



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).

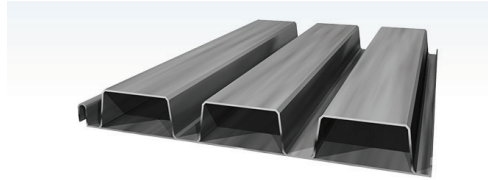
**GENERAL NOTES:**

- 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.

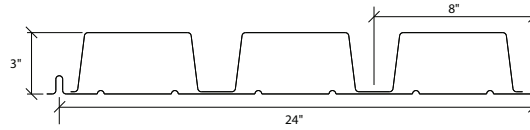
The tables on pages 14, 15, and 16 show the uniform loads for roof applications. If the deck is to be used with the flat side up, such as may be used on a mezzanine floor, ask for tables based on floor loading for the deck inverted; the side lap is modified for inverted applications.

# CELLULAR DATA BASE





Types NCS, NCAS



Note:  
Fy = 33 ksi

(Total Load, psf / Load Producing L/240 or 1", psf)														
Span Type	Gage	Span												
		10'0"	10'6"	11'0"	11'6"	12'0"	12'6"	13'0"	13'6"	14'0"	14'6"	15'0"	15'6"	16'0"
SINGLE	20/20	80/95	73/82	66/72	60/63	56/55	51/49	47/43	44/39	41/35	38/31	36/28	33/26	31/23
	20/18	80/104	73/90	66/78	60/68	56/60	51/53	47/47	44/42	41/38	38/34	36/31	33/28	31/25
	18/20	117/129	106/112	97/97	89/85	81/75	75/66	69/59	64/53	60/47	56/42	52/38	49/35	46/32
	18/18	120/140	109/121	99/105	91/92	83/81	77/72	71/64	66/57	61/51	57/46	53/41	50/38	47/34
	18/16	121/150	110/129	100/112	92/98	84/87	78/77	72/68	67/61	62/55	58/49	54/44	51/40	47/37
	16/18	165/180	150/155	137/135	125/118	115/104	106/92	98/82	91/73	84/66	79/59	73/53	69/48	65/44
DOUBLE	16/16	168/193	152/167	139/145	127/127	117/112	108/99	99/88	92/78	86/70	80/63	75/57	70/52	66/47
	20/20	93/229	85/198	77/172	71/151	65/133	60/117	55/104	51/93	48/84	45/75	42/68	39/62	37/56
	20/18	96/250	91/216	87/188	83/164	78/145	72/128	67/114	62/102	58/91	54/82	50/74	47/67	44/61
	18/20	116/311	105/269	96/234	88/205	81/180	75/159	69/142	64/127	59/113	55/102	52/92	49/84	46/76
	18/18	136/337	124/291	113/253	103/221	95/195	88/172	81/153	75/137	70/123	65/110	61/100	57/90	54/82
	18/16	160/360	151/311	138/271	127/237	116/209	107/185	99/164	92/146	86/131	80/118	75/107	70/97	66/88
TRIPLE	16/18	160/433	146/374	133/325	122/285	112/251	103/222	95/197	89/176	82/158	77/142	72/128	67/116	63/106
	16/16	191/465	173/401	158/349	145/306	133/269	123/238	114/212	106/189	98/169	92/152	86/138	80/125	75/113
	20/20	109/179	104/155	96/135	88/118	81/104	75/92	69/82	64/73	60/65	56/59	52/53	49/48	46/44
	20/18	109/195	104/169	99/147	95/129	91/113	87/100	83/89	77/79	72/71	67/64	63/58	59/52	55/48
	18/20	144/244	131/211	119/183	109/160	101/141	93/125	86/111	80/99	74/89	69/80	65/72	61/65	57/59
	18/18	169/263	154/228	140/198	129/173	118/152	109/135	101/120	94/107	87/96	81/86	76/78	71/71	67/64
18/16	182/282	173/244	165/212	157/185	144/163	133/144	123/128	115/115	107/103	100/93	93/84	87/76	82/69	
16/18	199/339	181/293	165/255	151/223	139/196	128/174	119/154	110/138	103/124	96/111	90/100	84/91	79/83	
16/16	236/364	215/314	196/273	180/239	165/210	153/186	141/166	131/148	122/133	114/119	107/108	100/98	94/89	



(Total Load, psf / Load Producing L/240 or 1", psf)														
Span Type	Gage	Span												
		10'0"	10'6"	11'0"	11'6"	12'0"	12'6"	13'0"	13'6"	14'0"	14'6"	15'0"	15'6"	16'0"
SINGLE	20/20	125/95	114/82	104/72	95/63	87/55	80/49	74/43	69/39	64/35	60/31	56/28	52/26	49/23
	20/18	125/104	114/90	104/78	95/68	87/60	80/53	74/47	69/42	64/38	60/34	56/31	52/28	49/25
	18/20	184/129	167/112	152/97	139/85	128/75	118/66	109/59	101/53	94/47	87/42	82/38	77/35	72/32
	18/18	188/140	171/121	155/105	142/92	131/81	120/72	111/64	103/57	96/51	89/46	84/41	78/38	73/34
	18/16	190/150	173/129	157/112	144/98	132/87	122/77	113/68	104/61	97/55	90/49	85/44	79/40	74/37
	16/18	259/180	235/155	214/135	196/118	180/104	166/92	153/82	142/73	132/66	123/59	115/53	108/48	101/44
DOUBLE	16/16	263/193	239/167	218/145	199/127	183/112	169/99	156/88	144/78	134/70	125/63	117/57	110/52	103/47
	20/20	142/229	133/198	121/172	111/151	102/133	94/117	87/104	81/93	75/84	70/75	65/68	61/62	58/56
	20/18	142/250	136/216	129/188	124/164	119/145	113/128	105/114	97/102	91/91	84/82	79/74	74/67	70/61
	18/20	182/311	165/269	150/234	138/205	127/180	117/159	108/142	100/127	93/113	87/102	81/92	76/84	71/76
	18/18	213/337	194/291	177/253	162/221	149/195	137/172	127/153	118/137	110/123	102/110	96/100	90/90	84/82
	18/16	238/360	227/311	216/271	198/237	182/209	168/185	156/164	145/146	135/131	126/118	117/107	110/97	103/88
TRIPLE	16/18	251/433	228/374	208/325	190/285	175/251	162/222	149/197	139/176	129/158	120/142	113/128	105/116	99/106
	16/16	298/465	271/401	247/349	227/306	209/269	192/238	178/212	165/189	154/169	144/152	134/138	126/125	118/113
	20/20	162/179	154/155	147/135	138/118	127/104	117/92	108/82	100/73	93/65	87/59	82/53	76/48	72/44
	20/18	162/195	154/169	147/147	141/129	135/113	125/100	116/89	108/79	100/71	93/64	87/58	82/52	77/48
	18/20	226/244	205/211	187/183	171/160	158/141	145/125	135/111	125/99	116/89	108/80	101/72	95/65	89/59
	18/18	265/263	241/228	220/198	201/173	185/152	171/135	158/120	147/107	137/96	128/86	119/78	112/71	105/64
18/16	271/282	258/244	246/212	225/185	206/163	190/144	176/128	163/115	152/103	141/93	132/84	124/76	116/69	
16/18	312/339	283/293	258/255	237/223	218/196	201/174	186/154	173/138	161/124	150/111	140/100	131/91	123/83	
16/16	369/364	336/314	307/273	281/239	259/210	239/186	221/166	206/148	191/133	179/119	167/108	157/98	147/89	



Yellow indicates areas where web crippling controls.

CELLULAR LOAD TABLES

