



Note:  
Fy = 33 ksi

### Cellular Roof Deck Data Base

Product & Gage (T/B)	Wt (psf)	I <sub>p</sub> (in <sup>4</sup> )	I <sub>n</sub> (in <sup>4</sup> )	S <sub>p</sub> (in <sup>3</sup> )	S <sub>n</sub> (in <sup>3</sup> )	AS D			LRFD			Max. Single Span	Max. Multi Span	Max. Cant.	FM Span
						V (lbs)	R 2 (lbs)	R 4 (lbs)	V (lbs)	R 2 (lbs)	R 4 (lbs)				
Notes		1	1	1	1	6	2	4	6	2	4	7	8	9	10
BCS 20/20	3.5	0.38	0.30	0.30	0.31	1860	830	1350	2820	1270	2010	8'-9"	10'-4"	2'-2"	6'-6"
BCS 20/18	4.0	0.41	0.38	0.31	0.39	1860	830	1350	2820	1270	2010	9'-1"	10'-9"	2'-4"	6'-6"
BCS 18/20	4.5	0.52	0.38	0.45	0.40	2440	1390	2290	3710	2120	3410	10'-3"	12'-1"	2'-4"	7'-5"
BCS 18/18	5.0	0.56	0.45	0.46	0.47	2440	1390	2290	3710	2120	3410	10'-8"	12'-7"	2'-7"	7'-5"
BCS 18/16	5.5	0.60	0.65	0.47	0.55	2440	1390	2290	3710	2120	3410	11'-1"	13'-0"	3'-1"	7'-5"
BCS 16/18	5.5	0.71	0.54	0.64	0.56	3050	2120	3550	4640	3240	5270	12'-0"	14'-2"	2'-10"	9'-6"
BCS 16/16	6.0	0.77	0.70	0.65	0.68	3050	2120	3550	4640	3240	5270	12'-6"	14'-9"	3'-2"	9'-6"
NCS 20/20	4.5	1.45	1.28	0.60	0.71	3260	600	1200	4950	920	1780	16'-3"	17'-9"	4'-3"	12'-3"
NCS 20/18	5.0	1.58	1.51	0.60	0.86	3260	600	1200	4950	920	1780	16'-3"	19'-6"	4'-7"	12'-3"
NCS 18/20	5.0	1.97	1.62	0.88	0.88	4640	1020	2000	7050	1560	2980	19'-9"	19'-9"	4'-9"	14'-7"
NCS 18/18	5.5	2.13	1.87	0.90	1.04	4640	1020	2000	7050	1560	2980	20'-0"	21'-6"	5'-1"	14'-7"
NCS 18/16	6.0	2.28	2.30	0.91	1.28	4640	1020	2000	7050	1560	2980	20'-0"	23'-6"	5'-5"	14'-7"
NCS 16/18	6.5	2.74	2.23	1.24	1.22	5830	1560	3070	8850	2390	4560	22'-4"	23'-3"	5'-4"	16'-6"
NCS 16/16	7.0	2.94	2.63	1.26	1.46	5830	1560	3070	8850	2390	4560	22'-11"	25'-6"	5'-8"	16'-6"

### Deep Cellular Roof Deck Data Base

Product & Gage (T/B)	Wt (psf)	I <sub>p</sub> (in <sup>4</sup> )	I <sub>n</sub> (in <sup>4</sup> )	S <sub>p</sub> (in <sup>3</sup> )	S <sub>n</sub> (in <sup>3</sup> )	AS D				LRFD				Max. Single Span	Max. Multi Span	Max. Cant.
						V (lbs)	R 3 (lbs)	R 5e (lbs)	R 5i (lbs)	V (lbs)	R 3 (lbs)	R 5e (lbs)	R 5i (lbs)			
Notes		1	1	1	1	6	3	5e	5i	6	3	5e	5i	7	8	9
JCS 20/20	4.0	3.86	3.12	1.02	1.14	2000	440	520	860	3040	670	800	1280	21'-3"	22'-3"	6'-4"
JCS 20/18	4.5	4.16	3.65	1.01	1.44	2000	440	520	860	3040	670	800	1280	21'-3"	25'-0"	6'-6"
JCS 18/20	5.0	4.95	3.92	1.51	1.38	3840	740	880	1440	5840	1130	1350	2140	26'-0"	24'-6"	6'-10"
JCS 18/18	5.5	5.41	4.50	1.54	1.69	3840	740	880	1440	5840	1130	1350	2140	26'-0"		7'-3"
JCS 18/16	6.0	5.81	5.18	1.54	2.07	3840	740	880	1440	5840	1130	1350	2140	26'-0"		7'-7"
JCS 16/18	6.0	6.74	5.41	2.07	1.96	6020	1140	1350	2190	9140	1740	2060	3260	30'-2"		7'-8"
JCS 16/16	6.5	7.27	6.13	2.10	2.35	6020	1140	1350	2190	9140	1740	2060	3260	30'-6"		7'-11"
HC6S 18/20	5.5	9.74	7.50	2.51	2.03	3400	700	840	1430	5170	1070	1280	2120	33'-6"		8'-11"
HC6S 18/18	6.5	10.77	8.53	2.48	2.45	3400	700	840	1430	5170	1070	1280	2120	33'-0"		9'-3"
HC6S 18/16	7.0	11.74	9.74	2.46	2.94	3400	700	840	1430	5170	1070	1280	2120	33'-0"		9'-8"
HC6S 16/18	7.5	13.20	10.27	3.47	2.85	6110	1080	1290	2180	9290	1660	1970	3240	34'-0"		9'-9"
HC6S 16/16	8.0	14.27	11.54	3.54	3.36	6110	1080	1290	2180	9290	1660	1970	3240	34'-0"		10'-1"
HC7.5S 18/20	5.5	16.27	12.63	3.15	2.59	2680	670	800	1420	4070	1020	1220	2110	34'-0"		10'-4"
HC7.5S 18/18	6.5	17.99	14.09	3.13	3.23	2680	670	800	1420	4070	1020	1220	2110	34'-0"		10'-8"
HC7.5S 18/16	7.0	18.95	15.95	3.11	3.90	2680	670	800	1420	4070	1020	1220	2110	34'-0"		11'-1"
HC7.5S 16/18	8.0	21.54	16.98	4.62	3.84	5390	1040	1240	2170	8190	1590	1890	3230	34'-0"		11'-3"
HC7.5S 16/16	8.0	23.34	18.95	4.65	4.48	5390	1040	1240	2170	8190	1590	1890	3230	34'-0"		11'-7"

See Production Limits.

**CELLULAR DECK DATABASE NOTES:**

1. I<sub>p</sub>, I<sub>n</sub>, S<sub>p</sub> and S<sub>n</sub> are the section properties per foot of width. These values were calculated using the AISI Specifications. The subscripts denote positive or negative bending.
2. Allowable end reaction per foot of deck width with 2" bearing for ASD and the factored nominal reaction for LRFD.
3. Allowable end reaction per foot of deck width with 3" bearing for ASD and the factored nominal reaction for LRFD.
4. Allowable interior reaction per foot of deck width with 4" bearing for ASD and the factored nominal reaction for LRFD.
- 5e. Allowable end reaction per foot of deck width with 5" bearing for ASD and the factored nominal reaction for LRFD.
- 5i. Allowable interior reaction per foot of deck width with 5" bearing for ASD and the factored nominal reaction for LRFD.
6. Allowable vertical shear per foot of width for ASD and the factored nominal shear for LRFD. Do not confuse this with horizontal diaphragm shear strength.
7. Maximum recommended single span for roofs based on SDI and OSHA criteria and production limits.
8. Maximum recommended multi span for roofs based on SDI and OSHA criteria and production limits. The maximum production limit for JC deck is 45' and for HC6 & HC7.5 it is 34'. Unequal multi span conditions are possible.
9. Maximum recommended cantilever span based on SDI criteria. Values are sensitive to adjacent spans as they are controlled by deflection. For this table, adjacent spans are assumed to be at least 1.5 times greater than the cantilever span for long span deck and 2 times greater than the cantilever span for 1.5" and 3" cellular deck. Call if you need a more precise calculation.
10. Maximum spans for Factory Mutual Class 1 construction. Refer to the FM Approval Guide and FM 1-29 for fastening requirements and span restrictions at perimeter. Note that the same FM spans are also applicable to acoustic cellular decks (BCAS & NCAS).

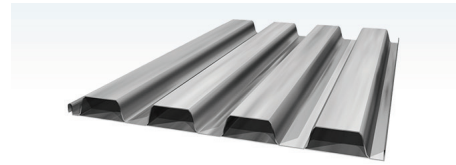
**GENERAL NOTES:**

- A. Cellular deck has flat side lap that allow screws or welds. Better side lap connections are obtained by screwing or welding through the flat side laps and this is the recommended type. Cosmetic concerns often required button punches. Fire ratings do not address cellular roof deck. Cellular products often are approved in floors.
- B. Stiffened liner panels are aesthetically pleasing and improve bottom side appearance by accenting lines and reducing visibility of spot welds. Designers should expect visible spot welds. Flat panel (stiffened rib not rolled in) is available on special request.
- C. Light gage cellular deck subjected to high concentrated loads may require additional spot welds to resist shear forces in the deck.
- D. Information not provided on this chart may be obtained from Canam Engineering offices.

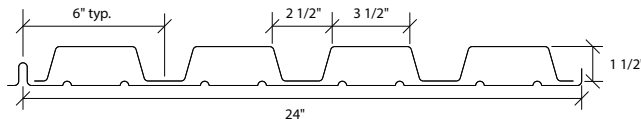
The tables on pages 14, 15, and 16 show the uniform loads for roof applications. If the deck is to be used with the flat side up, such as may be used on a mezzanine floor, ask for tables based on floor loading for the deck inverted; the side lap is modified for inverted applications.

# CELLULAR DATA BASE





Types BCS, BCAS



Note:  
Fy = 33 ksi

(Total Load, psf / Load Producing L/240 or 1", psf)

Span Type	Gage	Span												
		6'0"	6'6"	7'0"	7'6"	8'0"	8'6"	9'0"	9'6"	10'0"	10'6"	11'0"	11'6"	12'0"
SINGLE	20/20	111/116	95/91	82/73	71/59	63/49	55/41	49/34	44/29	40/25	36/22	33/19	30/16	28/14
	20/18	115/125	98/98	84/78	73/64	65/53	57/44	51/37	46/31	41/27	37/23	34/20	31/18	29/16
	18/20	167/158	142/124	122/100	107/81	94/67	83/56	74/47	66/40	60/34	54/29	50/26	45/22	42/20
	18/18	170/170	145/134	125/107	109/87	96/72	85/60	76/50	68/43	61/37	56/32	51/28	46/24	43/21
	18/16	174/182	148/143	128/115	111/93	98/77	87/64	77/54	69/46	63/39	57/34	52/30	47/26	44/23
	16/18	237/216	202/170	174/136	152/111	133/91	118/76	105/64	95/54	85/47	77/40	71/35	65/31	59/27
DOUBLE	16/16	241/234	205/184	177/147	154/120	135/99	120/82	107/69	96/59	87/51	79/44	72/38	66/33	60/29
	20/20	112/278	96/219	83/175	72/142	64/117	56/98	50/82	45/70	41/60	37/52	34/45	31/39	29/35
	20/18	139/300	119/236	103/189	90/154	79/127	70/106	63/89	57/76	51/65	47/56	42/49	39/43	36/38
	18/20	144/381	124/299	107/240	93/195	82/161	73/134	65/113	58/96	53/82	48/71	44/62	40/54	37/48
	18/18	168/410	144/322	125/258	109/210	96/173	85/144	76/121	68/103	62/89	56/76	51/67	47/58	43/51
	18/16	194/439	167/345	145/277	126/225	112/185	99/154	89/130	80/111	72/95	65/82	60/71	55/62	50/55
TRIPLE	16/18	201/520	172/409	149/327	130/266	115/219	102/183	91/154	82/131	74/112	67/97	61/84	56/74	51/65
	16/16	241/563	206/443	179/355	156/289	138/238	123/198	110/167	99/142	89/122	81/105	74/91	68/80	62/70
	20/20	138/218	118/171	103/137	90/111	79/92	70/77	63/64	56/55	51/47	46/41	42/35	39/31	36/27
	20/18	170/235	146/185	127/148	111/120	98/99	87/83	78/70	70/59	64/51	58/44	53/38	48/33	44/29
	18/20	179/298	153/234	132/188	116/152	102/126	91/105	81/88	73/75	66/64	60/56	54/48	50/42	46/37
	18/18	207/321	178/252	154/202	135/164	119/135	106/113	95/95	85/81	77/69	70/60	64/52	58/46	54/40
TRIPLE	18/16	238/344	205/270	178/216	156/176	138/145	123/121	110/102	99/87	89/74	81/64	74/56	68/49	63/43
	16/18	248/407	213/320	184/256	161/208	142/172	126/143	113/120	102/102	92/88	83/76	76/66	70/58	64/51
	16/16	295/441	254/347	220/278	193/226	171/186	152/155	136/131	122/111	111/95	101/82	92/72	84/63	77/55



(Total Load, psf / Load Producing L/240 or 1", psf)

Span Type	Gage	Span												
		6'0"	6'6"	7'0"	7'6"	8'0"	8'6"	9'0"	9'6"	10'0"	10'6"	11'0"	11'6"	12'0"
SINGLE	20/20	174/116	148/91	128/73	111/59	98/49	87/41	77/34	69/29	63/25	57/22	52/19	47/16	44/14
	20/18	180/125	153/98	132/78	115/64	101/53	90/44	80/37	72/31	65/27	59/23	54/20	49/18	45/16
	18/20	261/158	223/124	192/100	167/81	147/67	130/56	116/47	104/40	94/34	85/29	78/26	71/22	65/20
	18/18	267/170	228/134	196/107	171/87	150/72	133/60	119/50	107/43	96/37	87/32	79/28	73/24	67/21
	18/16	273/182	232/143	200/115	175/93	153/77	136/64	121/54	109/46	98/39	89/34	81/30	74/26	68/23
	16/18	372/216	317/170	273/136	238/111	209/91	185/76	165/64	148/54	134/47	121/40	111/35	101/31	93/27
DOUBLE	16/16	377/234	322/184	277/147	242/120	212/99	188/82	168/69	151/59	136/51	123/44	112/38	103/33	94/29
	20/20	175/278	150/219	130/175	113/142	100/117	88/98	79/82	71/70	64/60	58/52	53/45	49/39	45/35
	20/18	217/300	186/236	161/189	141/154	124/127	110/106	99/89	89/76	80/65	73/56	66/49	61/43	56/38
	18/20	226/381	193/299	167/240	146/195	129/161	114/134	102/113	92/96	83/82	75/71	69/62	63/54	58/48
	18/18	263/410	225/322	195/258	171/210	150/173	133/144	119/121	107/103	97/89	88/76	80/67	74/58	68/51
	18/16	304/439	261/345	226/277	198/225	175/185	155/154	139/130	125/111	113/95	103/82	94/71	86/62	79/55
TRIPLE	16/18	314/520	269/409	233/327	204/266	179/219	159/183	142/154	128/131	116/112	105/97	96/84	88/74	81/65
	16/16	376/563	323/443	280/355	245/289	216/238	192/198	172/167	154/142	140/122	127/105	116/91	106/80	97/70
	20/20	216/218	185/171	160/137	140/111	124/92	110/77	98/64	88/55	80/47	72/41	66/35	61/31	56/27
	20/18	266/235	229/185	199/148	174/120	154/99	137/83	122/70	110/59	100/51	91/44	83/38	76/33	70/29
	18/20	279/298	239/234	207/188	181/152	160/126	142/105	127/88	114/75	103/64	94/56	85/48	78/42	72/37
	18/18	324/321	278/252	241/202	211/164	186/135	165/113	148/95	133/81	120/69	109/60	100/52	91/46	84/40
TRIPLE	18/16	372/344	320/270	278/216	244/176	216/145	192/121	172/102	155/87	140/74	127/64	116/56	106/49	98/43
	16/18	388/407	332/320	288/256	252/208	222/172	198/143	177/120	159/102	144/88	131/76	119/66	109/58	100/51
	16/16	461/441	396/347	344/278	302/226	267/186	237/155	213/131	191/111	173/95	157/82	144/72	132/63	121/55



Presently the North American Specification (NAS) does not apply to "as manufactured" cellular deck. The method to determine cellular deck negative section properties is under study and the resultant method might appear in the first supplement to the 2007 edition of the NAS. This catalog maintains the previous 33 ksi section properties based on SDI research. The published load tables use Fy 33 ksi. The shear values and web crippling resistance conform to the NAS 2007 edition. The material is ordered as Fy 40 ksi. It is acceptable to neglect the bottom plate and to use the published value of the 40 ksi top element.

Because of production limitations and long spans, the tables for JCS, HC6S & HC7.5S are single span. HC6S & HC7.5S have production limits of 34 feet. NCS and JCS are limited to 40 feet. Multispans are possible but resultant lengths might be either impractical for shipping or job site handling or impossible due to production limits. The BCS & NCS tables include multispans conditions. The BCS & NCS tables are based on equal spans and uniform loads plus 4 inch bearing at interior supports. The long span uniform load tables use 3 inch exterior bearing. Preliminary selection can be done for unequal spans. Based on the longer span, use the lesser of the two span or three span values when spans are within 20%. Analysis is recommended for other cases or when the longest span is interior. Additional fasteners might be required to resist prying at short exterior spans.

# CELLULAR LOAD TABLES