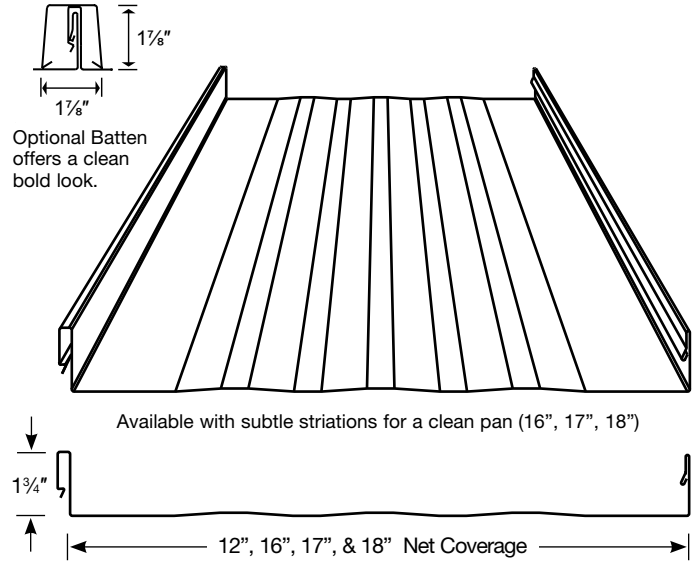


# Design Span<sup>®</sup> hp



**Design Span hp** is a performance-rated structural standing seam, concealed fastener metal roof system with net coverage of 12", 16", 17" and 18".

**Design Span hp** is excellent as a roof over metal or wood decking, and as a fascia or mansard over plywood or supports.



## Section Properties

Gage	Base Steel Thickness (in)	Yield (ksi)	Tensile (ksi)	Wt. (lbs/ft <sup>2</sup> )	I+ (in <sup>4</sup> /ft)	S+ (in <sup>3</sup> /ft)	I- (in <sup>3</sup> /ft)	S- (in <sup>3</sup> /ft)
<b>12" Design Span hp</b>								
24	0.0232	50	65	1.45	0.1185	0.0820	0.0762	0.0586
22	0.0294	50	65	1.83	0.1522	0.1081	0.0997	0.0771
<b>16" Design Span hp</b>								
24	0.0232	50	65	1.34	0.0943	0.0624	0.0593	0.0440
22	0.0294	50	65	1.68	0.1213	0.0825	0.0773	0.0580
<b>17" and 18" Design Span hp</b>								
24	0.0232	50	65	1.30	0.0858	0.0557	0.0533	0.0391
22	0.0294	50	65	1.63	0.1104	0.0737	0.0696	0.0515

**NOTE:** The hybrid positive moment of inertia, I, presented for determining deflection is:  $(2I_{\text{Effective}} + I_{\text{Gross}})/3$

## standard features

- Custom manufactured sheet lengths from 5'-0" to 45'-0."
- Subtle striations between ribs on 16" and wider panels.
- Offered in 12", 16" and 17" widths.
- Available in 22ga in standard finishes – refer to AEP Span Color Charts for full range of color options and paint systems.
- Recommended minimum slope of 3:12
- Tested in accordance with UL580 & ASTM E1592.
- Meets UL 90 wind uplift requirements.
- Has been tested for air infiltration per ASTM E1680, and water infiltration per ASTM E1646.
- Snap-together panel means no field seaming is required.

## optional features

- Short cut sheets from 5'-0" to 1'-0". Additional fees and lead times may apply.
- Longer lengths available from 70'0" (Tacoma, WA facility) to 100'0" (Fontana, CA facility). Additional fees and lead times may apply.
- Additional Batten option offers a clean bold look with the structural capacity and weather resistance of regular Design Span hp.
- Available with an 1 1/8" notch at both ends of each panel for the ease of turning under; reducing installation labor and costs (not available on 12" and 18" wide panels in Tacoma, WA).
- 18" width available. Additional fees and lead times may apply.



12" Design Span hp									
Gage	Span	Cond.	Allowable Inward Loads (lbs/ft <sup>2</sup> ) per Span (ft.-in.)						
			2-0	2-6	3-0	3-6	4-0	4-6	5-0
24	SS	f	397	256	179	132	101	80	64
		L/180	-	-	-	-	-	-	-
	DS	f	285	184	128	94	72	57	46
		L/180	-	-	-	-	-	-	-
	TS	f	353	228	160	118	90	71	58
		L/180	-	-	-	-	-	-	-
22	SS	f	527	340	236	174	133	106	85
		L/180	-	-	-	-	-	-	-
	DS	f	377	243	169	124	96	76	61
		L/180	-	-	-	-	-	-	-
	TS	f	469	302	211	156	119	94	76
		L/180	-	-	-	-	-	-	-

Gage	Allowable Outward Loads (lbs/ft <sup>2</sup> ) per Span (ft.-in.)								
	1-0	1-6	2-0	2-6	3-0	3-6	4-0	4-6	5-0
24	82	76	71	67	63	59	56	52	48
22	82	76	71	67	63	59	56	52	48

16" Design Span hp									
Gage	Span	Cond.	Allowable Inward Loads (lbs/ft <sup>2</sup> ) per Span (ft.-in.)						
			2-0	2-6	3-0	3-6	4-0	4-6	5-0
24	SS	f	302	195	136	100	77	61	49
		L/180	-	-	-	96	64	45	33
	DS	f	214	138	96	71	54	43	34
		L/180	-	-	-	-	-	-	-
	TS	f	265	171	119	88	67	53	43
		L/180	-	-	-	-	-	-	-
22	SS	f	402	259	181	132	102	81	65
		L/180	-	-	-	-	-	-	-
	DS	f	284	183	127	93	72	57	45
		L/180	-	-	-	-	-	-	-
	TS	f	352	228	158	117	90	70	57
		L/180	-	-	-	-	-	-	-

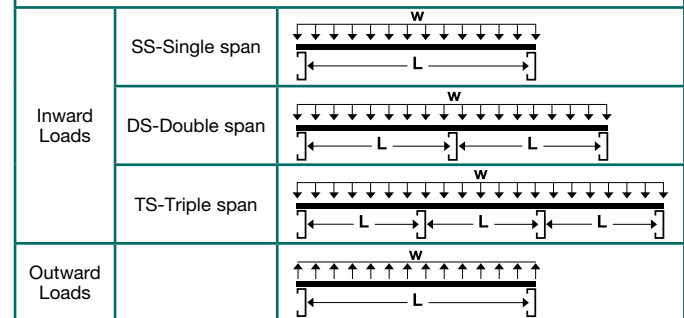
Gage	Allowable Outward Loads (lbs/ft <sup>2</sup> ) per Span (ft.-in.)								
	1-0	1-6	2-0	2-6	3-0	3-6	4-0	4-6	5-0
24	49	42	36	30	29	29	29	28	28
22	74	66	58	49	49	48	47	47	46

17" and 18" Design Span hp									
Gage	Span	Cond.	Allowable Inward Loads (lbs/ft <sup>2</sup> ) per Span (ft.-in.)						
			2-0	2-6	3-0	3-6	4-0	4-6	5-0
24	SS	f	269	174	121	90	68	54	43
		L/180	-	-	-	-	-	-	-
	DS	f	190	123	86	62	48	38	31
		L/180	-	-	-	-	-	-	-
	TS	f	236	152	107	78	60	47	38
		L/180	-	-	-	-	-	-	-
22	SS	f	359	231	161	119	91	71	58
		L/180	-	-	-	-	-	-	-
	DS	f	252	163	113	83	64	50	40
		L/180	-	-	-	-	-	-	-
	TS	f	313	201	141	103	79	63	51
		L/180	-	-	-	-	-	-	-

Gage	Allowable Outward Loads (lbs/ft <sup>2</sup> ) per Span (ft.-in.)								
	1-0	1-6	2-0	2-6	3-0	3-6	4-0	4-6	5-0
24	48	42	35	29	29	28	28	28	27
22	67	59	51	43	43	42	42	41	41

### LOADING TABLE LEGEND

f - Load limited by allowable stress  
 L - Span (Inches)  
 L/180 - Load limited by a deflection of 1/180 of the span  
 w - Distributed load



### NOTES:

- Top values based on allowable bending and shear stress. Bottom values based on allowable deflection of L/180.
- "-" denotes that the allowable deflection is limited by the allowable stress.
- Steel conforms to ASTM A792 (Zincalume) 50,000 psi minimum yield.
- Values are based on the American Iron and Steel Institute (AISI) "Cold Formed Steel Design Manual" (2007 Edition).
- Allowable outward loads are dependent upon fastener-to-substrate capacities. Maximum allowable outward loads are shown.

Specifications subject to change without notice.

### Oil Canning

All flat metal surfaces can display waviness commonly referred to as "oil canning". "Oil canning" is an inherent characteristic of steel products, not a defect, and therefore is not a cause for panel rejection.