

HYS Hybrid Strut

The HYS hybrid strut is the only CFS strut on the market designed and tested for use as either a slide or a rigid clip. Commonly used at the bottom of a steel beam to accommodate large standoff conditions, the HYS strut attaches to the structure with screws, powder-actuated fasteners or welds.

For installation as a slide connection, attach the HYS using shouldered screws through the slotted holes. Precision-manufactured shouldered screws provided with the HYS are designed to prevent over-driving and to ensure that the clip functions properly in the slide application. For installation as a rigid connection to support gravity and lateral loading, attach the clip using the small predrilled holes with #10 screws.

The HYS has undergone comprehensive component, assembly and anchor testing. Tabulated loads were developed from these tests and include capacities based on strength and deflection to assist in mitigating design risk. You can count on the HYS dual-application strut for its versatility and test-verified performance.

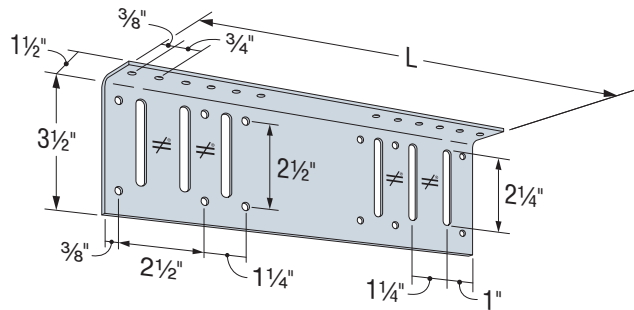
Features:

- Available in lengths of 12", 15", 24" and 30" (for 18" lengths, use SSB and FSB struts)
- Slots are positioned to minimize eccentric load and maximize capacity
- Slide application allows up to 1" of vertical moment in each direction when shouldered screws are used through the center of the slot
- Simpson Strong-Tie® No-Equal® stamps mark the center of the slots to help ensure correct placement of shouldered screws
- Supports gravity and lateral loads when using #10 screws through small predrilled holes

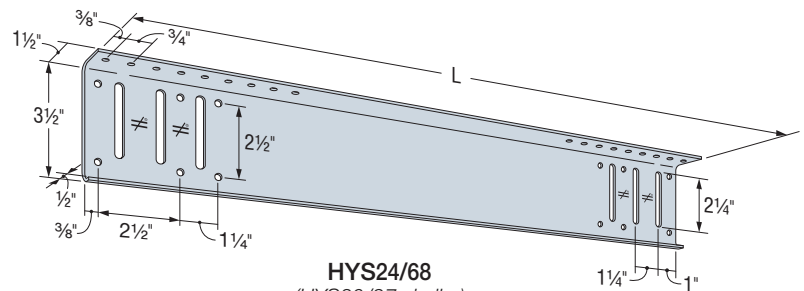
Material: HYS12/68, HYS15/68, HYS24/68 — 68 mil (14 ga.), 50 ksi
HYS30/97 — 97 mil (12 ga.), 40 ksi

Finish: Galvanized (G90)

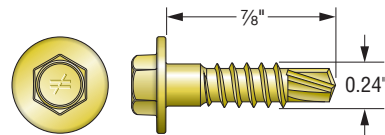
Codes: See p. 13 for Code Reference Key Chart



HYS12/68
(HYS15/68 similar)



HYS24/68
(HYS30/97 similar)



XLSH78B1414
#14 Shouldered Screw for Attachment to Stud Framing Slide Application
(included)

Ordering Information and Dimensions

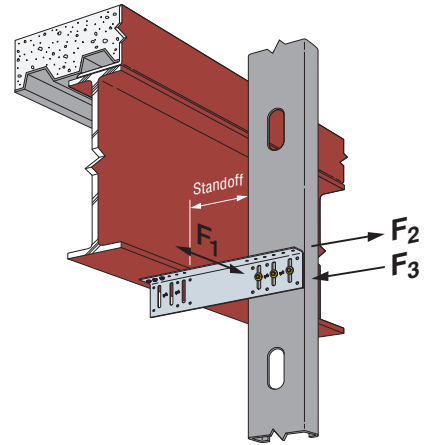
Model No.	Ordering SKU	Length (in.)	Connectors	Shoulder Screws
HYS12/68	HYS12/68-KT25	12	25	83
HYS15/68	HYS15/68-KT25	15	25	83
HYS24/68	HYS24/68-KT15	24	15	55
HYS30/97	HYS30/97-KT10	30	10	55

1. Replacement of additional shoulder screws for HYS connectors in slide application are XLSH78B1414-RP83.
2. Maximum offsets are for two or three fasteners to primary structure. For four fasteners, reduce by 3/4".

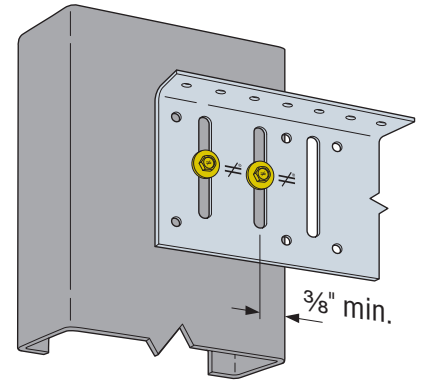
HYS Hybrid Strut

HYS Slide-Clip Allowable Loads (lb.)

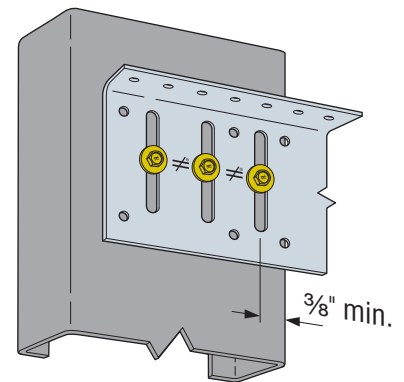
Model No.	Stud Thickness mil (ga.)	No. of #14 Shoulder Screws (Pattern)	Allowable Load (lb.)			Code Ref.		
			In-Plane Load F ₁	Tension Load F ₂	Comp. Load F ₃			
HYS12/68	33 (20)	2 (S1)	100	520	520			
		3 (S2)	100	815	815			
HYS15/68		2 (S1)	100	520	520			
		3 (S2)	100	815	815			
HYS24/68		2 (S1)	100	520	460			
		3 (S2)	100	815	690			
HYS30/97		2 (S1)	100	520	530			
		3 (S2)	100	815	795			
HYS12/68		43 (18)	2 (S1)	150	845		620	
			3 (S2)	150	1,285		1,260	
HYS15/68	2 (S1)		150	845	620			
	3 (S2)		150	1,285	1,260			
HYS24/68	2 (S1)		150	845	950			
	3 (S2)		150	1,285	1,420			
HYS30/97	2 (S1)		150	845	1,100			
	3 (S2)		150	1,285	1,640			
HYS12/68	54 (16)		2 (S1)	240	1,040	995		
			3 (S2)	240	1,585	1,550		
HYS15/68		2 (S1)	240	1,040	995			
		3 (S2)	240	1,585	1,550			
HYS24/68		2 (S1)	240	1,040	1,170			
		3 (S2)	240	1,585	1,755			
HYS30/97		2 (S1)	240	1,040	1,355			
		3 (S2)	240	1,585	2,020			
HYS12/68		68 (14)	2 (S1)	300	1,165	995		
			3 (S2)	300	1,775	1,550		
HYS15/68	2 (S1)		300	1,165	995			
	3 (S2)		300	1,775	1,550			
HYS24/68	2 (S1)		300	1,165	1,170			
	3 (S2)		300	1,775	1,755			
HYS30/97	2 (S1)		300	1,520	1,520			
	3 (S2)		300	2,265	2,265			



Typical HYS Slide-Clip Application



Slide Screw Pattern S1
(no screws required in small round holes in slide application)



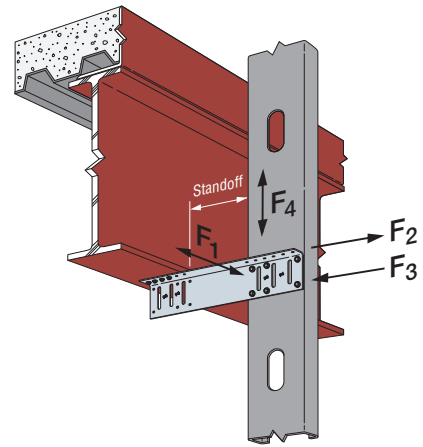
Slide Screw Pattern S2
(no screws required in small round holes in slide application)

- For additional important information, see General Information and Notes on p. 26.
- HYS Allowable Connector Loads are also limited by the HYS Anchorage Load table on p. 47. Use the minimum tabulated values from the connector and anchorage load tables as applicable.
- See illustrations on the side for fastener placement to stud framing.
- Tabulated F₁ loads are based on assembly tests with the load through the centerline of the stud. Tests are governed by fastener connections.

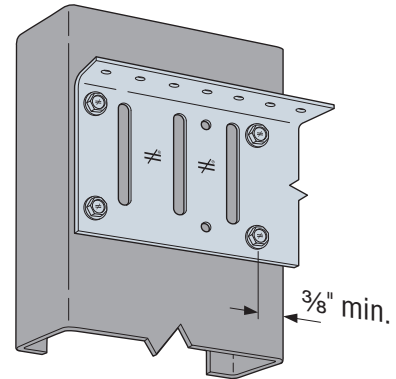
HYS Hybrid Strut

HYS Fixed-Clip Allowable Loads (lb.)

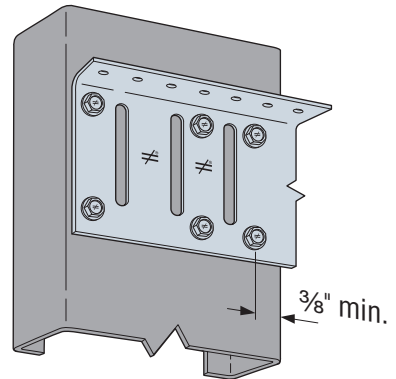
Model No.	Stud Thickness mil (ga.)	No. of #10 Screws (Pattern)	Allowable Load (lb.)				Code Ref.		
			In-Plane Load F ₁	Tension Load F ₂	Comp. Load F ₃	Shear Load F ₄			
HYS12/68	33 (20)	4 (R1)	100	705	705	365			
		6 (R2)	110	1,060	1,060	365			
HYS15/68		4 (R1)	100	705	705	340			
		6 (R2)	110	1,060	1,060	340			
HYS24/68		4 (R1)	100	705	705	140			
		6 (R2)	110	1,060	1,060	175			
HYS30/97		4 (R1)	100	705	705	135			
		6 (R2)	110	1,060	1,060	135			
HYS12/68		43 (18)	4 (R1)	125	1,040	1,050		525	
			6 (R2)	155	1,520	1,580		525	
HYS15/68			4 (R1)	125	1,040	1,050		445	
			6 (R2)	155	1,520	1,580		445	
HYS24/68	4 (R1)		115	1,040	1,050	180			
	6 (R2)		125	1,520	1,580	230			
HYS30/97	4 (R1)		115	1,045	1,050	175			
	6 (R2)		125	1,580	1,580	175			
HYS12/68	54 (16)		4 (R1)	145	2,110	1,800	560		
			6 (R2)	285	3,085	1,800	710		
HYS15/68			4 (R1)	145	2,110	2,135	560		
			6 (R2)	285	3,085	2,630	560		
HYS24/68		4 (R1)	150	2,110	2,135	225			
		6 (R2)	165	3,085	2,315	290			
HYS30/97		4 (R1)	150	2,125	2,135	220			
		6 (R2)	165	3,190	3,205	220			
HYS12/68		68 (14)	4 (R1)	195	2,110	1,800	550		
			6 (R2)	385	3,085	1,800	710		
HYS15/68			4 (R1)	195	2,110	2,160	560		
			6 (R2)	385	3,085	2,630	560		
HYS24/68	4 (R1)		190	2,110	2,160	225			
	6 (R2)		210	3,085	2,315	290			
HYS30/97	4 (R1)		190	2,125	2,160	220			
	6 (R2)		210	3,190	3,240	220			



Typical HYS Fixed-Clip Application



Fixed Screw Pattern R1
(no screws required in slot in fixed application)



Fixed Screw Pattern R2
(no screws required in slot in fixed application)

1. For additional important information, see General Information and Notes on p. 26.
2. HYS Allowable Connector Loads are also limited by the HYS Anchorage Load table on p. 47. Use the minimum tabulated values from the connector and anchorage load tables as applicable.
3. See illustrations on the side for screw fastener placement to stud framing.
4. Tabulated F₁ loads are based on assembly tests with the load through the centerline of the stud. Tests are governed by fastener connections.
5. XLSH78B1414 #14 shouldered screw may be used to replace #10 screws in a fixed application.
6. Minimum stud width for fixed application is 6".

HYS Hybrid Strut

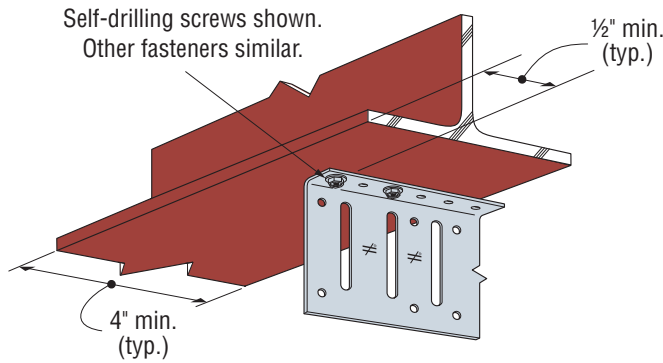
HYS Allowable Anchorage Loads (lb.)

Anchorage Type	No. of Anchors	Allowable Load (lb.)	
		F ₂ and F ₃	F ₄
#12-24 self-drilling screws	2	1,595	565
	3	2,395	845
	4	3,190	1,125
Simpson Strong-Tie® 0.157" x 5/8" powder-actuated fasteners PDPAT-62KP	2	820	—
	3	1,230	520
	4	1,640	780
Weld E70XX electrodes	Hard side: 2" Free side: 1"	2,455	1,125
	Hard side: 4" Free side: 1"	3,190	1,125

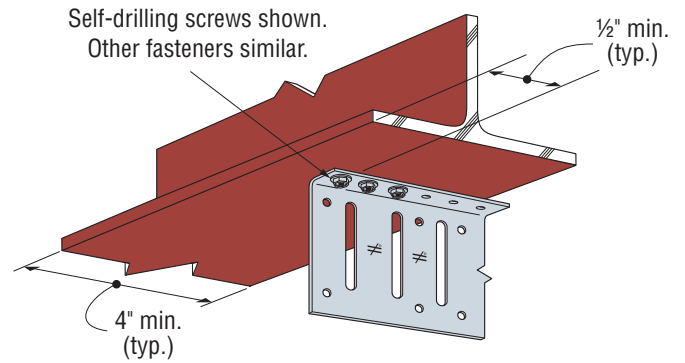
- For additional important information, see General Information and Notes on p. 26.
- Allowable loads are for the clip anchorage only. The capacity of the connection system will be the minimum of the tabulated value and the allowable load from the HYS Allowable Connector Loads on p. 45 for slide applications and p. 46 for fixed applications.

HYS Maximum Standoff Distances (in.)

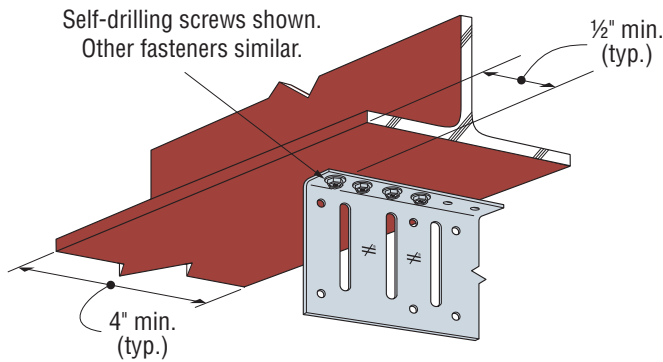
Model No.	Pattern	No. of Anchors	
		2 or 3	4
HYS12/68	S1	7	6¼
	S2	5¾	5
	R1 or R2	5½	4¾
HYS15/68	S1	10	9¼
	S2	8¾	8
	R1 or R2	8½	7¾
HYS24/68	S1	19	18¼
	S2	17¾	17
	R1 or R2	17½	16¾
HYS30/97	S1	25	24¼
	S2	23¾	23
	R1 or R2	23½	22¾



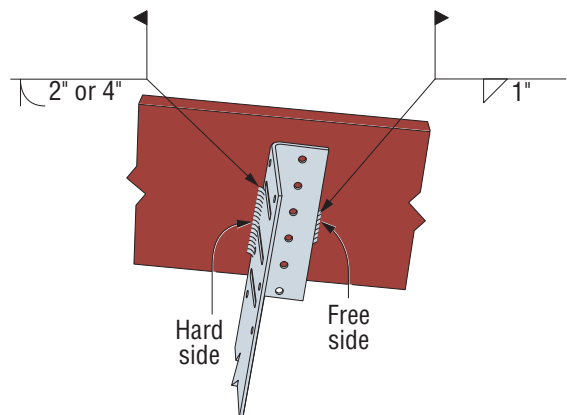
Two Anchors



Three Anchors



Four Anchors



Weld