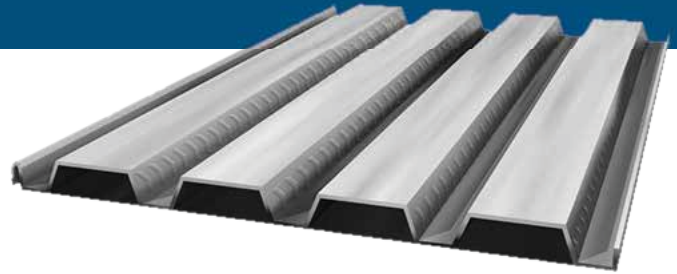




# 1.5" Cellular Floor Deck



## Cellular Deck brought to you by the Customer Service Leader

Cordeck is a full-service manufacturer and stocking distributor of corrugated steel deck, flashing & trim, and other building construction accessories. Cordeck's mission is to provide excellent customer service. This mission is the foundation for industry wide recognition as service leader for prompt, reliable deliveries, guaranteed quality, and large inventory of gauges and profiles. Cordeck's cellular floor deck provides an ideal solution for long spans, flat acoustical ceilings, canopies, and raceways. You can be certain of the product's total, maximum effectiveness, along with our ability to deliver the industry's highest quality, service, value, and customer satisfaction. Please contact us for further information. At Cordeck, we're devoted to our customers. We stand ready to earn, and keep, your full confidence and trust.

## Features and Benefits

The addition of the bottom plate increases the span and load carrying capabilities allowing for long spans.

**Prompt lead times** are our specialty. All orders are promptly produced and shipped to meet your on-site specifications.

**Project management and engineering services** are offered by Cordeck's full, expert, in-house engineering and detailing services to assure optimal planing and design. Our experienced engineers and technicians provide individual customer service and attention to detail from concept to completion.

**AutoCAD® drawings** can be transferred electronically for improved quality and reduced time and cost of drawing transmittal.

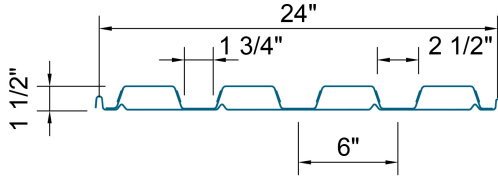
**Bundle Placement plans** are provided to ensure correct location of bundles during unloading and hoisting to steel framework.

**SDI Membership** by the manufacturer guarantees product quality in accordance to the Steel Deck Institute (SDI).

**On-spec, guaranteed quality.** Our production staff are true craftsmen, not just interested in getting the job done, but in doing it perfectly.

**Knowledgeable, courteous, caring employees throughout our ranks.** We're a "family business"...no "big corporate" attitude here! We genuinely appreciate our customers' patronage and trust, handling every order, regardless of size, with utmost care and attention.

# 1.5" Cellular Floor Deck



Gage	Design Thickness in	Fy ksi	Sp in <sup>3</sup>	Sn in <sup>3</sup>	Ip in <sup>4</sup>	In in <sup>4</sup>	As in <sup>2</sup>	Wd psf	Rb lb	ΦVn lb
20-20	0.0359 / 0.0359	50	0.277	0.411	0.252	0.325	1.06	3.6	3166	3840
18-20	0.0478 / 0.0359	40	0.589	0.442	0.514	0.396	1.26	4.3	4600	5040
18-18	0.0478 / 0.0478	40	0.440	0.566	0.421	0.467	1.41	4.8	5314	5040
16-18	0.0598 / 0.0478	40	0.546	0.785	0.700	0.700	1.47	5.0	3887	4840
16-16	0.0598 / 0.0598	40	0.726	0.734	0.917	0.954	1.64	5.6	3887	4840

Total D Slab Depth	Gage	Maximum Unshored Clear Spans			Composite Properties				Superimposed Live Loads - PSF: No Studs																
		Single Span	Double Span	Triple Span	Iavg in <sup>4</sup>	Sc in <sup>3</sup>	ΦMnf kip-ft	ΦMn0 kip-ft	ΦVnt kips	Span - Feet and Inches															
Wt. Conc.	Area Conc.													7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"
4" 36.2 psf 23.8 in <sup>2</sup>	20-20	7'-8"	10'-4"	10'-0"	6.22	2.33	113.8	98.8	4.43	400	400	400	400	400	400	381	343	310	281	255	233				
	18-20	10'-3"	10'-11"	11'-3"	6.79	2.73	108.7	92.6	4.43	400	400	400	400	400	397	355	319	288	261	237	216				
	18-18	8'-10"	11'-10"	11'-8"	7.43	3.16	121.5	107.5	4.43	400	400	400	400	400	400	375	339	307	280	255					
	16-18	10'-0"	13'-5"	13'-2"	7.76	3.44	121.5	107.5	4.43	400	400	400	400	400	400	400	375	339	307	280	255				
	16-16	10'-0"	12'-10"	12'-1"	7.71	3.52	132.6	119.6	4.43	400	400	400	400	400	400	400	400	400	380	344	314	287			
4-1/2" 43.2 psf 28.2 in <sup>2</sup>	20-20	7'-3"	9'-9"	9'-7"	8.61	2.77	136.1	117.9	5.25	400	400	400	400	400	400	400	400	400	371	336	306	279			
	18-20	9'-9"	10'-5"	10'-9"	9.36	3.24	129.9	110.1	5.25	400	400	400	400	400	400	400	400	400	380	343	311	283			
	18-18	8'-4"	11'-3"	11'-3"	10.22	3.75	145.5	127.5	5.25	400	400	400	400	400	400	400	400	400	400	400	366	333			
	16-18	9'-5"	12'-9"	12'-9"	10.66	4.08	145.5	127.5	5.25	400	400	400	400	400	400	400	400	400	400	400	400	366			
	16-16	9'-7"	12'-5"	11'-8"	10.71	4.23	162.5	143.9	5.25	400	400	400	400	400	400	400	400	400	400	400	400	400	379		
5" 49.2 33.0 in <sup>2</sup>	20-20	6'-11"	9'-4"	9'-2"	11.53	3.23	158.4	137.3	6.14	400	400	400	400	400	400	400	400	400	400	393	358	327			
	18-20	9'-5"	9'-11"	10'-3"	12.48	3.77	151.2	128.0	6.14	400	400	400	400	400	400	400	400	400	400	400	363	330			
	18-18	7'-11"	10'-8"	10'-10"	13.6	4.35	169.4	148.0	6.14	400	400	400	400	400	400	400	400	400	400	400	400	388			
	16-18	8'-11"	12'-1"	12'-3"	14.17	4.75	169.4	148.0	6.14	400	400	400	400	400	400	400	400	400	400	400	400	388			
	16-16	9'-3"	12'-1"	11'-4"	14.35	4.97	192.4	168.9	6.14	400	400	400	400	400	400	400	400	400	400	400	400	400	400		
5-1/2" 55.3 in <sup>2</sup> 38.1 in <sup>2</sup>	20-20	6'-7"	8'-11"	8'-10"	15.01	3.70	180.7	157.1	7.10	400	400	400	400	400	400	400	400	400	400	400	400	400			
	18-20	8'-11"	9'-6"	9'-10"	16.21	4.30	172.4	146.3	7.10	400	400	400	400	400	400	400	400	400	400	400	400	379			
	18-18	7'-7"	10'-3"	10'-4"	17.62	4.97	193.4	168.9	7.10	400	400	400	400	400	400	400	400	400	400	400	400	400			
	16-18	8'-6"	11'-7"	11'-9"	18.36	5.42	193.4	168.9	7.10	400	400	400	400	400	400	400	400	400	400	400	400	400			
	16-16	8'-10"	11'-9"	11'-0"	18.7	5.72	222.3	194.4	7.10	400	400	400	400	400	400	400	400	400	400	400	400	400			
6" 61.3 in <sup>2</sup> 43.6 in <sup>2</sup>	20-20	6'-4"	8'-7"	8'-7"	19.09	4.17	203.0	177.0	7.90	400	400	400	400	400	400	400	400	400	400	400	400	400			
	18-20	8'-7"	9'-2"	9'-5"	20.59	4.85	193.7	164.9	8.12	400	400	400	400	400	400	400	400	400	400	400	400	391			
	18-18	7'-3"	9'-10"	9'-11"	22.31	5.59	217.4	190.0	8.12	400	400	400	400	400	400	400	400	400	400	400	400	400			
	16-18	8'-2"	11'-2"	11'-3"	23.27	6.11	217.4	190.0	8.12	400	400	400	400	400	400	400	400	400	400	400	400	400			
	16-16	8'-6"	11'-6"	10'-8"	23.79	6.48	252.3	220.3	8.12	400	400	400	400	400	400	400	400	400	400	400	400	400			

## Product Information Design

- Cordeck certifies that our 1.5" Cellular Floor Deck has been evaluated in accordance with the applicable SDI Standards and property values for the Uniform Load Tables, and meets or exceeds SDI requirements.
- Load shown in tables is uniformly distributed total (dead plus live) load in psf (kPa). Loads in shaded areas are governed by live load deflection not in excess of L/240, the dead load included in 10 psf (0.478 kPa). All loads are governed by the allowable flexural stress limit of 20 ksi (140 Mpa) maximum yield steel. Where heavy construction loads or other unusual concentrated loads are anticipated during the lifetime of the deck, the specified live load must be increased to offset the effects of the abnormal concentrated load. See Maximum Spans for Construction and Maintenance Loads in the SDI Design Manual.
- The rib width limitations shown are taken at the theoretical intersection points of the flange and web projections. Depending on the radius used, the load table could vary from that shown.
- Span length assumes center to center spacing of supports. Tabulated loads shall not be increased by assuming clear span dimensions.
- The sectional properties for Cordeck 1.5" Cellular Floor Deck have been evaluated with the latest edition of the American Iron and Steel Institute (AISI) Specification for the Design of Cold-Formed Steel Structural Members.

# 1.5" Cellular Floor Deck

115 psf Light Weight Concrete																						
Total D Slab Depth	Gage	Maximum Unshored Clear Spans			Composite Properties					Superimposed Live Loads - PSF: No Studs												
		Single Span	Double Span	Triple Span	lavg in <sup>4</sup>	Sc in <sup>3</sup>	ΦMnf kip-ft	ΦMn0 kip-ft	ΦVnt kips	Span - Feet and Inches												
Wt. Conc.	Area Conc.																					
		7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"									
4" 29.5 psf 23.8 in <sup>2</sup>	20-20	8'-4"	11'-2"	10'-9"	5.16	2.22	113.8	94.1	4.43	400	400	400	400	400	400	367	331	299	272	248	226	
	18-20	11'-0"	11'-9"	12'-2"	5.67	2.60	108.7	88.3	4.43	400	400	400	400	400	382	342	308	279	253	230	210	
	18-18	9'-7"	12'-10"	12'-3"	6.17	3.01	121.5	102.2	4.43	400	400	400	400	400	400	400	361	326	296	270	247	
	16-18	10'-11"	14'-7"	13'-10"	6.47	3.27	121.5	102.2	4.43	400	400	400	400	400	400	400	361	326	296	270	247	
	16-16	10'-8"	13'-6"	12'-8"	6.37	3.31	132.6	112.5	4.43	400	400	400	400	400	400	400	399	361	328	299	273	
4-1/4" 31.8 psf 26.0 in <sup>2</sup>	20-20	7'-11"	10'-7"	10'-3"	7.15	2.65	136.1	112.7	5.25	400	400	400	400	400	400	364	329	299	273	249		
	18-20	10'-6"	11'-2"	11'-7"	7.80	3.09	129.9	105.2	5.25	400	400	400	400	400	376	338	306	277	253	231		
	18-18	9'-1"	12'-2"	11'-10"	8.50	3.58	145.5	121.7	5.25	400	400	400	400	400	400	395	358	325	296	271		
	16-18	10'-4"	13'-10"	13'-5"	8.88	3.89	145.5	121.7	5.25	400	400	400	400	400	400	395	358	325	296	271		
	16-16	10'-3"	13'-1"	12'-3"	8.86	4.00	162.5	136.0	5.25	400	400	400	400	400	400	400	399	363	331	303		
4-3/4" 36.6 psf 30.6 in <sup>2</sup>	20-20	7'-8"	10'-4"	10'-1"	8.31	2.88	147.2	122.2	5.69	400	400	400	400	400	400	400	391	355	323	296		
	18-20	10'-3"	11'-0"	11'-4"	9.04	3.35	140.5	113.8	5.69	400	400	400	400	400	400	400	361	328	299	273		
	18-18	8'-10"	11'-11"	11'-8"	9.84	3.87	157.5	131.7	5.69	400	400	400	400	400	400	400	400	384	350	320		
	16-18	10'-0"	13'-6"	13'-3"	10.27	4.21	157.5	131.7	5.69	400	400	400	400	400	400	400	400	400	384	350	320	
	16-16	10'-1"	12'-10"	12'-1"	10.30	4.35	177.5	148.0	5.69	400	400	400	400	400	400	400	400	400	400	396	363	
5" 39 psf 33.0 in <sup>2</sup>	20-20	7'-6"	10'-2"	9'-10"	9.58	3.10	158.4	131.8	6.14	400	400	400	400	400	400	400	400	400	383	349	319	
	18-20	10'-1"	10'-9"	11'-1"	10.40	3.61	151.2	122.7	6.14	400	400	400	400	400	400	400	400	390	354	322	295	
	18-18	8'-8"	11'-8"	11'-6"	11.32	4.17	169.4	141.7	6.14	400	400	400	400	400	400	400	400	400	400	377	345	
	16-18	9'-10"	13'-3"	13'-0"	11.81	4.53	169.4	141.7	6.14	400	400	400	400	400	400	400	400	400	400	400	377	345
	16-16	9'-10"	12'-8"	11'-11"	11.89	4.71	192.4	160.3	6.14	400	400	400	400	400	400	400	400	400	400	400	400	394
5-3/4" 46.2 psf 40.8 in <sup>2</sup>	20-20	7'-1"	9'-6"	9'-4"	14.08	3.79	191.8	161.0	7.60	400	400	400	400	400	400	400	400	400	400	400	400	392
	18-20	9'-7"	10'-2"	10'-6"	15.24	4.40	183.0	149.6	7.60	400	400	400	400	400	400	400	400	400	400	400	400	361
	18-18	8'-1"	10'-11"	11'-1"	16.54	5.07	205.4	172.5	7.60	400	400	400	400	400	400	400	400	400	400	400	400	400
	16-18	9'-2"	12'-5"	12'-7"	17.25	5.53	205.4	172.5	7.60	400	400	400	400	400	400	400	400	400	400	400	400	400
	16-16	9'-5"	12'-3"	11'-6"	17.54	5.82	237.3	197.8	7.60	400	400	400	400	400	400	400	400	400	400	400	400	400

6. Bending moment formulas used for flexural stress and deflection limitations in accordance with SDI are:

Design	Moment	Deflection
One Span	$M = fS = \frac{w \cdot L^2 \cdot 12}{8}$	$D_{max} = \frac{0.0130 \cdot w \cdot L^4 - 1728}{EI}$
Two Span	$M = fS = \frac{w \cdot L^2 \cdot 12}{8}$	$D_{max} = \frac{0.0054 \cdot w \cdot L^4 - 1728}{EI}$
Three Span	$M = fS = \frac{w \cdot L^2 \cdot 12}{10}$	$D_{max} = \frac{0.0069 \cdot w \cdot L^4 - 1728}{EI}$

W = psf (kPa) L = ft. (MPa) E = 29.5 x 10<sup>6</sup> psi (210,000 MPa) I = in<sup>4</sup>/ft. (mm<sup>4</sup>/m)

7. Cordeck guarantees that our 1.5" Cellular Floor Deck conforms to the Composite Steel Floor Deck Specifications of the Steel Deck Institute and the dimensional parameters established for the load table.

## Material

### 1. Prime Painted

- Cellular floor deck shall receive one coat of standard gray primer paint over cleaned and pretreated steel.

- The primer coat is intended to protect the steel for only a reasonably short period of exposure, in normal atmospheric conditions, and shall be considered an impermanent and provisional coating.
- Field painting of prime painted material is recommended especially where the deck is exposed.

### 2. Galvanized

- All steel shall be coated to conform to ASTM A924 G-60 or G-90 or to Federal Specification QQ-S-775.
- Galvanized finish in G-60 or G-90 coating is desirable in high moisture atmospheric conditions.
- Cordeck shall not be responsible for the cleaning of the underside of steel deck to ensure bond of fireproofing. Adherence of fireproofing material is dependent on many variables. The adhesion ability of fireproofing materials is the responsibility of the fireproofing applicator.

### 3. Accessories

- Cordeck can supply ridge and valley plates, cant strips, finish strips, sump pans, end and side closures, pour stops, deck plate, rubber cell closures, screws, and other accessories needed to complete the project.

# 1.5" Cellular Floor Deck

## SDI Member

1. All steel deck material is manufactured by SDI members or manufactured in accordance to SDI.
2. Cordeck certifies that all material will be in accordance with the SDI Cellular Deck Manual specifications.
3. Cordeck 1.5" Cellular Floor Deck conforms to all applicable SDI Cellular Deck Manual specifications.

## Installation

1. Cordeck Cellular Floor Deck shall be installed by qualified and experienced workers.
2. Cellular floor deck installation drawings shall be submitted to the project architect and engineer for approval prior to the manufacture of materials.
3. Cellular floor deck shall be placed in accordance with approved erection drawings.
4. Deck sheets shall be butted over supports.
5. End bearing: install deck ends over supports with a minimum end bearing of 1-1/2" or as indicated on erection drawings.
6. Each deck unit shall be placed on supporting steel framework and adjusted to final positions before permanently fastened. Do not use unfastened deck as a working platform or storage area.
7. Cutting of openings through the deck and all skew cutting shall be performed in the field. Openings not shown on the erection drawings such as those required for stack, conduits, plumbing, vents, etc., shall be cut, and reinforced if necessary, in accordance with SDI.

## Attachment

1. Cellular Floor Deck sheets shall be attached as soon as possible after placement. All sheets placed shall be attached prior to the end of each work day. Arc welding is the most commonly used method for attaching Cellular Floor Deck to structural supports. Welder shall immediately follow the placement crew.
2. All welds are to be made from the top of the deck down through the bottom flange of the ribs. Welds shall penetrate and attach all thicknesses of material to the structural supports.

3. Caution shall be exercised on the selection of the electrodes to provide positive attachment and to prevent high amperage blow holes.
4. Puddle welds shall be at least 5/8" diameter or elongated puddle welds with an equal perimeter. Fillet welds, when used, shall be at least 1" long.
  - a. 1.5" Cellular Floor Deck ends shall be welded to structural supports at 12" on center maximum and 18" on center maximum at intermediate supports or as indicated on erection drawings.
  - b. Various mechanical fastening systems other than welding are recognized as viable anchoring methods provided they are reviewed, approved, or specified by the project designer. These include but are not limited to power-activated or pneumatically driven fasteners and screws.
  - c. Sheet to sheet, side laps shall be fastened together at a maximum spacing of 36 inches on center and perimeter edges at a maximum intervals of 12" on center or as indicated on erection drawings.

Attachment must be determined by the designer as part of the overall building design process. Values given in this document are adequate in most cases.

## Storage and Handling

1. Protect steel deck from corrosion, deformation, and other damage during storage, handling, and installation.
2. Deck not promptly erected shall be stored off the ground, with one end elevated to provide drainage. Bundles must be protected against condensation with a ventilated waterproof covering. Deck should always be protected from snow and salt.
3. Bundles must be stacked so there is no danger of shifting or material damage. Bundles must be checked for tightness, and retightened as necessary.
4. Deck bundles on the building frame must always be placed near a main supporting beam, at a column, or a wall. In no case are the bundles to be placed on unbolted frames or on unattached and unbridged joists. The structural frame must be properly braced to receive the bundles.

"Whatever it takes"



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