

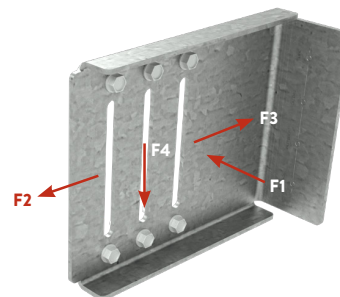
HYBRID BYPASS CLIP RIGID DATA SHEET

HYBRID BYPASS CLIP (HBP) - DESIGN GUIDE

ATTACHMENT TO STRUCTURAL: **DESIGNED BY OTHERS**
ATTACHMENT TO STUD: **RIGID CONNECTION W/ (6) SCREWS**

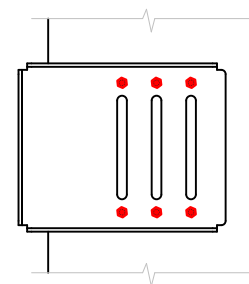
HBP - 12ga (As a Rigid Connection)

Clip designation	Stud gauge (mils) Yield Strength	ASD Allowable Loads (lbs)			
		F1 (In-Plane) w/ (6) #12-14	F2 (Tension) w/ (6) #12-14	F3 (Compression) w/ (6) #12-14	F4 (Shear) w/ (6) #12-14
CLIP-HBP6-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	425
	43mil (18ga) 33ksi	245	1680	1680	630
	54mil (16ga) 50ksi	265	2115	2540	1230
	68mil (14ga) 50ksi	265	2115	2540	1230
	97mil (12ga) 50ksi	265	2115	2540	1230
CLIP-HBP8-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	310
	43mil (18ga) 33ksi	240	1680	1680	460
	54mil (16ga) 50ksi	240	2115	2315	885
	68mil (14ga) 50ksi	240	2115	2315	885
	97 mil (12ga) 50ksi	240	2115	2315	885
CLIP-HBP10-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	245
	43mil (18ga) 33ksi	225	1680	1680	360
	54mil (16ga) 50ksi	225	2115	2055	690
	68mil (14ga) 50ksi	225	2115	2055	690
	97 mil (12ga) 50ksi	225	2115	2055	690
CLIP-HBP12-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	200
	43mil (18ga) 33ksi	195	1680	1680	295
	54mil (16ga) 50ksi	195	2115	2055	605
	68mil (14ga) 50ksi	195	2115	2055	630
	97 mil (12ga) 50ksi	195	2115	2055	630



HBP - 14ga (As a Rigid Connection)

Clip designation	Stud gauge (mils) Yield Strength	ASD Allowable Loads (lbs)			
		F1 (In-Plane) w/ (6) #10-16	F2 (Tension) w/ (6) #10-16	F3 (Compression) w/ (6) #10-16	F4 (Shear) w/ (6) #10-16
CLIP-HBP6-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	395
	43mil (18ga) 33ksi	215	1450	1575	590
	54mil (16ga) 50ksi	255	1450	1590	1055
	68mil (14ga) 50ksi	255	1450	1590	1055
	97mil (12ga) 50ksi	255	1450	1590	1055
CLIP-HBP8-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	290
	43mil (18ga) 33ksi	215	1450	1405	430
	54mil (16ga) 50ksi	220	1450	1405	770
	68mil (14ga) 50ksi	220	1450	1405	770
	97 mil (12ga) 50ksi	220	1450	1405	770
CLIP-HBP10-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	225
	43mil (18ga) 33ksi	190	1450	1385	340
	54mil (16ga) 50ksi	190	1450	1385	605
	68mil (14ga) 50ksi	190	1450	1385	605
	97 mil (12ga) 50ksi	190	1450	1385	605
CLIP-HBP12-68 68mil (14ga)	33mil (20ga) 33ksi	160	1060	1060	185
	43mil (18ga) 33ksi	160	1430	1285	280
	54mil (16ga) 50ksi	160	1430	1285	495
	68mil (14ga) 50ksi	160	1430	1285	495
	97 mil (12ga) 50ksi	160	1430	1285	495



12ga Clip: (6) #12-14 Screws
14ga Clip: (6) #10-16 Screws
Shown in a HBP6 Clip

Notes:

- 1 Allowable loads (ASD) listed represent the capacity of the clip to the stud only. (Framing Connection)
- 2 Allowable Loads have not been increased for the wind, seismic, or other factors.
- 3 An 1/8-in service deflection load limit was applied to clips resisting F2, F3 and F4 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 4 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 5 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes.
- 6 For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 7 It is the responsibility of the design professional to design the attachment of the clips to the structure and verify that their capacity meets the requirements of the intended application.
- 8 Nominal or LRFD loads are available upon request.

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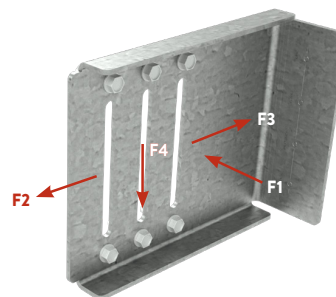
HYBRID BYPASS CLIP RIGID DATA SHEET

HYBRID BYPASS CLIP (HBP) - DESIGN GUIDE

ATTACHMENT TO STRUCTURAL: **WELDED**
ATTACHMENT TO STUD: **RIGID CONNECTION W/ (6) SCREWS**

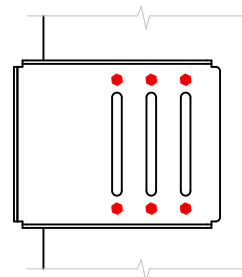
HBP - 12ga (As a Rigid Connection)

Clip designation	Stud gauge (mils) Yield Strength	ASD Allowable Loads (lbs)			
		F1 (In-Plane) w/ (6) #12-14	F2 (Tension) w/ (6) #12-14	F3 (Compression) w/ (6) #12-14	F4 (Shear) w/ (6) #12-14
CLIP-HBP6-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	425
	43mil (18ga) 33ksi	245	1680	1680	630
	54mil (16ga) 50ksi	265	2110	2540	1230
	68mil (14ga) 50ksi	265	2110	2540	1230
	97mil (12ga) 50ksi	265	2110	2540	1230
CLIP-HBP8-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	310
	43mil (18ga) 33ksi	240	1680	1680	460
	54mil (16ga) 50ksi	240	2110	2315	885
	68mil (14ga) 50ksi	240	2110	2315	885
CLIP-HBP10-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	245
	43mil (18ga) 33ksi	225	1680	1680	360
	54mil (16ga) 50ksi	225	2110	2055	690
	68mil (14ga) 50ksi	225	2110	2055	690
CLIP-HBP12-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	200
	43mil (18ga) 33ksi	195	1680	1680	295
	54mil (16ga) 50ksi	195	2110	2055	605
	68mil (14ga) 50ksi	195	2110	2055	630
97 mil (12ga) 50ksi	195	2110	2055	630	



HBP - 14ga (As a Rigid Connection)

Clip designation	Stud gauge (mils) Yield Strength	ASD Allowable Loads (lbs)			
		F1 (In-Plane) w/ (6) #10-16	F2 (Tension) w/ (6) #10-16	F3 (Compression) w/ (6) #10-16	F4 (Shear) w/ (6) #10-16
CLIP-HBP6-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	395
	43mil (18ga) 33ksi	215	1575	1575	590
	54mil (16ga) 50ksi	255	1755	1590	1055
	68mil (14ga) 50ksi	255	755	1590	1055
	97mil (12ga) 50ksi	255	1755	1590	1055
CLIP-HBP8-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	290
	43mil (18ga) 33ksi	215	1575	1405	430
	54mil (16ga) 50ksi	220	1675	1405	770
	68mil (14ga) 50ksi	220	1675	1405	770
CLIP-HBP10-68 68mil (14ga)	33mil (20ga) 33ksi	190	1675	1405	770
	43mil (18ga) 33ksi	190	1060	1060	225
	54mil (16ga) 50ksi	190	1575	1385	340
	68mil (14ga) 50ksi	190	1675	1385	605
CLIP-HBP12-68 68mil (14ga)	33mil (20ga) 33ksi	160	1060	1060	185
	43mil (18ga) 33ksi	160	1575	1285	280
	54mil (16ga) 50ksi	160	1675	1285	495
	68mil (14ga) 50ksi	160	1675	1285	495
97 mil (12ga) 50ksi	160	1675	1285	495	



12ga Clip: (6) #12-14 Screws
14ga Clip: (6) #10-16 Screws
Shown in a HBP6 Clip

Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 3 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes.
- 4 For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 5 The Allowable loads listed for welds are based on the following weld lengths:
 - (2) Welds - 1" along back of short leg clip bend (each weld equally distanced from center of clip).
- 6 Use E70XX (min.) electrodes.
- 7 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 8 Nominal or LRFD loads are available upon request.

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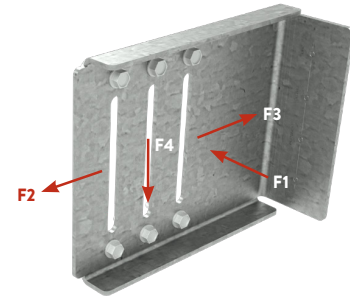
HYBRID BYPASS CLIP RIGID DATA SHEET

HYBRID BYPASS CLIP (HBP) - DESIGN GUIDE

ATTACHMENT TO STRUCTURAL: (4) #12-24 FASTENERS
ATTACHMENT TO STUD: RIGID CONNECTION W/ (6) SCREWS

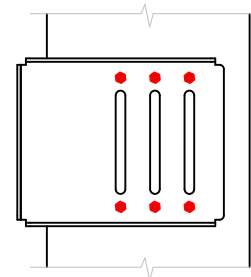
HBP- 12ga (As a Rigid Connection)

Clip designation	Stud gauge (mils) Yield Strength	ASD Allowable Loads (lbs)			
		F1 (In-Plane) w/ (6) #12-14	F2 (Tension) w/ (6) #12-14	F3 (Compression) w/ (6) #12-14	F4 (Shear) w/ (6) #12-14
CLIP-HBP6-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	425
	43mil (18ga) 33ksi	245	1680	1680	630
	54mil (16ga) 50ksi	265	2115	2540	1230
	68mil (14ga) 50ksi	265	2115	2540	1230
	97mil (12ga) 50ksi	265	2115	2540	1230
CLIP-HBP8-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	310
	43mil (18ga) 33ksi	240	1680	1680	460
	54mil (16ga) 50ksi	240	2115	2315	885
	68mil (14ga) 50ksi	240	2115	2315	885
	97 mil (12ga) 50ksi	240	2115	2315	885
CLIP-HBP10-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	245
	43mil (18ga) 33ksi	225	1680	1680	360
	54mil (16ga) 50ksi	225	2115	2055	690
	68mil (14ga) 50ksi	225	2115	2055	690
	97 mil (12ga) 50ksi	225	2115	2055	690
CLIP-HBP12-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	200
	43mil (18ga) 33ksi	195	1680	1680	295
	54mil (16ga) 50ksi	195	2115	2055	605
	68mil (14ga) 50ksi	195	2115	2055	630
	97 mil (12ga) 50ksi	195	2115	2055	630



HBP - 14ga (As a Rigid Connection)

Clip designation	Stud gauge (mils) Yield Strength	ASD Allowable Loads (lbs)			
		F1 (In-Plane) w/ (6) #10-16	F2 (Tension) w/ (6) #10-16	F3 (Compression) w/ (6) #10-16	F4 (Shear) w/ (6) #10-16
CLIP-HBP6-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	395
	43mil (18ga) 33ksi	215	1450	1575	590
	54mil (16ga) 50ksi	255	1450	1590	1055
	68mil (14ga) 50ksi	255	1450	1590	1055
	97mil (12ga) 50ksi	255	1450	1590	1055
CLIP-HBP8-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	290
	43mil (18ga) 33ksi	215	1450	1405	430
	54mil (16ga) 50ksi	220	1450	1405	770
	68mil (14ga) 50ksi	220	1450	1405	770
	97 mil (12ga) 50ksi	220	1450	1405	770
CLIP-HBP10-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	225
	43mil (18ga) 33ksi	190	1450	1385	340
	54mil (16ga) 50ksi	190	1450	1385	605
	68mil (14ga) 50ksi	190	1450	1385	605
	97 mil (12ga) 50ksi	190	1450	1385	605
CLIP-HBP12-68 68mil (14ga)	33mil (20ga) 33ksi	160	1060	1060	185
	43mil (18ga) 33ksi	160	1430	1285	280
	54mil (16ga) 50ksi	160	1430	1285	495
	68mil (14ga) 50ksi	160	1430	1285	495
	97 mil (12ga) 50ksi	160	1430	1285	495



12ga Clip: (6) #12-14 Screws
14ga Clip: (6) #10-16 Screws
Shown in a HBP6 Clip

Notes:

- Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- An 1/8-in service deflection load limit was applied to clips resisting F2, F3 and F4 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes.
- For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- #12-24 Fasteners shall be used for attachment to steel structure. (4) Fastener configuration shall be used. Screws should be placed at indentations scribed on the short leg of the UBC clip.
- The minimum edge distance for each fastener type shall comply with the fastener manufacturer's recommendation.
- It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- Nominal or LRFD loads are available upon request.

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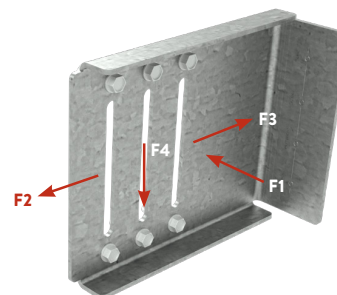
HYBRID BYPASS CLIP RIGID DATA SHEET

HYBRID BYPASS CLIP (HBP) - DESIGN GUIDE

ATTACHMENT TO STRUCTURAL: (4) 0.157" PAFs
ATTACHMENT TO STUD: RIGID CONNECTION W/ (6) SCREWS

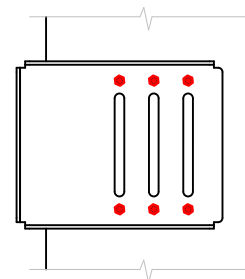
HBP - 12ga (As a Rigid Connection)

Clip designation	Stud gauge (mils) Yield Strength	ASD Allowable Loads (lbs)			
		F1 (In-Plane) w/ (6) #12-14	F2 (Tension) w/ (6) #12-14	F3 (Compression) w/ (6) #12-14	F4 (Shear) w/ (6) #12-14
CLIP-HBP6-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	425
	43mil (18ga) 33ksi	245	1680	1680	630
	54mil (16ga) 50ksi	265	2000	2540	1230
	68mil (14ga) 50ksi	265	2000	2540	1230
	97mil (12ga) 50ksi	265	2000	2540	1230
CLIP-HBP8-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	310
	43mil (18ga) 33ksi	240	1680	1680	460
	54mil (16ga) 50ksi	240	2000	2315	885
	68mil (14ga) 50ksi	240	2000	2315	885
	97 mil (12ga) 50ksi	240	2000	2315	885
CLIP-HBP10-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	245
	43mil (18ga) 33ksi	225	1680	1680	360
	54mil (16ga) 50ksi	225	2000	2055	690
	68mil (14ga) 50ksi	225	2000	2055	690
	97 mil (12ga) 50ksi	225	2000	2055	690
CLIP-HBP12-97 97mil (12ga)	33mil (20ga) 33ksi	190	1130	1130	200
	43mil (18ga) 33ksi	195	1680	1680	295
	54mil (16ga) 50ksi	195	2000	2055	605
	68mil (14ga) 50ksi	195	2000	2055	630
	97 mil (12ga) 50ksi	195	2000	2055	630



HBP - 14ga (As a Rigid Connection)

Clip designation	Stud gauge (mils) Yield Strength	ASD Allowable Loads (lbs)			
		F1 (In-Plane) w/ (6) #10-16	F2 (Tension) w/ (6) #10-16	F3 (Compression) w/ (6) #10-16	F4 (Shear) w/ (6) #10-16
CLIP-HBP6-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	395
	43mil (18ga) 33ksi	215	1450	1575	590
	54mil (16ga) 50ksi	255	1450	1590	1055
	68mil (14ga) 50ksi	255	1450	1590	1055
	97mil (12ga) 50ksi	255	1450	1590	1055
CLIP-HBP8-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	290
	43mil (18ga) 33ksi	215	1450	1405	430
	54mil (16ga) 50ksi	220	1450	1405	770
	68mil (14ga) 50ksi	220	1450	1405	770
	97 mil (12ga) 50ksi	220	1450	1405	770
CLIP-HBP10-68 68mil (14ga)	33mil (20ga) 33ksi	165	1060	1060	225
	43mil (18ga) 33ksi	190	1450	1385	340
	54mil (16ga) 50ksi	190	1450	1385	605
	68mil (14ga) 50ksi	190	1450	1385	605
	97 mil (12ga) 50ksi	190	1450	1385	605
CLIP-HBP12-68 68mil (14ga)	33mil (20ga) 33ksi	160	1060	1060	185
	43mil (18ga) 33ksi	160	1430	1285	280
	54mil (16ga) 50ksi	160	1430	1285	495
	68mil (14ga) 50ksi	160	1430	1285	495
	97 mil (12ga) 50ksi	160	1430	1285	495



12ga Clip: (6) #12-14 Screws
14ga Clip: (6) #10-16 Screws
Shown in a HBP6 Clip

Notes:

- Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- An 1/8-in service deflection load limit was applied to clips resisting F2, F3 and F4 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes.
- For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 0.157" Hilti X-U PAFs shall be used for attachment to steel structure. (4) Fastener configuration shall be used. PAFs should be placed at indentations scribed on the short leg of the UBC clip.
- Capacities considered for Hilti PAFs are based on fastener strengths listed in ICC ESR-2269.
- It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- Nominal or LRFD loads are available upon request.

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