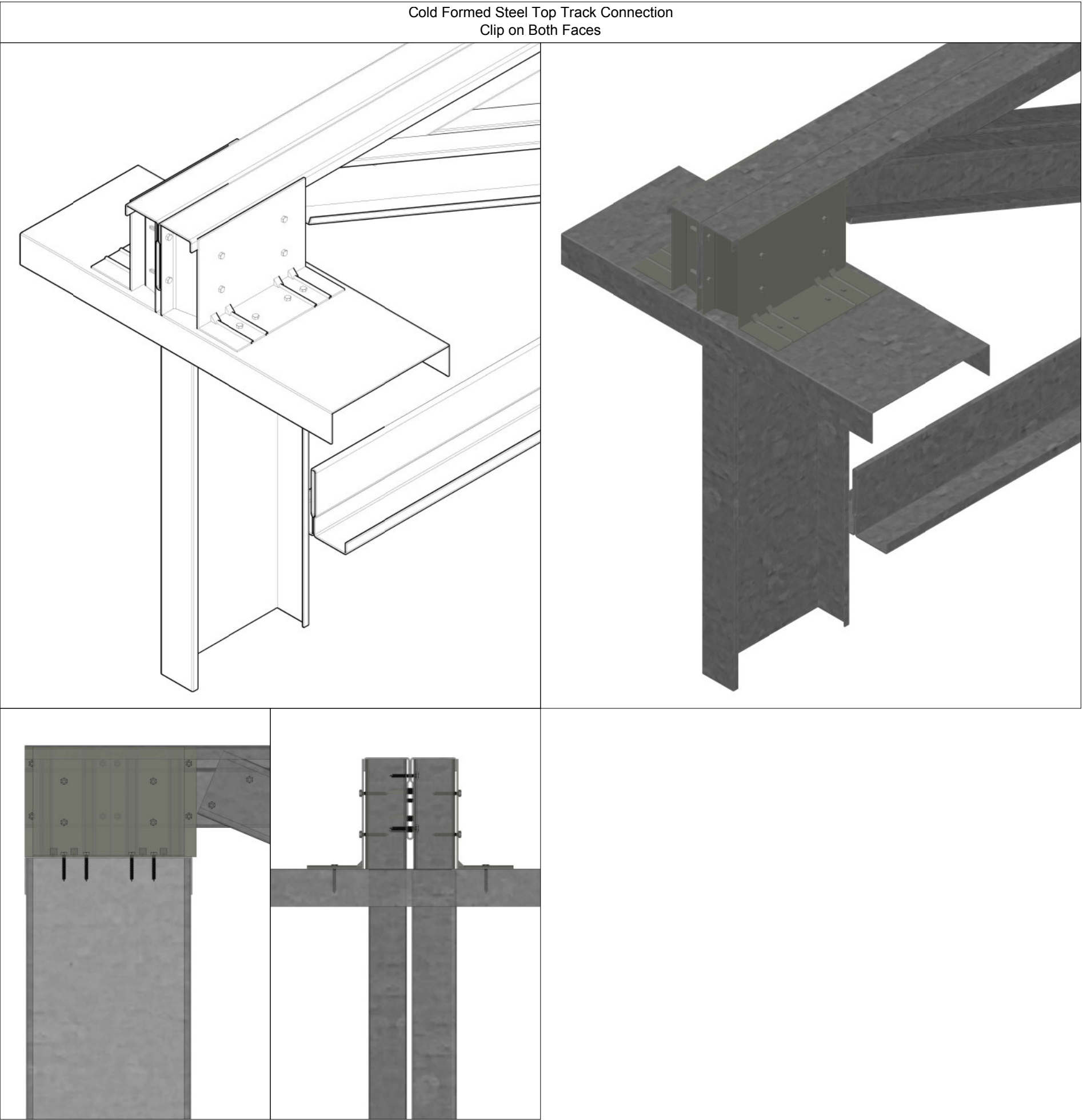
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  - <sup>6</sup> All allowable loads based on a safety factor of 4.
  - <sup>7</sup> For substitution with equivalent anchors (Powers, Simpson, etc.,) refer to manufacturers catalogue for installation requirements and application limits.



AISI CALCULATED ALLOWABLE LOADS FOR SCREW CONNECTION								
Material thickness (mils)	Material Strength		#10-16 HWH Screw		#12-14 HWH Screw		#1/4"-14 HWH Screw	
	Fy (ksi)	Fu (ksi)	Dia. = 0.190		Dia. = 0.210		Dia. = 0.240	
			Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)
33	33	45	177	84	186	93	199	106
43	33	45	263	109	277	121	296	138
54	33	45	370	137	389	152	416	173
	50	60	467	198	562	219	600	250
68	33	45	467	173	550	191	588	218
	50	60	467	249	667	276	849	315
97	33	45	467	246	667	272	867	311
	50	60	467	356	667	393	867	450

AISI CALCULATED ALLOWABLE BEARING & PULLOVER FOR SCREWS								
Material thickness (mils)	Material Strength		#10-16 HWH Screw		#12-14 HWH Screw		#1/4"-14 HWH Screw	
	Fy (ksi)	Fu (ksi)	Shank = 0.190		Shank = 0.210		Shank = 0.240	
			Head = 0.375		Head = 0.375		Head = 0.500	
			Bearing (lbs)	Pullover (lbs)	Bearing (lbs)	Pullover (lbs)	Bearing (lbs)	Pullover (lbs)
33	33	45	266	292	294	292	336	389
43	33	45	347	381	384	381	438	507
54	33	45	436	478	481	478	550	637
	50	60	629	690	695	690	795	920
68	33	45	549	602	606	602	693	802
	50	60	792	869	876	869	1001	1159
97	33	45	783	858	865	858	989	1144
	50	60	1130	1239	1249	1239	1428	1653

- Notes:**
- 1 All values were calculated using the 2001 AISI Specification w/2004 supplement.
  - 2 Charts are based on Buildex TEK2 HWH screw capacities. All screws must meet minimum criteria outlined.
  - 3 Shear strength for #10, #12, and 1/4" screws must be greater than or equal to 1400 lbs, 2000 lbs and 2,600 lbs respectively.
  - 4 Tension strength for #10, #12, and 1/4" screws must be greater than or equal to 1936 lbs, 2778 lbs and 4060 lbs respectively.
  - 5 The minimum head diameter for #10 and #12 screws is 3/8". The minimum head diameter for 1/4" screws is 1/2".
  - 6 Screw ultimate shear capacity is based on Buildex® DATA as a minimum.
  - 7 Buildex is a registered trademark of Illinois Tool Works, Inc.
  - 8 For substitution with equivalent fasteners (Senco, Grabber, Protwist, etc..) refer to manufacturers catalogue for installation requirements and application limits.
  - 9 Minimum screw spacing and edge distance = 9/16".

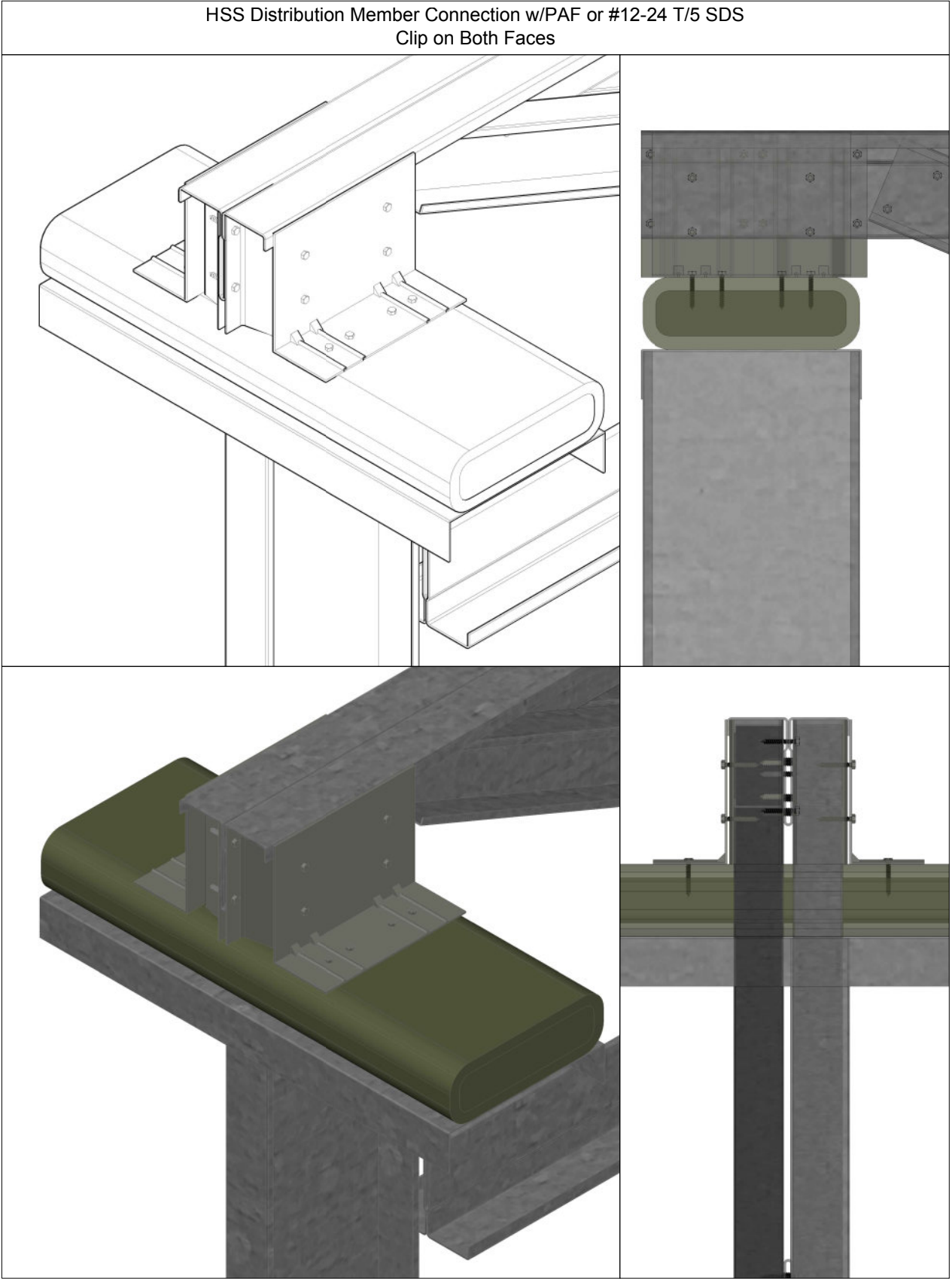


POWDER-ACTUATED FASTENER ALLOWABLE LOADS IN STRUCTURAL STEEL (lbs)													
Material thickness (mils)	Yield strength Fy (ksi)	PAF (Shank Dia. = 0.145", Head Dia. = 0.3"											
		Bearing (lbs)	Pullover (lbs)	3/16"		1/4"		3/8"		1/2"		3/4"	
				Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension
33	33	203	234	425	455	620	800	680	810	605	850	545	500
43	33	265	304	425	455	620	800	680	810	605	850	545	500
54	33	333	382	425	455	620	800	680	810	605	850	545	500
	50	480	552	425	455	620	800	680	810	605	850	545	500
68	33	418	481	425	455	620	800	680	810	605	850	545	500
	50	604	695	425	455	620	800	680	810	605	850	545	500
97	33	597	686	425	455	620	800	680	810	605	850	545	500
	50	863	992	425	455	620	800	680	810	605	850	545	500

- Notes:**
- 1 Bearing and pullover values were calculated using the 2001 AISI Specification w/2004 supplement.
- 2 Powder-Actuated Fastener (PAF) - Minimum shank diameter of 0.145" with a minimum head diameter of 0.300" placed in 3/16" steel minimum.
- 3 All PAF pins must have a 5.0 safety factor and an allowable capacity greater than the values shown in the allowable load charts herein, either as a single pin or in multiples per each chart.
- 4 Minimum fastener spacing = 1-1/2". Minimum edge distance = 1/2".

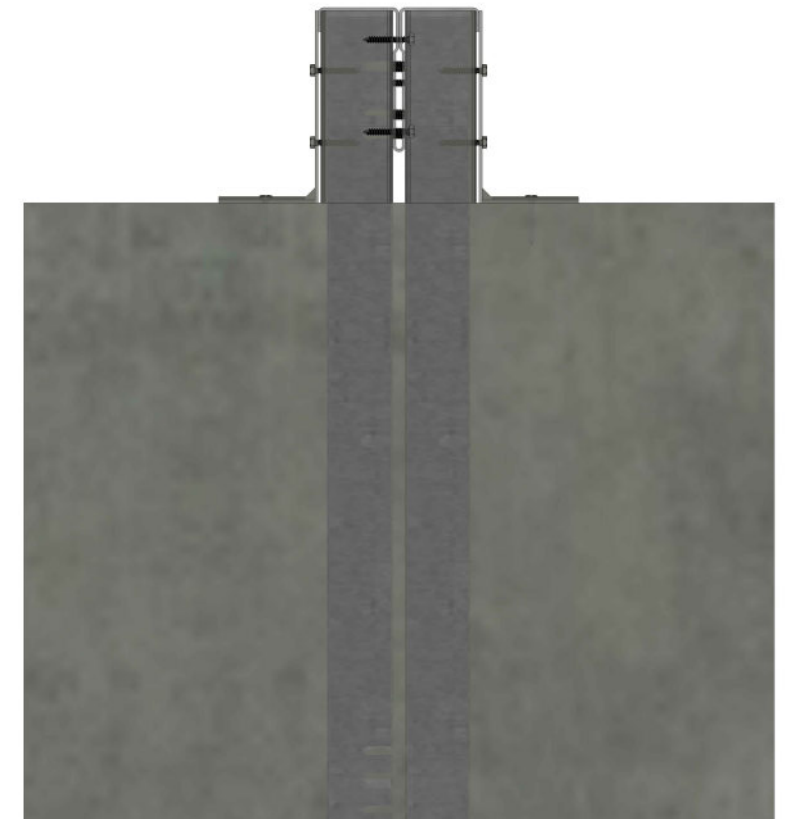
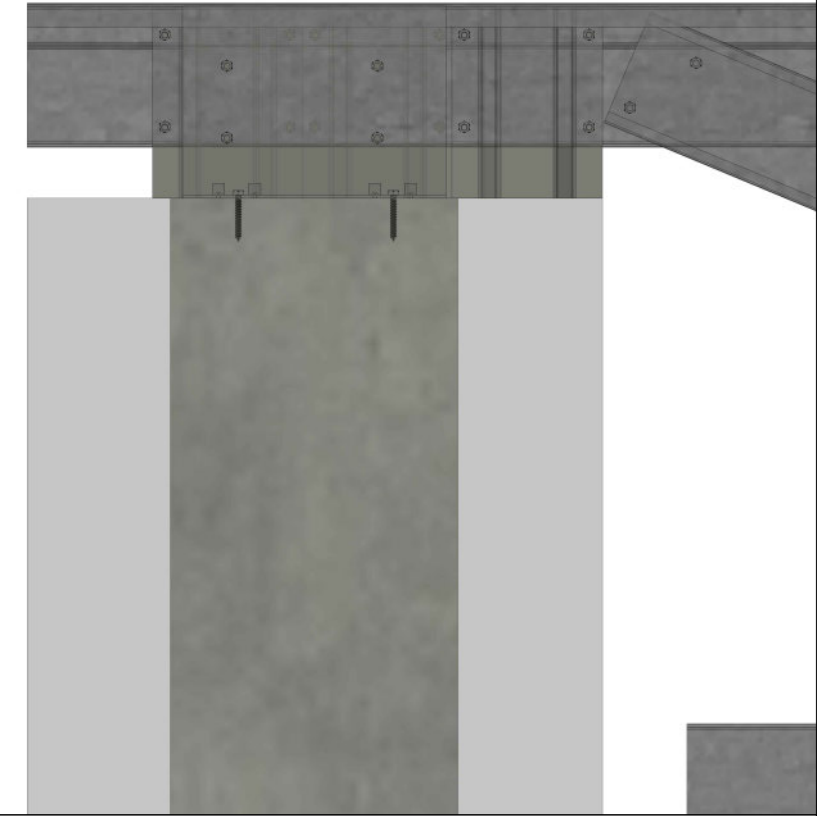
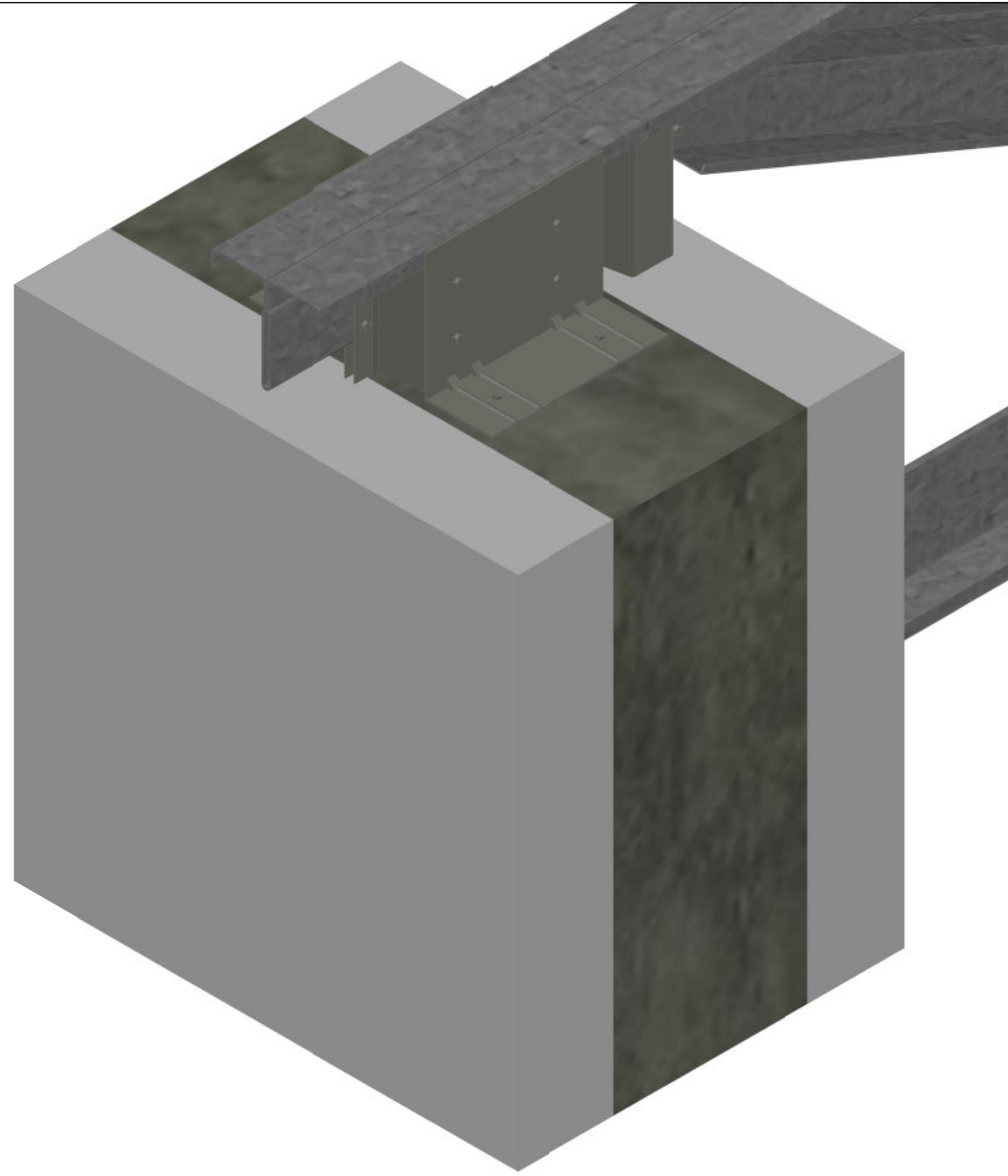
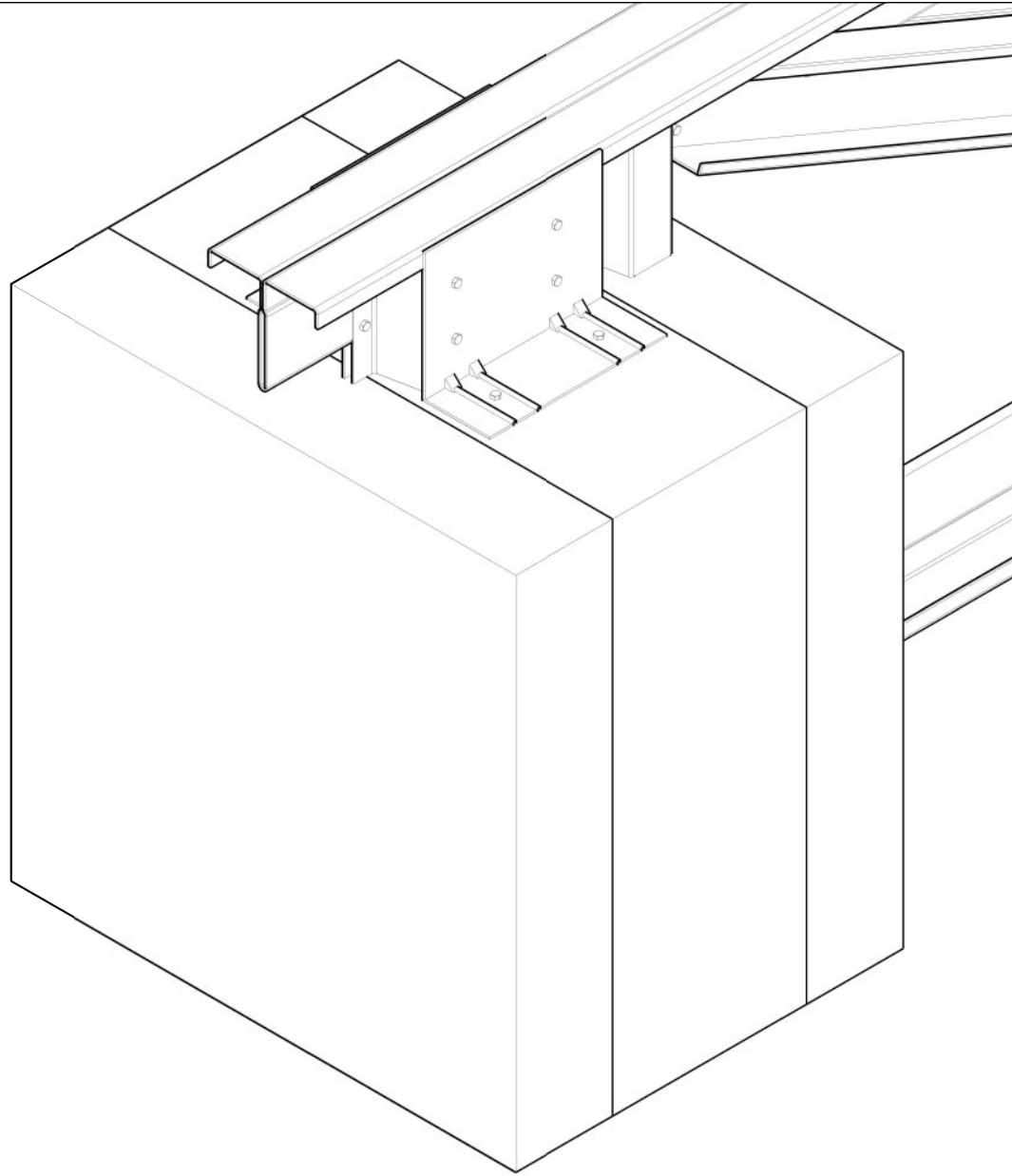
AISI CALCULATED ALLOWABLE LOADS FOR WELDED CONNECTIONS						
Material thickness (mils)	Material Strength		Fillet Weld		Flare Groove Weld	
	Fy (ksi)	Fu (ksi)	Longitudinal (lbs)	Transverse (lbs)	Longitudinal (lbs)	Transverse (lbs)
	Values for a single one (1) inch weld					
54	33	45	822	1084	682	832
	50	60	1188	1566	985	1202
68	33	45	1082	1365	859	1048
	50	60	1563	1972	1241	1514
97	33	45	1480	1480	1226	1480
	50	60	1480	1480	1480	1480
	Values for a single two (2) inch weld					
54	33	45	1253	2168	1364	1664
	50	60	1809	3131	1971	2404
68	33	45	1578	2731	1719	2096
	50	60	2279	3944	2483	3028
97	33	45	2884	2961	2452	2961
	50	60	2961	2961	2961	2961
	Values for a single three (3) inch weld					
54	33	45	1879	3251	2047	2496
	50	60	2714	4697	2956	3605
68	33	45	2367	4096	2578	3144
	50	60	3419	5916	3724	4542
97	33	45	3376	4441	3678	4441
	50	60	4441	4441	4441	4441

- Notes:**
- 1 All values were calculated using the 2001 AISI Specification w/2004 supplement (Section E2).
- 2 Fxx values were based off of Fxx >= 70ksi and that Fxx > Fu.
- 3 Values include a factor of safety that varies depending on the AISI code calculation used.
- 4 Longer weld values can be found by following the AISI Specification; however, using multiples of lengths shown for longer welds may result in incorrect values.
- 5 Weld values listed are based on a minimum effective throat of .707 times the design thickness.
- 6 Welding requires a minimum 54 mil base metal thickness.





ICF Wall w/Cast-in-Place Concrete Core Connection w/TapCons or Kwik Conn Screws  
Clip on Both Faces



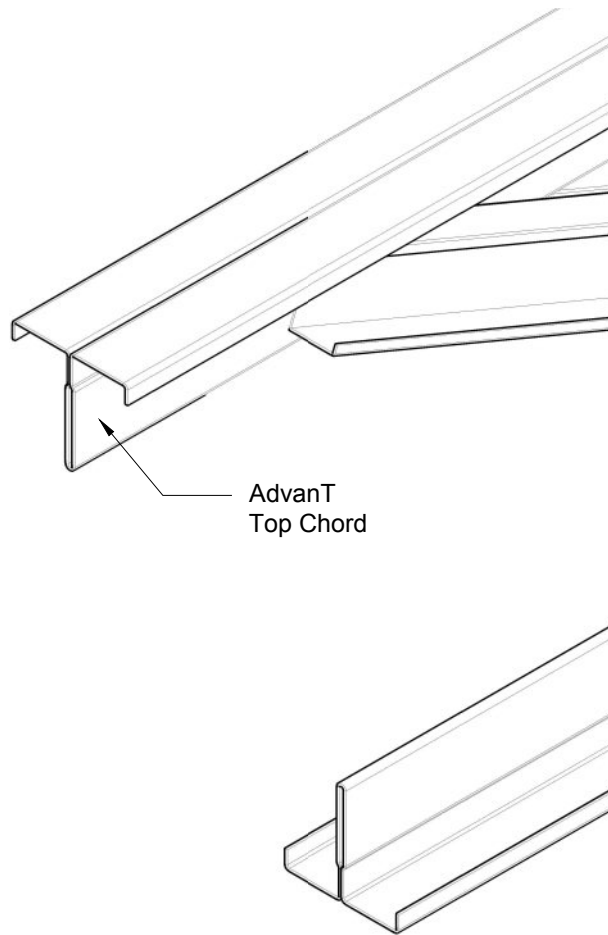
ICF SUPPLIER MUST BE CONTACTED PRIOR TO SPECIFYING A MEANS OF CONNECTION.

-IT IS SUGGESTED THAT EITHER A STEEL PLATE or A DOUBLE 2x# P.T. PLATE BE PROVIDED FOR TRUSS SEAT.

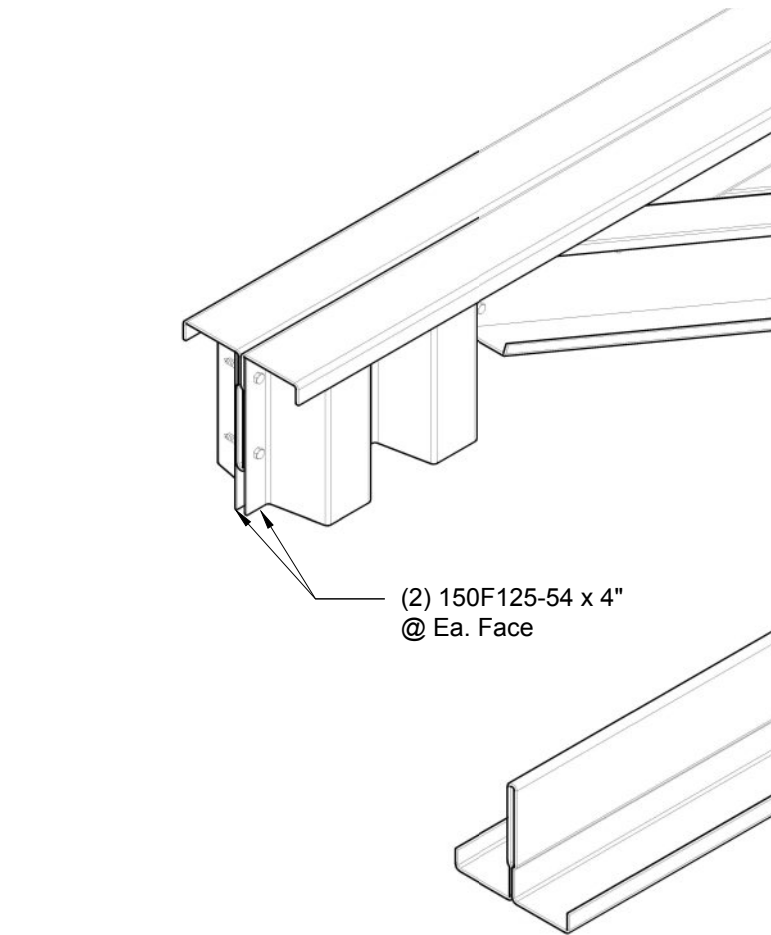
-CONCRETE MATERIAL STRENGTH MAY VARY. FASTENER &/OR ANCHOR VALUES ARE HIGHLY EFFECTED BY EDGE DISTANCE, SPACING DEPTH, AND COMPRESSIVE STRENGTH.

-COMPLEX CALCULATIONS SPECIFIED IN ACI 318 MAY BE REQUIRED.

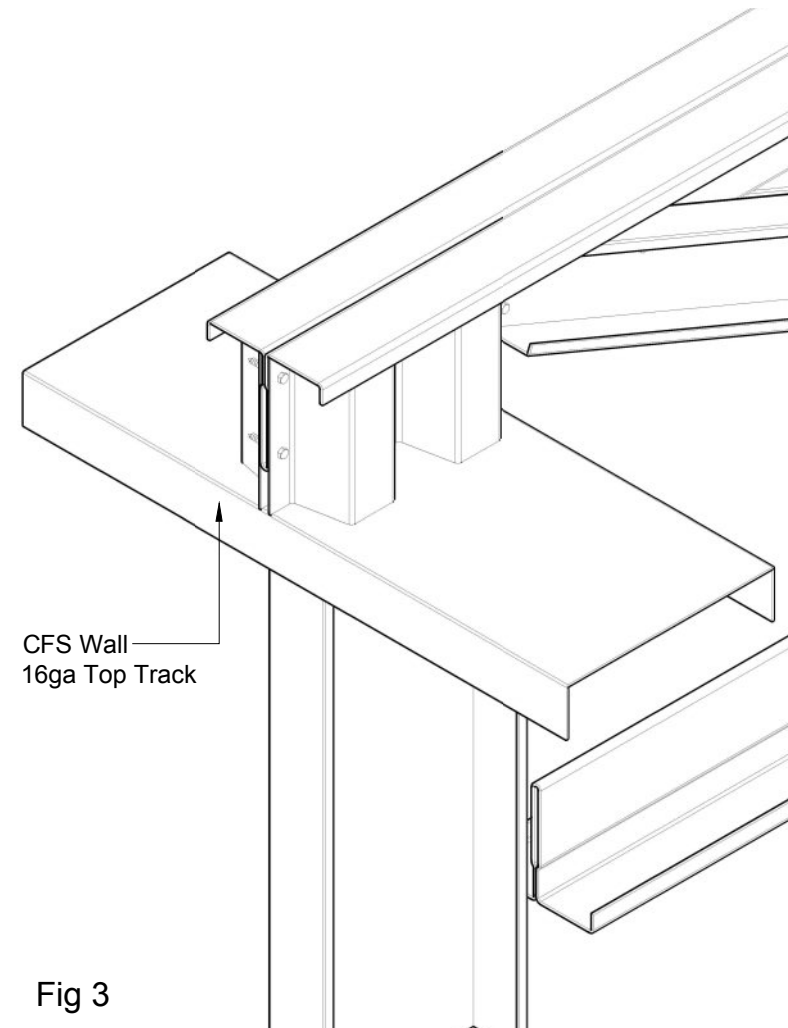
-UNCRAKED CONCRETE WOULD BE ASSUMED UNLESS SPECIFICALLY NOTED OTHERWISE BY THE ICF SUPPLIER.



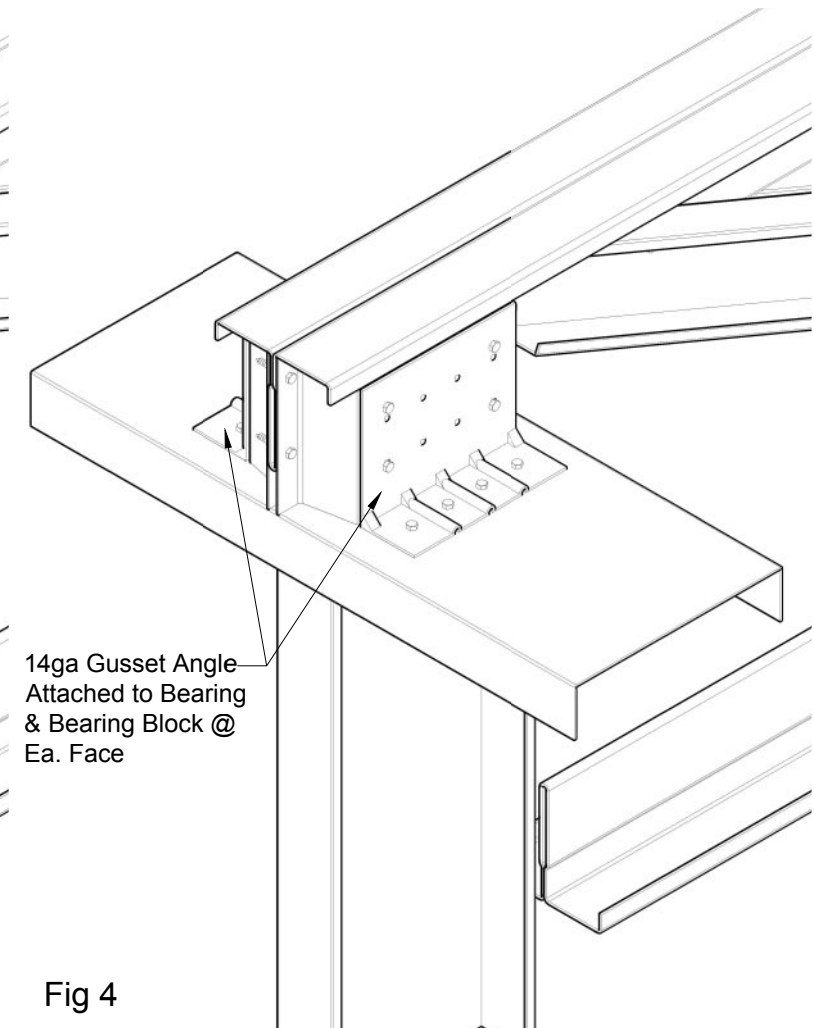
AdvanT  
Top Chord



(2) 150F125-54 x 4"  
@ Ea. Face



CFS Wall  
16ga Top Track



14ga Gusset Angle  
Attached to Bearing  
& Bearing Block @  
Ea. Face

Fig 4

Top Chord Bearing Condition / Preferred Method

Fig 1: AdvanT Truss Factory Assembled. Depth as required per design.

Fig 2: Double 150F125-54 Bearing Blocks Attached to AdvanT Top Chord at Each Face via Double Shear #12 SDS as required per Design.

Fig 3: AdvanT Truss Placed on Top of Wall. Aligned with Metal Studs Below.

Fig 4: Single Gusset Angle Applied to Each Face of Truss with #10 SDS as Required per Design and Connected to Bearing Surface with Fasteners as Required per Design.

Fig 4A: 3D Rendering of Installed Assembly.

Fig 5: Elevation of Installed Assembly.

Fig 5A: 3D Rendering of Installed Assembly.

Fig 6: Plan View of Installed Assembly.

Fig 6A: 3D Rendering of Installed Assembly.

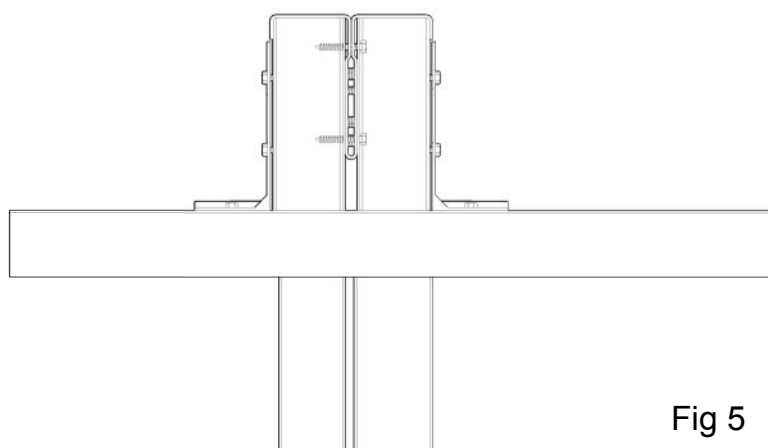
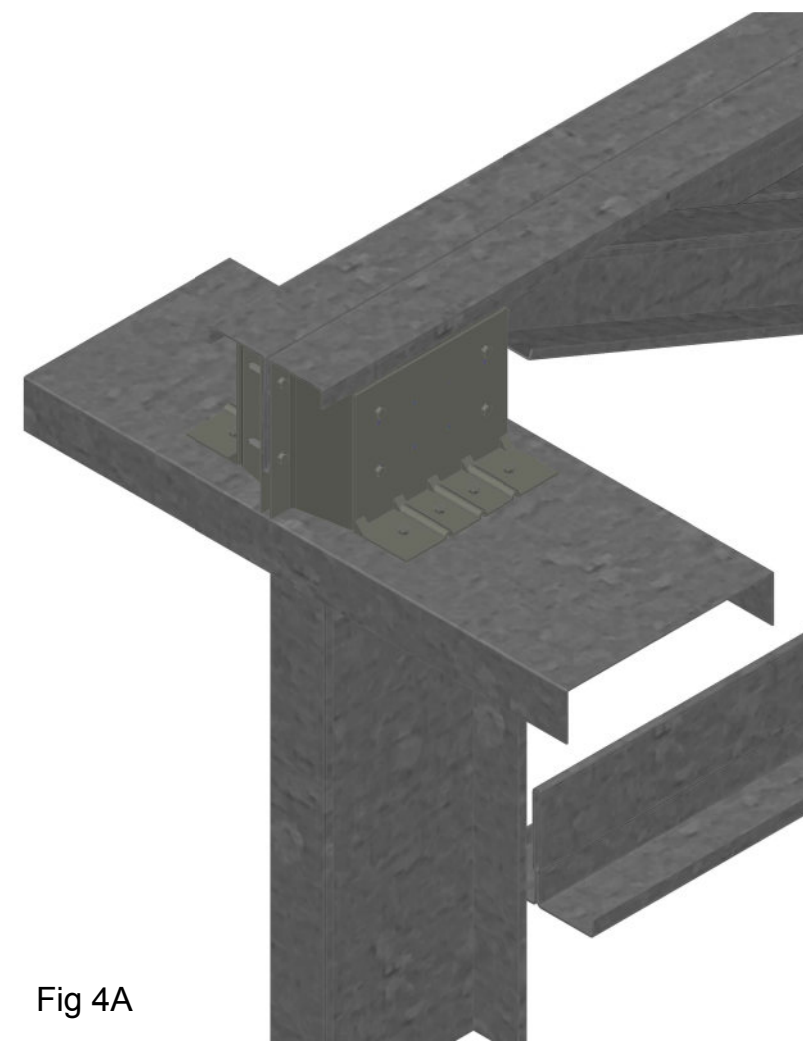


Fig 5

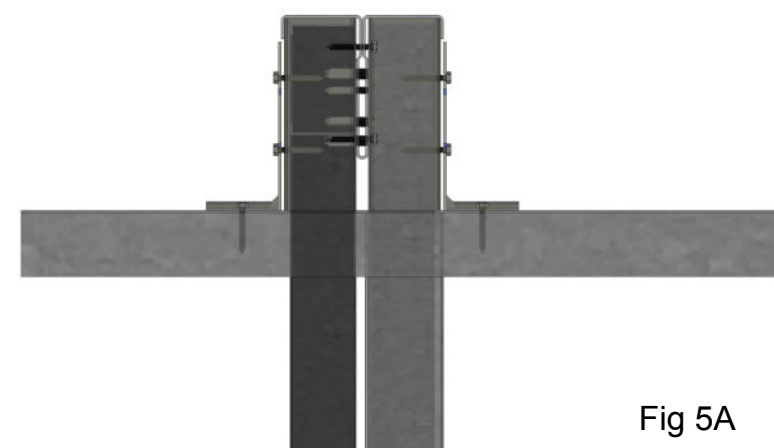


Fig 5A

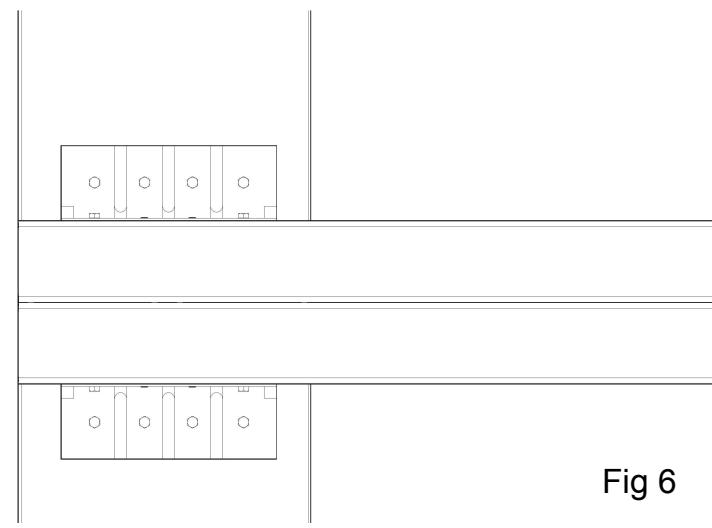


Fig 6

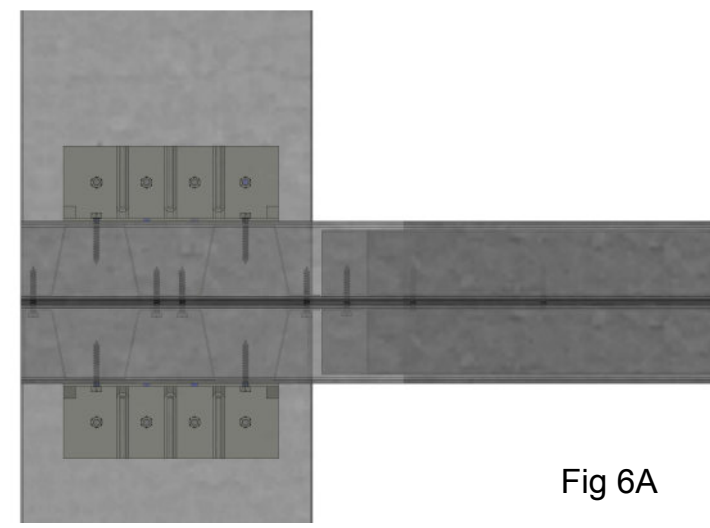


Fig 6A

Fig 4A



TYPICAL EXPECTED UPLIFT & HORIZONTAL REACTION CAPACITIES WITH A 14ga GUSSET (with embossed ribs) CLIP (lbs)											
BEARING TYPE	TRUSS BEARING BLOCK THICKNESS	TRUSS HOLD DOWN CLIP THICKNESS	TRUSS HOLD DOWN CLIP WIDTH	HOLD DOWN CLIP HEIGHT <small>(leg attached to bearing block)</small>	HOLD DOWN CLIP DEPTH <small>(leg attached to bearing)</small>	FASTENER TYPE & QUANTITY TO BEARING BLOCK	FASTENER TYPE & QUANTITY TO BEARING	UPLIFT		HORIZONTAL	
								Clip on one face	Clip on both faces	Clip on one face	Clip on both faces
CFS 054 (50 ksi) Track	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	(3) #10 SDS	(3) #10 SDS	595	1190	485	970
CFS 054 (50 ksi) Track	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(5) #10 SDS	(6) #10 SDS	1195	2390	795	1590
1/4"-1/2" Steel	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	(3) #10 SDS	(2) X-U PAF	1060	2120	1105	2210
1/4"-1/2" Steel	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(5) #10 SDS	(4) X-U PAF	1995	3990	1105	2210
1/4"-1/2" Steel	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	(3) #10 SDS	(2) #12-24 T/5 SDS	1060	2120	630	1260
1/4"-1/2" Steel	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(5) #10 SDS	(4) #12-24 T/5 SDS	1995	3990	630	1260
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	NA	NA	NA	NA	NA	NA
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(3) #10 SDS	(2) X-DNI PAF	330	660	460	920
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	NA	NA	NA	NA	NA	NA
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(3) #10 SDS	(2) 3/16" x 1.75" Screw	550	1100	485	970
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	NA	NA	NA	NA	NA	NA
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(3) #10 SDS	(2) 1/4" x 1.75" Screw	850	1700	485	970
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	(3) #10 SDS	(1) 1/2" x 4.25" Wedge	680	NA	305	NA
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(5) #10 SDS	(1) 5/8" x 5" Wedge	1310	NA	305	NA
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	(3) #10 SDS	(1) 1/2" x 3" Expansion	645	NA	310	NA
Grout Filled CMU	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(5) #10 SDS	(1) 5/8" x 3.5" Expansion	850	NA	310	NA
(1) 2x6 Wood Plate	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	(3) #10 SDS	(2) #9 x 1.5" WS	600	1200	320	640
(1) 2x6 Wood Plate	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(5) #10 SDS	(4) #9 x 1.5" WS	800	1600	430	860
(2) 2x6 Wood Plate	054 (50 ksi)	068 (50 ksi)	3"-4"	3.5"-4"	1.125"-2"	(3) #10 SDS	(2) #9 x 3" WS	800	1600	215	430
(2) 2x6 Wood Plate	054 (50 ksi)	068 (50 ksi)	5"-6"	3.5"-4"	1.125"-2"	(5) #10 SDS	(4) #9 x 3" WS	1600	3200	430	860

TYPICAL EXPECTED UPLIFT & HORIZONTAL REACTION CAPACITIES WITH A 14ga FLAT PLATE WELDED TO BEARING (lbs)											
CFS 054 (50 ksi) Track	054 (50 ksi)	068 (50 ksi)	3.25"	6"	NA	(6) #10 SDS	1/8" x 3" Fillet Weld	2940	5880	1105	2210
1/4"-1/2" Steel	054 (50 ksi)	068 (50 ksi)	3.25"	6"	NA	(6) #10 SDS	1/8" x 3" Fillet Weld	2940	5880	1105	2210

TYPICAL EXPECTED UPLIFT & HORIZONTAL REACTION CAPACITIES WITH DIRECT ATTACHMENT (no clip) (lbs)											
CFS 054 (50 ksi) Track	BC: 033 (50 ksi)	NA	NA	NA	NA	NA	(2) #10 SDS	140	280	355	710
CFS 054 (50 ksi) Track	BC: 043 (50 ksi)	NA	NA	NA	NA	NA	(2) #10 SDS	170	340	355	710
CFS 054 (50 ksi) Track	BC: 054 (50 ksi)	NA	NA	NA	NA	NA	(2) #10 SDS	400	800	485	970
CFS 054 (50 ksi) Track	BC: 068 (50 ksi)	NA	NA	NA	NA	NA	(2) #10 SDS	400	800	485	970
1/4"-1/2" Steel	BC: 033 (50 ksi)	NA	NA	NA	NA	NA	(2) X-U PAF	140	280	355	710
1/4"-1/2" Steel	BC: 043 (50 ksi)	NA	NA	NA	NA	NA	(2) X-U PAF	170	340	355	710
1/4"-1/2" Steel	BC: 054 (50 ksi)	NA	NA	NA	NA	NA	(2) X-U PAF	400	800	485	970
1/4"-1/2" Steel	BC: 068 (50 ksi)	NA	NA	NA	NA	NA	(2) X-U PAF	500	1000	485	970
Grout Filled CMU	BC: 033 (50 ksi)	NA	NA	NA	NA	NA	(2) X-DNI PAF	140	280	355	710
Grout Filled CMU	BC: 043 (50 ksi)	NA	NA	NA	NA	NA	(2) X-DNI PAF	140	280	355	710
Grout Filled CMU	BC: 054 (50 ksi)	NA	NA	NA	NA	NA	(2) X-DNI PAF	330	660	460	920
Grout Filled CMU	BC: 068 (50 ksi)	NA	NA	NA	NA	NA	(2) X-DNI PAF	330	660	460	920

**Notes:**

1 All hold down clip values listed above are estimates **ONLY** based on 14ga 50 ksi gusset (with embossed ribs) clips.

1a Acceptable clips: HD series by Aegis Metal Framing, TSUC series by TrusSteel, SSC series by Simpson Strong-Tie, HGA/HGAM series by USP/Mitek, Uni-Clip & Easy Clip series by ClarkDietrich.

1b Be sure to use values from selected manufacturers published date. Conditions indicated in manufacturers data must be met. Read all footnotes.

1c Generally all proprietary clips angles have been both calculated AND tested. Should a generic non embossed clip angle be specified by the truss fabricator and/or the project engineer of record, they are responsible for verifying clip capacities.

2 Fastener selection is the responsibility of the truss fabricator and/or the project engineer of record.

2a Be sure to use values from selected manufacturers published date. Conditions indicated in manufacturers data must be met. Read all footnotes.

3 Bearing design is the responsibility of the project engineer of record. The following assumptions have been made.

3a For CFS track connections; Min thickness = 054 mils / Fy = 50 ksi min / min screw spacing and edge distance = 9/16".

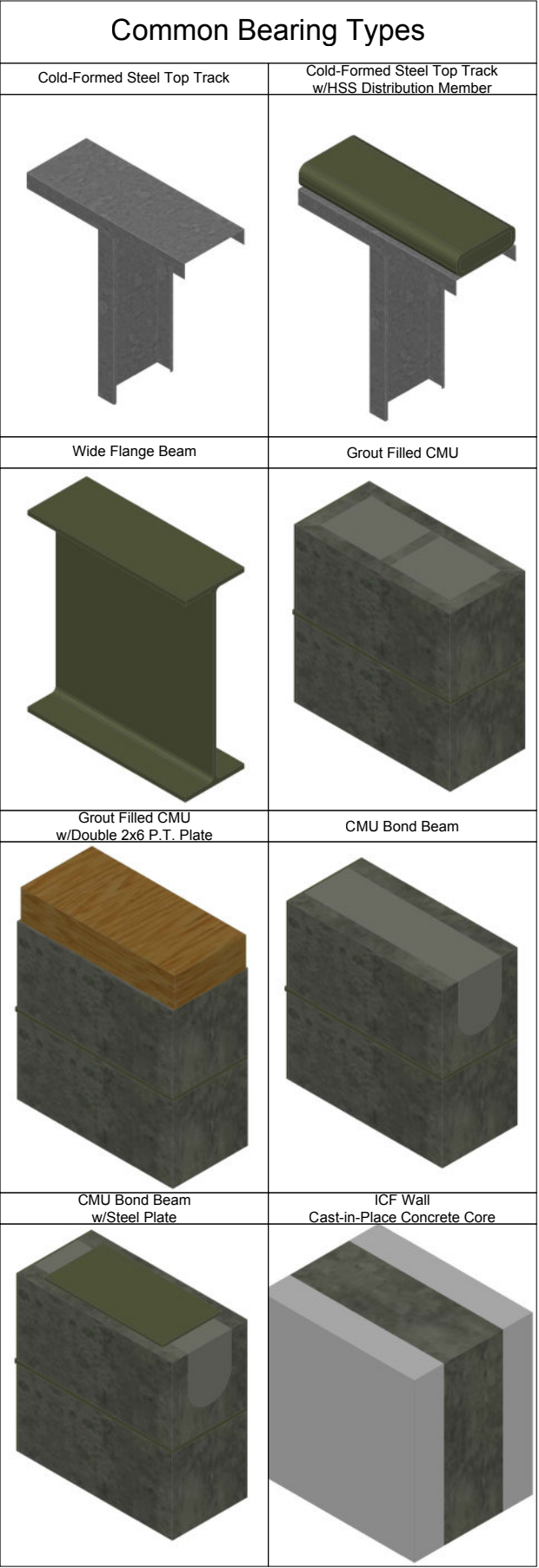
3b For Steel connections (WF beam, HSS tube, Embed Plate); Thickness = 1/4" - 1/2" / min screw spacing and edge distance = 9/16" / min PAF spacing = 1" / min PAF edge distance = 1/2".

3c For Top of Grout Filled CMU (or Bond Beam) connections; Minimum masonry prism strength of 1,500 psi used / min screw spacing and edge distance = 9/16" / min concrete anchor spacing and edge distance varies depending on anchor selection and anchor manufacturers listed data.

3d For Wood Top Plate connections; Per NDS a wind load duration factor (Cd = 1.6) has been applied / bearing to be G = 0.5 minimum / min SDS spacing & edge distance = 9/16" / min wood screw spacing = 3/4" and may vary based on screw size in order to prevent splitting. Wood screws must comply with ANSI/ASME Standard B18.6.1-1981.

3e For Welded CFS track connections; Min bearing width = 3" / min thickness = 054 mils / Fy = 50 ksi min / min screw spacing and edge distance = 9/16" / min filler metal strength (Fxx) = 70 ksi. Welders and welding procedures shall be qualified as specified in AWS D1.3.

3f For Welded Steel connections; Min bearing width = 3" / min thickness = 0.150" / min screw spacing and edge distance = 9/16" / min filler metal strength (Fxx) = 70 ksi. Welders and welding procedures shall be qualified as specified in AWS D1.3.

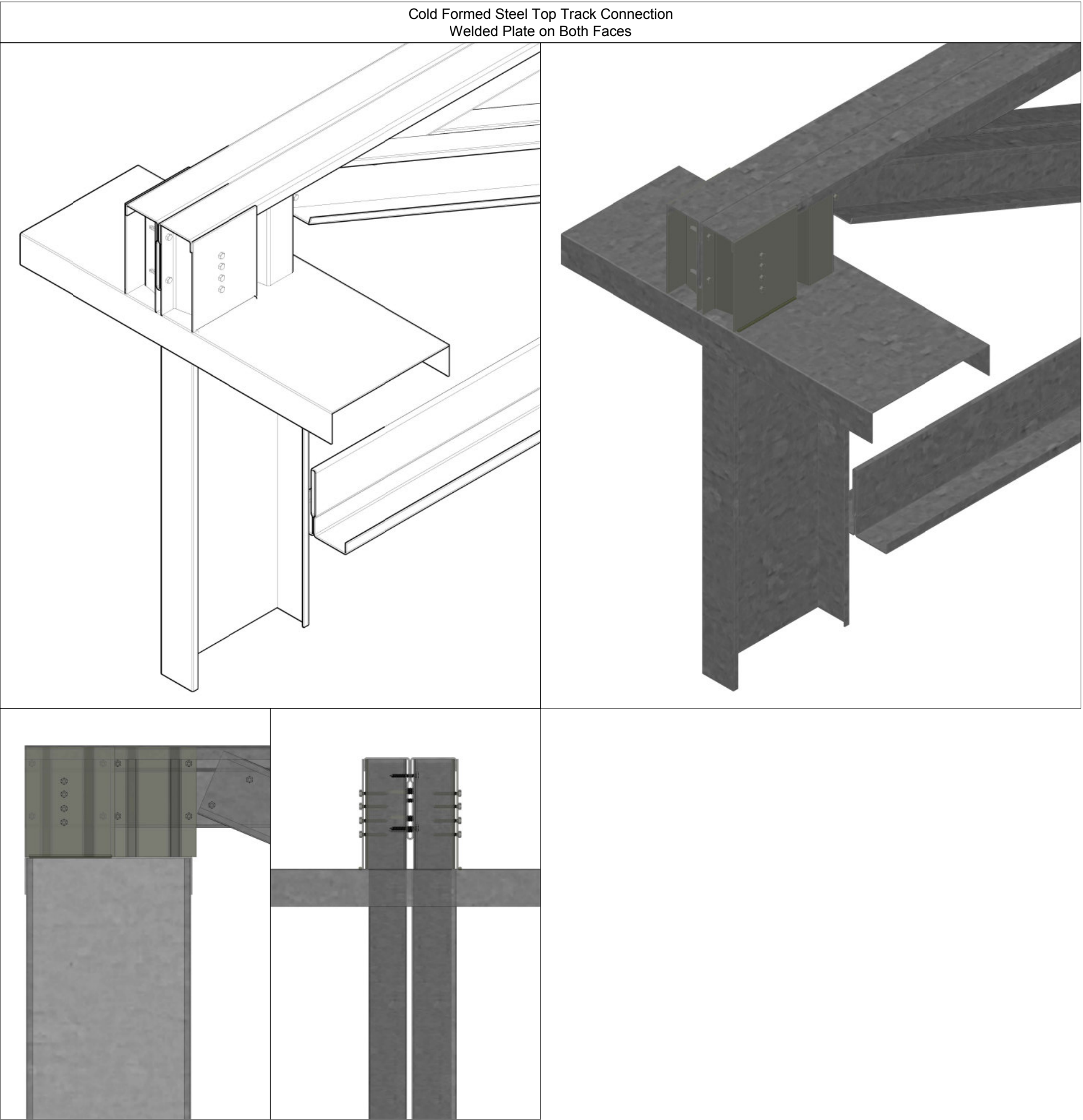




AISI CALCULATED ALLOWABLE LOADS FOR SCREW CONNECTION								
Material thickness (mils)	Material Strength		#10-16 HWH Screw		#12-14 HWH Screw		#1/4"-14 HWH Screw	
	Fy (ksi)	Fu (ksi)	Dia. = 0.190		Dia. = 0.210		Dia. = 0.240	
			Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)
33	33	45	177	84	186	93	199	106
43	33	45	263	109	277	121	296	138
54	33	45	370	137	389	152	416	173
	50	60	467	198	562	219	600	250
68	33	45	467	173	550	191	588	218
	50	60	467	249	667	276	849	315
97	33	45	467	246	667	272	867	311
	50	60	467	356	667	393	867	450

AISI CALCULATED ALLOWABLE BEARING & PULLOVER FOR SCREWS								
Material thickness (mils)	Material Strength		#10-16 HWH Screw		#12-14 HWH Screw		#1/4"-14 HWH Screw	
	Fy (ksi)	Fu (ksi)	Shank = 0.190		Shank = 0.210		Shank = 0.240	
			Head = 0.375		Head = 0.375		Head = 0.500	
			Bearing (lbs)	Pullover (lbs)	Bearing (lbs)	Pullover (lbs)	Bearing (lbs)	Pullover (lbs)
33	33	45	266	292	294	292	336	389
43	33	45	347	381	384	381	438	507
54	33	45	436	478	481	478	550	637
	50	60	629	690	695	690	795	920
68	33	45	549	602	606	602	693	802
	50	60	792	869	876	869	1001	1159
97	33	45	783	858	865	858	989	1144
	50	60	1130	1239	1249	1239	1428	1653

- Notes:**
- 1 All values were calculated using the 2001 AISI Specification w/2004 supplement.
  - 2 Charts are based on Buildex TEK2 HWH screw capacities. All screws must meet minimum criteria outlined.
  - 3 Shear strength for #10, #12, and 1/4" screws must be greater than or equal to 1400 lbs, 2000 lbs and 2,600 lbs respectively.
  - 4 Tension strength for #10, #12, and 1/4" screws must be greater than or equal to 1936 lbs, 2778 lbs and 4060 lbs respectively.
  - 5 The minimum head diameter for #10 and #12 screws is 3/8". The minimum head diameter for 1/4" screws is 1/2".
  - 6 Screw ultimate shear capacity is based on Buildex® DATA as a minimum.
  - 7 Buildex is a registered trademark of Illinois Tool Works, Inc.
  - 8 For substitution with equivalent fasteners (Senco, Grabber, Protwist, etc.,) refer to manufacturers catalogue for installation requirements and application limits.
  - 9 Minimum screw spacing and edge distance = 9/16".

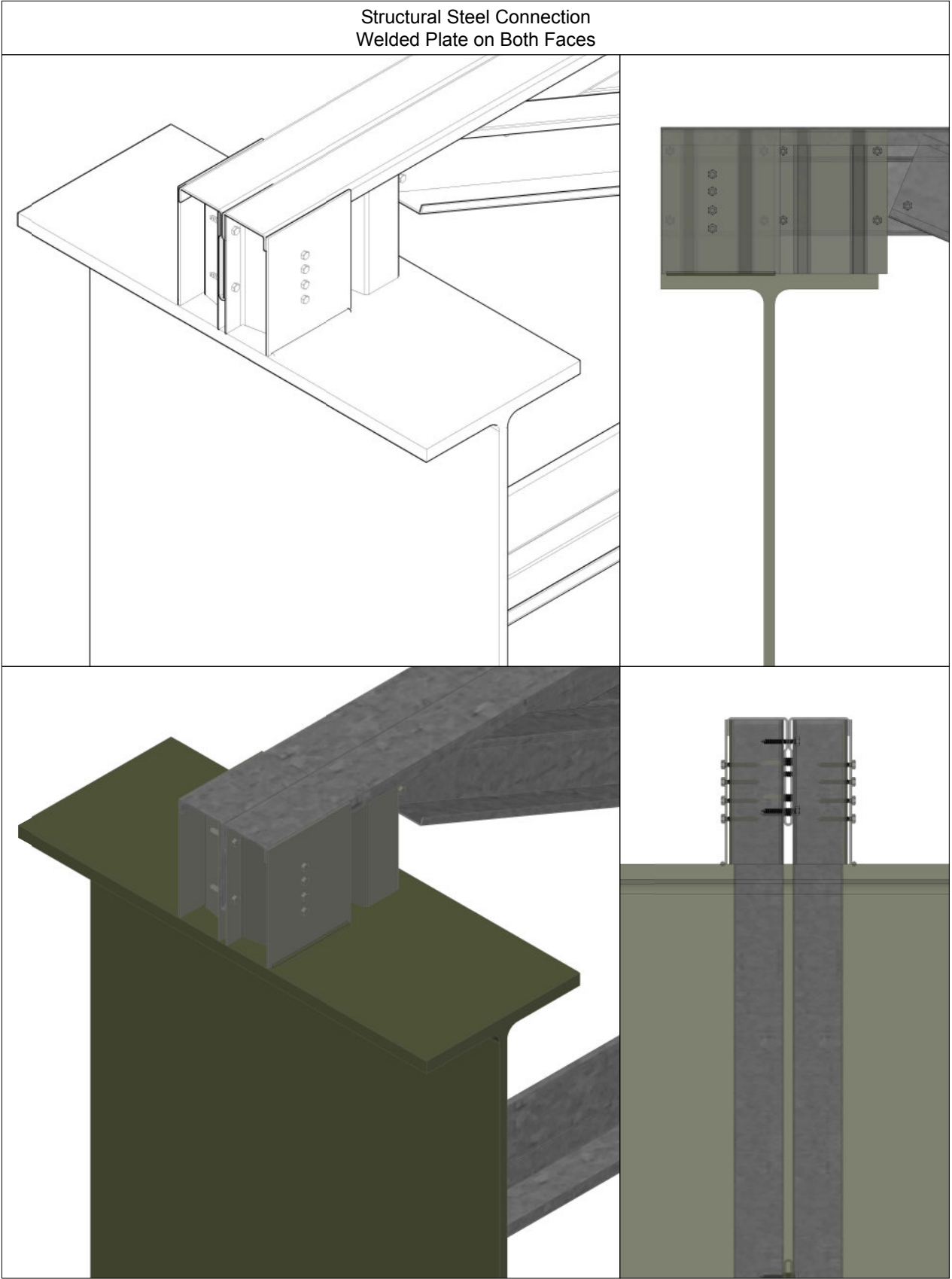


POWDER-ACTUATED FASTENER ALLOWABLE LOADS IN STRUCTURAL STEEL (lbs)													
Material thickness (mils)	Yield strength Fy (ksi)	PAF (Shank Dia. = 0.145", Head Dia. = 0.3"											
		Bearing (lbs)	Pullover (lbs)	3/16"		1/4"		3/8"		1/2"		3/4"	
				Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension
33	33	203	234	425	455	620	800	680	810	605	850	545	500
43	33	265	304	425	455	620	800	680	810	605	850	545	500
54	33	333	382	425	455	620	800	680	810	605	850	545	500
	50	480	552	425	455	620	800	680	810	605	850	545	500
68	33	418	481	425	455	620	800	680	810	605	850	545	500
	50	604	695	425	455	620	800	680	810	605	850	545	500
97	33	597	686	425	455	620	800	680	810	605	850	545	500
	50	863	992	425	455	620	800	680	810	605	850	545	500

- Notes:**
- 1 Bearing and pullover values were calculated using the 2001 AISI Specification w/2004 supplement.
  - 2 Powder-Actuated Fastener (PAF) - Minimum shank diameter of 0.145" with a minimum head diameter of 0.300" placed in 3/16" steel minimum.
  - 3 All PAF pins must have a 5.0 safety factor and an allowable capacity greater than the values shown in the allowable load charts herein, either as a single pin or in multiples per each chart.
  - 4 Minimum fastener spacing = 1-1/2". Minimum edge distance = 1/2".

AISI CALCULATED ALLOWABLE LOADS FOR WELDED CONNECTIONS						
Material thickness (mils)	Material Strength		Fillet Weld		Flare Groove Weld	
	Fy (ksi)	Fu (ksi)	Longitudinal (lbs)	Transverse (lbs)	Longitudinal (lbs)	Transverse (lbs)
	Values for a single one (1) inch weld					
54	33	45	822	1084	682	832
	50	60	1188	1566	985	1202
68	33	45	1082	1365	859	1048
	50	60	1563	1972	1241	1514
97	33	45	1480	1480	1226	1480
	50	60	1480	1480	1480	1480
	Values for a single two (2) inch weld					
54	33	45	1253	2168	1364	1664
	50	60	1809	3131	1971	2404
68	33	45	1578	2731	1719	2096
	50	60	2279	3944	2483	3028
97	33	45	2884	2961	2452	2961
	50	60	2961	2961	2961	2961
	Values for a single three (3) inch weld					
54	33	45	1879	3251	2047	2496
	50	60	2714	4697	2956	3605
68	33	45	2367	4096	2578	3144
	50	60	3419	5916	3724	4542
97	33	45	3376	4441	3678	4441
	50	60	4441	4441	4441	4441

- Notes:**
- 1 All values were calculated using the 2001 AISI Specification w/2004 supplement (Section E2).
  - 2 Fxx values were based off of Fxx >= 70ksi and that Fxx > Fu.
  - 3 Values include a factor of safety that varies depending on the AISI code calculation used.
  - 4 Longer weld values can be found by following the AISI Specification; however, using multiples of lengths shown for longer welds may result in incorrect values.
  - 5 Weld values listed are based on a minimum effective throat of .707 times the design thickness.
  - 6 Welding requires a minimum 54 mil base metal thickness.



POWDER-ACTUATED FASTENER ALLOWABLE LOADS IN STRUCTURAL STEEL (lbs)													
Material thickness (mils)	Yield strength Fy (ksi)	PAF (Shank Dia. = 0.145", Head Dia. = 0.3"											
		Bearing (lbs)	Pullover (lbs)	3/16"		1/4"		3/8"		1/2"		3/4"	
				Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension
33	33	203	234	425	455	620	800	680	810	605	850	545	500
43	33	265	304	425	455	620	800	680	810	605	850	545	500
54	33	333	382	425	455	620	800	680	810	605	850	545	500
	50	480	552	425	455	620	800	680	810	605	850	545	500
68	33	418	481	425	455	620	800	680	810	605	850	545	500
	50	604	695	425	455	620	800	680	810	605	850	545	500
97	33	597	686	425	455	620	800	680	810	605	850	545	500
	50	863	992	425	455	620	800	680	810	605	850	545	500

**Notes:**

1 Bearing and pullover values were calculated using the 2001 AISI Specification w/2004 supplement.

2 Powder-Actuated Fastener (PAF) - Minimum shank diameter of 0.145" with a minimum head diameter of 0.300" placed in 3/16" steel minimum.

3 All PAF pins must have a 5.0 safety factor and an allowable capacity greater than the values shown in the allowable load charts herein, either as a single pin or in multiples per each chart.

4 Minimum fastener spacing = 1-1/2". Minimum edge distance = 1/2".

AISI CALCULATED ALLOWABLE LOADS FOR WELDED CONNECTIONS						
Material thickness (mils)	Material Strength		Fillet Weld		Flare Groove Weld	
	Fy (ksi)	Fu (ksi)	Longitudinal (lbs)	Transverse (lbs)	Longitudinal (lbs)	Transverse (lbs)
	Values for a single one (1) inch weld					
54	33	45	822	1084	682	832
	50	60	1188	1566	985	1202
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97	33	45	1480	1480	1226	1480
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97	33	45	3376	4441	3678	4441
	50	60	4441	4441	4441	4441

**Notes:**

1 All values were calculated using the 2001 AISI Specification w/2004 supplement (Section E2).

2 Fxx values were based off of Fxx >= 70ksi and that Fxx > Fu.

3 Values include a factor of safety that varies depending on the AISI code calculation used.

4 Longer weld values can be found by following the AISI Specification; however, using multiples of lengths shown for longer welds may result in incorrect values.

5 Weld values listed are based on a minimum effective throat of .707 times the design thickness.

6 Welding requires a minimum 54 mil base metal thickness.

