

Code Evaluations

Most USP structural products listed in this catalog have been evaluated or are in the submittal stage for evaluation from one or more of the following code authorities listed in the chart shown on the right.

Other code agencies may require specific reductions and limitations and may have different load values than those presented in this catalog. USP recommends consulting specific code evaluation or product acceptance criteria reports that govern in the applicable area. Any questions about current code listings should be directed to the Technical Assistance staff. USP continuously updates code reports to reflect new standards and requirements. Visit USP's Web Site, www.USPconnectors.com/codereports.htm, or specific code agencies web sites for current listings.

Code Watch

"Code Watch" items are included to highlight some sections of the model building codes that discuss the use of products contained in this catalog. The user is strongly encouraged to consult with a qualified design professional to review the exact requirements of the relevant code references. Please note that not all code sections relating to the use of products contained in this catalog are included. In addition, some states and local municipalities have developed amendments to the referenced code section. Shown references are for the 2006 International Residential Code (IRC) and 2006 International Building Code (IBC).

Code Agency	Approval Listing	Code Ref.
SBC, UBC, NES Legacy Reports	2031C	L1
	ER-2039	L2
	ER-2725	L3
	ER-5321	L4
	NER-505	L5
	NER-530	L6
	NER-608	L8
ICC ESR	ESR-1178	1
	ESR-1280	2
	ESR-1702	4
	ESR-1781	5
	ESR-1881	6
	ESR-1970	7
	ESR-2104	8
	ESR-2685	9
	ESR-1831	10
	ESR-1465	11
	ESR-2761	12
ESR-2787	13	
IAPMO-ES ESR	ER-0200	20
LA City - City of Los Angeles, California	RR 25029	R2
	RR 25113	R4
	RR 25843	R5
	RR 25433	R8
	RR 25745	R9
	RR 25753	R10
	RR 25749	R12
	RR 25779	R13
RR 25836	R14	
Prescriptive Code	-- --	100
Submitted for Approval	Contact us for test data	110
No Load Capacity	-- --	120
No Code Listing	Contact us for test data	130

New products or updated product information are designated in **bold font**.

Code Agency	Approval Listing	Code Ref.	
State of Florida Product Approvals	FL565	F1	
	FL567	F2	
	FL568	F3	
	FL569	F4	
	FL570	F5	
	FL571	F6	
	FL574	F7	
	FL576	F8	
	FL578	F9	
	FL817	F12	
	FL820	F14	
	FL821	F15	
	FL822	F16	
	FL859	F17	
	FL9835	F18	
	FL10739	F19	
	FL11664	F20	
	FL1247	F22	
	FL2033	F23	
	FL4928	F24	
	FL5631	F25	
	FL6223	F26	
	FL11910	F27	
	FL11748	F28	
	FL13170	F29	
	FL13285	F30	
	Metro Dade - Dade County, Florida	NOA 04-1122.03	D1
		NOA 06-0921.05	D2
		NOA 07-0214.20	D3
		NOA 07-0306.06	D4
NOA 07-0306.10		D5	
NOA 07-0322.15		D6	
NOA 07-0419.01		D7	
NOA 07-1003.10		D8	
NOA 08-0111.09		D10	
NOA 08-0206.07		D11	
NOA 08-0303.06		D12	
NOA 08-0715.01		D13	

U.S. STANDARD STEEL GAUGE EQUIVALENTS IN NOMINAL DIMENSIONS

Gauge	Approximate Dimensions		Decimals (inches)		
	Inches	Millimeters	Uncoated Steel	Galvanized Steel (G90)	Triple Zinc (G-185)
3	1/4	6.0	0.238	--	--
7	3/16	4.5	0.171	0.186	--
10	9/64	3.4	0.129	0.138	0.140
11	1/8	3.0	0.114	0.123	0.125
12	7/64	2.7	0.099	0.108	0.110
14	5/64	2.0	0.070	0.078	0.080
16	1/16	1.5	0.055	0.063	0.065
18	3/64	1.2	0.044	0.052	0.054
20	1/32	1.0	0.033	0.040	0.042
22	1/32	0.8	0.029	0.033	0.036

*Actual steel dimensions will vary from nominal dimensions according to industry tolerances.

MAXIMUM SHEAR CAPACITY OF JOIST OR RAFTER

The table below indicates the calculated shear capacity of different dimensional lumber sizes for various wood species.

Wood Species	Allowable Shear on Bending Member ^{1,2,3}											
	Joist or Rafter											
	2 x 4			2 x 6			2 x 8			2 x 10		
	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%
DF-L	630	725	788	990	1139	1238	1305	1501	1631	1665	1915	2081
SP	613	704	766	963	1107	1203	1269	1459	1586	1619	1862	2023
S-P-F	473	544	590	743	854	928	979	1126	1223	1249	1436	1561
Hem Fir	525	604	656	825	949	1031	1088	1251	1359	1388	1596	1734

1) Applies to nominally dimensioned joists as listed, where moisture content < 19% and temperature < 100° F.

2) Loads apply to:

DF-L: Douglas Fir-Larch (G=0.50), Fv=180 psi;

SP: Southern Pine (G=0.55), Fv=175psi;

S-P-F: Spruce-Pine-Fir (G=0.42), Fv=135psi;

Hem Fir (G=0.43), Fv=150psi.

3) 115% and 125% loads are increased for short-term loading in accordance to the code.

ROOF PITCH

If common Rafter Roof Pitch is . . .

Rise / Run (inches)	Slope (degrees)
1/12	5
2/12	10
3/12	14
4/12	18
5/12	23
6/12	27
7/12	30
8/12	34
9/12	37
10/12	40
11/12	42
12/12	45

Then Hip/Valley Rafter Roof Pitch becomes . . .

Rise / Run (inches)	Slope (degrees)
1/17	3
2/17	7
3/17	10
4/17	13
5/17	16
6/17	19
7/17	22
8/17	25
9/17	28
10/17	30
11/17	33
12/17	35

Slope Conversion Table

Rise / Run (inches)	Slope (degrees)
0/12	Flat
1/12	5
2/12	10
3/12	14
4/12	18
5/12	23
6/12	27
7/12	30
8/12	34
9/12	37
10/12	40
11/12	42
12/12	45

1) Use this conversion table only for hip/valley rafters that are skewed 45° right or left. All other skews or dual pitch roofs will cause the slope to change from that listed above.

SPECIAL & CUSTOM CONNECTORS

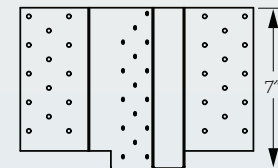
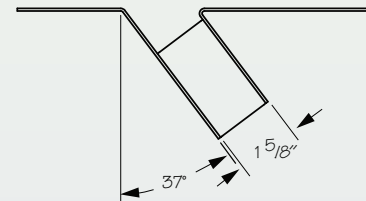
USP is committed to meeting every need you have and we understand that stock connectors will not meet all application or design requirements. Our Technical Assistance Representatives will work with you to develop and fabricate the Special or Custom connector you need.

What is the difference between a "Special" and a "Custom" connector?

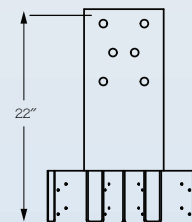
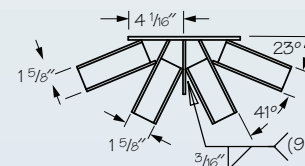
A "Special" is a stock USP connector that is modified within the limits listed in the Specialty Options chart.

A "Custom" is a connector that does not closely resemble a stock or special part offered in our catalog. Also, a "Custom" connector may be a stock connector that is modified outside of the limits listed in the Specialty Options charts or is not listed in the catalog as having a specialty option available. Product drawings must be provided by the customer and will be manufactured by USP in accordance to customer specifications.

A full range of shipping options are available from regular freight to overnight delivery.



Special Order detail



Custom Order detail