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ESR-2839

Reissued 05/2018
This report is subject to renewal 05/2020.

DIVISION: 05 00 00—METALS
SECTION: 05 31 00—STEEL DECKING

REPORT HOLDER:

NEW MILLENNIUM BUILDING SYSTEMS, LLC

7575 WEST JEFFERSON BOULEVARD
FORT WAYNE, INDIANA 46804

EVALUATION SUBJECT:

NEW MILLENNIUM COMPOSITE FLOOR DECK PANELS: DEEP-DEK® COMPOSITE 4.5 AND 6; DEEP-DEK® COMPOSITE 4.5 AND 6 CELLULAR; AND DEEP-DEK® COMPOSITE 4.5 AND 6 CELLULAR ACOUSTICAL FLOOR DECK PANELS

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DIVISION: 05 00 00—METALS
Section: 05 31 00—Steel Decking

REPORT HOLDER:

NEW MILLENNIUM BUILDING SYSTEMS, LLC
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EVALUATION SUBJECT:

NEW MILLENNIUM COMPOSITE FLOOR DECK PANELS: DEEP-DEK® COMPOSITE 4.5 AND 6; DEEP-DEK® COMPOSITE 4.5 AND 6 CELLULAR; AND DEEP-DEK® COMPOSITE 4.5 AND 6 CELLULAR ACOUSTICAL FLOOR DECK PANELS

1.0 EVALUATION SCOPE

Compliance with the following code:

2012, 2009 and 2006 *International Building Code®* (IBC)

Property evaluated:

Structural

2.0 USES

The New Millennium Deep-Dek® Composite, Deep-Dek® Composite Cellular, and Deep-Dek® Composite Cellular Acoustical composite deck panels are used in conjunction with structural concrete topping as floor decks to support the code-required floor loads.

3.0 DESCRIPTION

3.1 General:

The New Millennium Deep-Dek® Composite, Deep-Dek® Composite Cellular, and Deep-Dek® Composite Cellular Acoustical composite deck panels are cold-formed from ASTM A653 SS Grade 50 steel sheets into panels with deck sections having a minimum G40 galvanization coating (total both surfaces). Some panels may have a paint coating over the galvanized surface as indicated in Section 4.4.2 of this report. Panel dimensions and profiles are as shown in the tables and figures of this report.

3.2 Deep-Dek® Composite 4.5 and 6 (DDC4.5 and DDC6) Panels:

The DDC4.5 and DDC6 deck panels are fluted sections as shown in Figure 1 and are available in design thicknesses ranging from No. 14 to No. 20 gage [0.0747 inch (1.90 mm) to 0.0358 inch (0.909 mm)]. The DDC4.5 and DDC6 deck panels are produced with closed ends to provide additional web crippling strength and a permanent deck end closure.

3.3 Deep-Dek® Composite 4.5 and 6 Cellular (DDC4.5C and DDC6C) Panels:

The DDC4.5C and DDC6C deck panels consist of fluted, hat sections that are factory-welded to pan/liner sections, as shown in Figure 1. The DDC4.5C and DDC6C panels are available with hat section design thicknesses ranging from No. 14 to No. 20 gage [0.0747 inch (1.90 mm) to 0.0358 inch (0.909 mm)] and liner section design thicknesses ranging from No. 14 to No. 20 gage [0.0747 inch (1.90 mm) to 0.0358 inch (0.909 mm)]. The DDC4.5C and DDC6C panel hat sections are produced with closed ends to provide additional web crippling strength and a permanent deck end closure.

3.4 Deep-Dek® Composite 4.5 and 6 Cellular Acoustical (DDC4.5CA and DDC6CA) Panels:

The DDC4.5CA and DDC6CA deck panels are the same as DDC4.5C and DDC6C Deep-Dek® Composite Cellular panels described in Section 3.3 above, except the pan/liner section of the panels is perforated with holes.

3.5 Concrete Fill Requirements for Composite Deck Panels:

The deck panels described in Sections 3.2 through 3.4 are designed to act compositely with normal-weight or lightweight concrete fill, incorporating rock or expanded shale aggregates, having a minimum 28-day compressive strength of 4,000 psi (27.5 MPa). Normal-weight structural concrete [w = 145 ± pcf (2323 kg/m^3)] must have fine and coarse aggregate conforming to ASTM C33; unless otherwise noted, lightweight concrete fill [w = 110 ± pcf (1762 kg/m^3)] must have fine aggregate conforming to ASTM C33 or ASTM C330 or a combination thereof and coarse aggregate conforming to ASTM C33 or ASTM C330. The concrete must extend a minimum of 2 inches (51 mm) above the top surface of the steel deck panel, and must be reinforced with minimum 6-by-6 W1.4-by-W1.4 steel welded-wire reinforcement complying with ASTM A185, placed at the approximate center of the concrete fill above the top surface of the steel deck. If fill in excess of $3^1/_4$ inches (82 mm) above the top surface of the steel deck is used, the concrete must be reinforced in each direction with steel of a cross-sectional area (in square inches per linear foot) equal to 0.01 times the depth of fill over the top of the deck panel.

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3.6 Welded Steel Headed Stud Anchors:

Welded steel headed stud anchors must be $^{3}/_{4}$ inch (19.1 mm) in diameter and have lengths complying with Figure 5. Steel headed stud anchors must conform to the requirements of the Structural Welding Code - Steel, AWS D1.1:2010 and have a minimum tensile strength of 65,000 psi (448 MPa).

4.0 DESIGN AND INSTALLATION

4.1 Tabulated Designs Values:

4.1.1 Section Properties: Deck panel section properties are provided in Table 1.

4.1.2 Support Reactions: Before concrete fill is applied, support reactions must not exceed the allowable reactions based on web crippling of the bare deck panels provided in Table 2.

4.1.3 Negative Moment Capacity: Maximum allowable negative moment capacities from negative reinforcement are provided in Table 3.

4.1.4 Superimposed Loads: Allowable superimposed loads are provided in Tables 4 through 27 for single and continuous slabs design.

4.1.5 Unshored Spans: Unshored deck panel spans are provided in Tables 4 through 27 which are based on the following:

- The dead load of the deck and the dead load of the concrete.
- A deck load deflection less than $^{1}/_{180}$ of the span length or $^{3}/_{4}$ inch (19.1 mm), whichever is smaller.
- A construction uniform live load of 20 psf (960 Pa) or a concentrated live load of 150 pounds (670 N), whichever produced the greatest effect.

4.1.6 Diaphragm Design:

4.1.6.1 Shear and Flexibility Factors: Allowable diaphragm shear values and flexibility factors for reinforced concrete slabs on deck panels with welded steel headed stud anchors are provided in Table 28.

4.1.6.2 Flexibility Limitations: Diaphragm span/depth limitations based on diaphragm flexibility must comply with Table 29.

4.1.6.3 Deflections: Diaphragm deflection (Δ) must be calculated using the equation noted in Table 29.

4.2 Installation:

4.2.1 General: The deck panels must be installed in accordance with this report and New Millennium's published installation guidelines and instructions. If there is a conflict between the manufacturer's published installation guidelines and instructions and this report, this report governs.

4.2.2 Concrete Fill Requirements: Concrete-filled, galvanized/painted deck panels must be installed with the galvanized deck panel face in contact with the concrete and the prime painted deck panel surface on the underside. The deck panel must be clean and free of foreign materials prior to placement of concrete. Individual deck panels must be attached at the side-lap using the proprietary New Millennium Dek-Lok™ HSL clinching tool at a maximum spacing of 18 inches on center.

5.0 CONDITIONS OF USE

The New Millennium steel floor deck panels described in this report comply with, or are suitable alternatives to what is specified in, the code indicated in Section 1.0 of this report, subject to the following conditions:

5.1 The deck panels are manufactured, identified and installed in accordance with this report and New Millennium's published installation guidelines and instructions. If there is a conflict between the manufacturer's published installation guidelines and instructions and this report, this report governs.

5.2 The design base-metal thicknesses for all steel deck panels are indicated in Table 1. The thickness delivered to the jobsite must be at least 95 percent of the thickness noted in the tables.

5.3 The minimum loads of IBC Section 1607 must be considered by the design professional based on the specific occupancy or use, as applicable.

5.4 Concrete-filled sections must not be used to support loads that are predominantly vibratory, such as loads generated by operation of heavy machinery, reciprocating motors and moving loads.

5.5 Special inspections must be provided in accordance with Chapter 17 of the IBC.

5.6 Calculations and details demonstrating that the loads applied to the decks comply with this report must be submitted to the code official for approval. Calculations and drawings must be prepared, signed, and sealed by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.7 The cellular deck panel hat sections and liner panels are welded together in Memphis, Tennessee under a quality program with regular ongoing inspections by ICC-ES.

The other deck panels are also fabricated in Memphis, Tennessee, under a quality program with annual inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Steel Deck Roof and Floor Systems (AC43), dated October 2010 (editorially revised September 2013).

7.0 IDENTIFICATION

Each bundle of the New Millenium steel deck panels described in this report is identified by a labeling bearing the manufacturer's name (New Millennium Building Systems, LLC); the deck panel profile name; the design thickness; the minimum specified yield strength; the cover width of the panel; and the evaluation report number (ESR-2839). The Deep-Dek® Composite steel deck panel labeling also includes the manufacturing location (MD—Memphis, Tennessee).

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TABLE NOTES

The notes below apply to all of the tables unless noted otherwise.

[1]The design thicknesses and cross-sectional properties for all deck panels are indicated in Table 1. The design thickness is the uncoated base-metal thickness of the deck panel.

[2]Arc spot (puddle) welds must have an effective fusion area to supporting members at least equivalent to $^3/_8$ inch by 1 inch long or $^1/_2$ inch in diameter.

[3]Puddle-weld patterns are shown in Figure 1.

[4]The Dek-Lok™ HSL side-lap attachment must be at a maximum of 18 inches on center.

[5]Where the closed ends of individual panels are removed for field cut conditions, the panel end web crippling strength should be checked for the design needs and reinforced if necessary.

[6]For **SI** dimensions: 1 inch = 25.4 mm; 1 plf = 14.6 N/m; 1 inch^2 = 645.16 mm^2; 1 inch^3 = 16.4 × 10^4 mm^3; 1 inch^4 = 41.6 × 10^4 mm^4; 1 psf = 4.88 kg/m^2; 1 pcf = 16.018 kg/m^3; 1 inch-kip = 0.113 kN-m; 1 kip = 4.448 kN; 1 ksi = 6.89 MPa; 1 foot = 304.8 mm.

TABLE 1—SECTION PROPERTIES

DECK PANEL	GAGE	BASE METAL DESIGN THICKNESS t (inches)	FULL MOMENT OF INTERIA[1] I_x (in^4/ ft width)	EFFECTIVE MOMENT OF INTERIA - NORMAL I_{on} (in^4/ ft width)	EFFECTIVE MOMENT OF INTERIA - INVERTED I_{oi} (in^4/ ft width)	EFFECTIVE SECTION MODULUS - NORMAL S_{en} (in^3/ ft width)	EFFECTIVE SECTION MODULUS - INVERTED S_{ei} (in^3/ ft width)	MOMENT OF INTERIA FOR DEFLECTIONS I_D	
								Simple Span (in^4/ ft width)	Multiple Span (in^4/ ft width)
Deep-Dek® Composite 4.5	20	0.0358	2.978	2.526	2.978	0.928	1.162	2.677	2.978
	18	0.0474	3.939	3.649	3.939	1.414	1.596	3.745	3.939
	16	0.0598	4.963	4.925	4.963	1.947	2.011	4.938	4.963
	14	0.0747	6.191	6.191	6.191	2.480	2.507	6.191	6.191
Deep-Dek® Composite 6	20	0.0358	5.747	4.925	5.629	1.240	1.667	5.199	5.668
	18	0.0474	7.601	7.055	7.601	2.068	2.358	7.237	7.601
	16	0.0598	9.579	9.494	9.579	2.878	2.971	9.522	9.579
	14	0.0747	11.950	11.950	11.950	3.675	3.705	11.950	11.950
Deep-Dek® Composite 4.5 Cellular	20/20	0.0358 / 0.0358	4.877	3.850	4.110	0.966	1.526	4.192	4.365
	20/18	0.0358 / 0.0474	5.268	4.070	4.658	0.973	1.588	4.469	4.861
	18/20	0.0474 / 0.0358	6.006	5.475	5.081	1.585	1.987	5.652	5.652
	18/18	0.0474 / 0.0474	6.481	5.890	5.684	1.587	2.055	6.087	6.087
	18/16	0.0474 / 0.0598	6.917	6.225	6.310	1.592	2.123	6.456	6.513
	16/18	0.0598 / 0.0474	7.696	7.517	6.743	2.324	2.548	7.577	7.577
	16/16	0.0598 / 0.0598	8.208	8.013	7.441	2.370	2.626	8.078	8.078
	16/14	0.0598 / 0.0747	8.749	8.537	8.195	2.378	2.708	8.607	8.607
	14/16	0.0747 / 0.0598	9.672	9.672	8.745	3.205	3.222	9.672	9.672
	14/14	0.0747 / 0.0747	10.301	10.301	9.582	3.266	3.319	10.301	10.301
Deep-Dek® Composite 6 Cellular	20/20	0.0358 / 0.0358	9.094	6.929	7.790	1.294	2.186	7.651	8.225
	20/18	0.0358 / 0.0474	9.810	7.293	8.723	1.300	2.268	8.132	9.085
	18/20	0.0474 / 0.0358	11.209	10.123	9.646	2.135	2.843	10.485	10.485
	18/18	0.0474 / 0.0474	12.073	10.689	10.679	2.136	2.936	11.151	11.151
	18/16	0.0474 / 0.0598	12.867	11.201	11.742	2.139	3.025	11.756	12.117
	16/18	0.0598 / 0.0474	14.348	14.050	12.699	3.218	3.641	14.150	14.150
	16/16	0.0598 / 0.0598	15.275	14.951	13.877	3.211	3.744	15.059	15.059
	16/14	0.0598 / 0.0747	16.254	15.823	15.224	3.209	3.852	15.967	15.967
	14/16	0.0747 / 0.0598	18.014	18.014	16.349	4.582	4.595	18.014	18.014
	14/14	0.0747 / 0.0747	19.148	19.148	17.827	4.668	4.723	19.148	19.148
Deep-Dek® Composite 4.5 Cellular Acoustical	20/20	0.0358 / 0.0358	4.745	3.775	4.112	0.964	1.526	4.099	4.323
	20/18	0.0358 / 0.0474	5.125	3.990	4.653	0.971	1.588	4.368	4.810
	18/20	0.0474 / 0.0358	5.850	5.338	5.085	1.584	1.987	5.509	5.509
	18/18	0.0474 / 0.0474	6.305	5.737	5.681	1.586	2.055	5.926	5.926
	18/16	0.0474 / 0.0598	6.728	6.090	6.294	1.590	2.122	6.303	6.439
	16/18	0.0598 / 0.0474	7.493	7.320	6.741	2.306	2.549	7.378	7.378
	16/16	0.0598 / 0.0598	7.984	7.796	7.426	2.350	2.625	7.859	7.859
	16/14	0.0598 / 0.0747	8.508	8.303	8.155	2.376	2.705	8.371	8.371
	14/16	0.0747 / 0.0598	9.415	9.415	8.731	3.179	3.221	9.415	9.415
	14/14	0.0747 / 0.0747	10.019	10.019	9.544	3.239	3.317	10.019	10.019
Deep-Dek® Composite 6 Cellular Acoustical	20/20	0.0358 / 0.0358	8.855	6.803	7.792	1.293	2.186	7.487	8.146
	20/18	0.0358 / 0.0474	9.548	7.161	8.711	1.298	2.267	7.957	8.990
	18/20	0.0474 / 0.0358	10.929	9.935	9.649	2.135	2.843	10.266	10.266
	18/18	0.0474 / 0.0474	11.755	10.481	10.669	2.135	2.936	10.906	11.031
	18/16	0.0474 / 0.0598	12.523	10.980	11.708	2.137	3.023	11.494	11.980
	16/18	0.0598 / 0.0474	13.983	13.696	12.690	3.222	3.641	13.791	13.791
	16/16	0.0598 / 0.0598	14.871	14.559	13.844	3.212	3.742	14.663	14.663
	16/14	0.0598 / 0.0747	15.817	15.478	15.146	3.209	3.848	15.591	15.591
	14/16	0.0747 / 0.0598	17.553	17.553	16.318	4.545	4.593	17.553	17.553
	14/14	0.0747 / 0.0747	18.639	18.639	17.750	4.630	4.719	18.639	18.639

Notes:

1 Effective properties are based on a yield stress of 50 ksi.

2 For the cellular deck panels, the first number is the design base metal thickness of the profiled deck panel and the second number is the design base metal thickness of the bottom flat sheet.

3 Under uniform loads:

- I_D for a simple span is permitted to be equal to $(I_x + 2*I_{on})/3$ or I_{on}.
- I_D for multiple spans is permitted to be equal to $(I_x + 2*I_{oi})/3$, $(I_x + 2*I_{on})/3$ or the minimum of I_{on} and I_{oi}.

TABLE 2—ALLOWABLE REACTIONS BASED ON WEB CRIPPLING, plf (ASD)[1,2,3]

DECK PANEL	GAGE	BASE METAL DESIGN THICKNESS t	BEARING LENGTH (inch)									
			2		3		4		5		6	
		(inches)	Interior	End	Interior	End	Interior	End	Interior	End	Interior	End
Deep-Dek® Composite 4.5	20	0.0358	-	1331	1162	1526	1272	1690	1368	1835	1456	1996
	18	0.0474	-	2266	1944	2581	2116	2847	2269	3081	2406	3292
	16	0.0598	-	3505	2973	3971	3224	4364	3446	4709	3646	5022
	14	0.0747	-	5311	4467	5985	4825	6552	5141	7052	5427	7504
Deep-Dek® Composite 6	20	0.0358	-	1250	1154	1433	1263	1588	1358	1724	1445	1846
	18	0.0474	-	2152	1931	2451	2103	2703	2254	2925	2391	3126
	16	0.0598	-	3353	2956	3799	3206	4174	3426	4505	3625	4804
	14	0.0747	-	5111	4445	5759	4801	6305	5115	6786	5399	7221
Deep-Dek® Composite 4.5 Cellular & Deep-Dek® Composite 4.5 Cellular Acoustical	20/20	0.0358 / 0.0358	-	1331	1162	1526	1272	1690	1368	1835	1456	1996
	20/18	0.0358 / 0.0474	-									
	18/20	0.0474 / 0.0358	-	2266	1944	2581	2116	2847	2269	3081	2406	3292
	18/18	0.0474 / 0.0474	-									
	18/16	0.0474 / 0.0598	-									
	16/18	0.0598 / 0.0474	-	3505	2973	3971	3224	4364	3446	4709	3646	5022
	16/16	0.0598 / 0.0598	-									
	16/14	0.0598 / 0.0747	-									
	14/16	0.0747 / 0.0598	-	5311	4467	5985	4825	6552	5141	7052	5427	7504
	14/14	0.0747 / 0.0747	-									
Deep-Dek® Composite 6 Cellular & Deep-Dek® Composite 6 Cellular Acoustical	20/20	0.0358 / 0.0358	-	1250	1154	1433	1263	1588	1358	1724	1445	1846
	20/18	0.0358 / 0.0474	-									
	18/20	0.0474 / 0.0358	-	2152	1931	2451	2103	2703	2254	2925	2391	3126
	18/18	0.0474 / 0.0474	-									
	18/16	0.0474 / 0.0598	-									
	16/18	0.0598 / 0.0474	-	3353	2956	3799	3206	4174	3426	4505	3625	4804
	16/16	0.0598 / 0.0598	-									
	16/14	0.0598 / 0.0747	-									
	14/16	0.0747 / 0.0598	-	5111	4445	5759	4801	6305	5115	6786	5399	7221
	14/14	0.0747 / 0.0747	-									

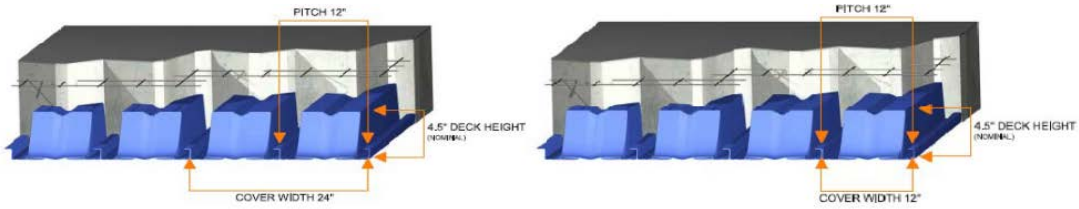
Notes:

1 Tabulated values based on a yield stress of 50 ksi and one-flange loading with fasteners at supports.

2 Support reactions must not be greater than the tabulated values.

3 For the cellular deck panels, the thickness of the top sheet (deck panel) is applicable.

TABLE 3A—MAXIMUM ALLOWABLE NEGATIVE MOMENT CAPACITY FROM NEGATIVE REINFORMENT, M_n/Ω (ASD) FOR: DEEP-DEK® COMPOSITE 4.5, DEEP-DEK® COMPOSITE 4.5 CELLULAR, AND DEEP-DEK® COMPOSITE 4.5 CELLULAR ACOUSTICAL



M_n/Ω (ASD), (kip-ft deck width)[1-4]				
REBAR (SIZE & SPACING)	**TOTAL SLAB THICKNESS, h (inch)**			
	7.625"	**8.625"**	**9.625"**	**10.625"**
#4 @ 12" o.c.	3.84	4.46	5.08	5.70
#4 @ 8" o.c.	5.55	6.48	7.41	8.34
#4 @ 6" o.c.	7.12	8.37	9.61	10.85
#5 @ 12" o.c.	5.65	6.62	7.58	8.54
#5 @ 8" o.c.	7.98	9.43	10.87	12.31
#5 @ 6" o.c.	8.19	10.79	13.72	15.76
#6 @ 12" o.c.	7.55	8.91	10.28	11.64
#6 @ 8" o.c.	8.06	10.65	13.58	16.47
#6 @ 6" o.c.	9.67	11.79	13.779	17.14
#7 @ 12" o.c.	7.87	10.43	13.24	15.10
#7 @ 8" o.c.	9.66	11.83	13.60	16.94
#7 @ 6" o.c.	11.04	13.93	16.83	19.73
#8 @ 12" o.c.	8.82	10.39	13.33	16.61
#8 @ 8" o.c.	10.80	13.66	16.52	19.38
#8 @ 6" o.c.	11.99	15.81	19.62	23.44
#9 @ 12" o.c.	9.89	12.31	14.72	16.57
#9 @ 8" o.c.	11.57	15.19	18.81	22.43
#9 @ 6" o.c.	12.36	17.18	22.01	26.84

Instructions on how to select a reinforcement pattern

Step 1 – Calculate required negative moment capacity, $M_{required}$, using the following equation:

$$M_{required} = \frac{(w_{D+L}+w_{slab})L^2}{C}$$

Where: w_{D+L}= total superimposed dead + live load, psf

w_{slab}= slab weight, psf

L = span length taken as the average of the adjacent span lengths (spans shall be approximately equal with the larger of two adjacent spans not greater than the shorter by more than 20 percent), ft

$M_{required}$= required negative moment capacity, lb-ft / ft deck width

1 kip-ft = 1000 lb-ft

C = negative bending coefficient

C = 8 for interior support of two span continuous composite slab;

C = 10 for first interior support of composite slab continous over more than two spans;

C = 11 for other interior supports of composite slab continous over more than two spans.

Step 2 – Select reinforcement size and spacing from table for the slab height where $M_n/\Omega \geq M_{required}$.

REBAR PROPERTIES

REBAR SIZE	**W_{rebar} (plf)**	**Area (in^2)**
#4	0.67	0.200
#5	1.04	0.310
#6	1.50	0.440
#7	2.04	0.600
#8	2.67	0.790
#9	3.40	1.000

Area = Nominal cross-section area of rebar

W_{rebar} = Weight of rebar

f'c = minimum concrete compressive strength = 4,000 psi

M_n = nominal negative moment capacity

Ω = ASD safety factor

M_n/Ω = Maximum allowable negative moment capacity considering the dead (D) + live (L) ASD load combination, refer to note 3.

NOTES:

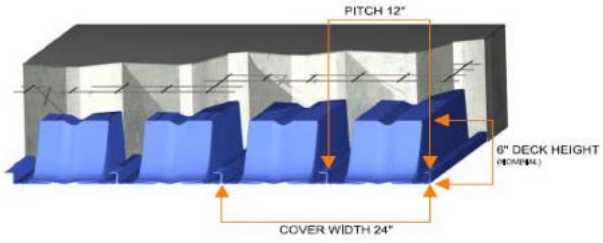
1.) Table assumes ¾-inch concrete cover for reinforcing steel over supports.

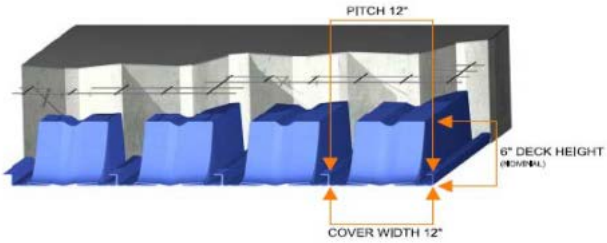
2.) Reinforcement design and placement must be in accordance with Chapter 19 of the IBC. Reinforcement must have a minimum yield strength (Fy) of 60 ksi.

3.) Self-weight of slab is not accounted for in M_n/Ω tabulated values. This must be accounted for in determining the required negative moment capacity, $M_{required}$.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

TABLE 3B—MAXIMUM ALLOWABLE NEGATIVE MOMENT CAPACITY FROM NEGATIVE REINFORMENT, M_n/Ω (ASD) FOR: DEEP-DEK® COMPOSITE 6, DEEP-DEK® COMPOSITE 6 CELLULAR, AND DEEP-DEK® COMPOSITE 6 CELLULAR ACOUSTICAL





M_n/Ω (ASD), (kip-ft deck width)[1-4]				
REBAR (SIZE & SPACING)	**TOTAL SLAB THICKNESS, h (inch)**			
	9.125"	**10.125"**	**11.125"**	**12.125"**
#4 @ 12" o.c.	4.76	5.38	6.00	6.63
#4 @ 8" o.c.	6.94	7.87	8.80	9.73
#4 @ 6" o.c.	8.97	10.21	11.45	12.69
#5 @ 12" o.c.	7.08	8.05	9.01	9.97
#5 @ 8" o.c.	10.12	11.57	13.01	14.45
#5 @ 6" o.c.	12.01	14.75	16.67	18.60
#6 @ 12" o.c.	9.57	10.94	12.30	13.67
#6 @ 8" o.c.	11.88	14.92	17.44	19.48
#6 @ 6" o.c.	12.02	15.16	18.63	22.42
#7 @ 12" o.c.	11.63	14.12	15.99	17.85
#7 @ 8" o.c.	12.84	14.97	18.42	22.20
#7 @ 6" o.c.	15.16	18.05	20.95	22.47
#8 @ 12" o.c.	11.62	14.68	18.07	21.78
#8 @ 8" o.c.	14.89	17.75	20.61	22.21
#8 @ 6" o.c.	16.63	20.45	24.26	28.07
#9 @ 12" o.c.	13.42	15.83	18.05	21.83
#9 @ 8" o.c.	16.12	19.74	23.36	26.98
#9 @ 6" o.c.	17.46	22.29	27.12	31.94

Instructions on how to select a reinforcement pattern

Step 1 – Calculate required negative moment capacity, $M_{required}$, using the following equation:

$$M_{required} = \frac{(w_{D+L}+w_{slab})L^2}{C}$$

Where: w_{D+L}= total superimposed dead + live load, psf

w_{slab}= slab weight, psf

L = span length taken as the average of the adjacent span lengths (spans shall be approximately equal with the larger of two adjacent spans not greater than the shorter by more than 20 percent), ft

$M_{required}$= required negative moment capacity, lb-ft / ft deck width

1 kip-ft = 1000 lb-ft

C = negative bending coefficient

C = 8 for interior support of two span continuous composite slab;

C = 10 for first interior support of composite slab continous over more than two spans;

C = 11 for other interior supports of composite slab continous over more than two spans.

Step 2 – Select reinforcement size and spacing from table for the slab height where $M_n/\Omega \geq M_{required}$.

REBAR PROPERTIES

REBAR SIZE	**W_{rebar} (plf)**	**Area (in^2)**
#4	0.67	0.200
#5	1.04	0.310
#6	1.50	0.440
#7	2.04	0.600
#8	2.67	0.790
#9	3.40	1.000

Area = Nominal cross-section area of rebar

W_{rebar} = Weight of rebar

f'c = minimum concrete compressive strength = 4,000 psi

M_n = nominal negative moment capacity

Ω = ASD safety factor

M_n/Ω = Maximum allowable negative moment capacity considering the dead (D) + live (L) ASD load combination, refer to note 3.

NOTES:

1.) Table assumes ¾-inch concrete cover for reinforcing steel over supports.

2.) Reinforcement design and placement must be in accordance with Chapter 19 of the IBC. Reinforcement must have a minimum yield strength (Fy) of 60 ksi.

3.) Self-weight of slab is not accounted for in M_n/Ω tabulated values. This must be accounted for in determining the required negative moment capacity, $M_{required}$.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

TABLE 4—DEEP-DEK® COMPOSITE 4.5

$4^{5}/_{8}$" high x 12" pitch x 12" wide

145 PCF CONCRETE		SINGLE SPAN SLAB DESIGN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (54.81 psf)				8.625" (66.89 psf)				9.625" (78.98 psf)				10.625" (91.06 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
16' - 0"	D+L (Strength)	120	212	210	288	143	253	226	324	166	293	400	352	189	334	400	400
	D+L (Deflection)	120	212	210	288	143	253	226	324	166	293	400	352	189	334	400	400
	L (Deflection)	120	212	210	288	143	253	226	324	166	293	400	352	189	334	400	400
17' - 0"	D+L (Strength)	108	196	254	240	128	234	323	354	149	272	391	400	170	310	400	400
	D+L (Deflection)	108	196	254	240	128	234	323	354	149	272	391	400	170	310	400	400
	L (Deflection)	108	196	254	240	128	234	323	354	149	272	391	400	170	310	400	400
18' - 0"	D+L (Strength)	97	183	218	241	116	218	278	306	135	253	349	383	149	289	400	400
	D+L (Deflection)	97	183	218	241	116	218	278	306	135	253	349	383	149	289	400	400
	L (Deflection)	97	183	218	241	116	218	278	306	135	253	349	383	149	289	400	400
19' - 0"	D+L (Strength)	89	165	188	209	106	204	240	265	123	237	302	333	135	270	373	400
	D+L (Deflection)	89	165	188	209	106	204	240	265	123	237	302	333	135	270	373	400
	L (Deflection)	89	165	188	209	106	204	240	265	123	237	302	333	135	270	373	400
20' - 0"	D+L (Strength)	81	145	163	181	96	186	208	230	108	222	263	290	123	253	325	358
	D+L (Deflection)	81	145	163	181	96	186	208	230	108	222	263	290	123	253	325	358
	L (Deflection)	81	145	163	181	96	186	208	230	108	222	263	290	123	253	325	358
21' - 0"	D+L (Strength)	74	124	141	157	88	160	180	200	99	204	228	253	112	238	283	313
	D+L (Deflection)	74	124	141	157	88	160	180	200	99	204	228	253	112	238	283	313
	L (Deflection)	74	124	141	157	88	160	180	200	99	204	228	253	112	238	283	313
22' - 0"	D+L (Strength)	68	107	121	136	81	138	156	174	86	176	199	221	102	220	247	275
	D+L (Deflection)	68	107	121	136	81	138	156	174	86	176	199	221	102	220	247	275
	L (Deflection)	68	107	121	136	81	138	156	174	86	176	199	221	102	220	247	275
23' - 0"	D+L (Strength)	63	91	105	118	58	119	135	152	71	152	173	193	84	191	216	241
	D+L (Deflection)	63	91	105	118	58	119	135	152	71	152	173	193	84	191	216	241
	L (Deflection)	63	91	105	118	58	119	135	152	71	152	173	193	84	191	216	241
24' - 0"	D+L (Strength)	58	78	90	102	47	102	117	132	58	131	150	169	69	166	189	211
	D+L (Deflection)	58	78	90	102	47	102	117	132	58	131	150	169	69	166	189	211
	L (Deflection)	58	78	90	102	47	102	117	132	58	131	150	169	69	166	189	211
25' - 0"	D+L (Strength)	53	66	77	88	38	87	101	114	46	113	130	147	55	143	164	185
	D+L (Deflection)	53	64	75	88	38	87	101	114	46	113	130	147	55	143	164	185
	L (Deflection)	53	64	75	88	38	87	101	114	46	113	130	147	55	143	164	185
26' - 0"	D+L (Strength)	44	56	66	76	29	74	86	99		97	112	128	43	124	143	162
	D+L (Deflection)	41	51	60	71	29	74	86	99		97	112	128	43	124	143	162
	L (Deflection)	41	51	60	71	29	74	86	99		97	112	128	43	124	143	162
27' - 0"	D+L (Strength)			55	65		62	74	85		82	97	111		106	124	141
	D+L (Deflection)			47	57		62	74	85		82	97	111		106	124	141
	L (Deflection)			47	57		62	74	85		82	97	111		106	124	141
28' - 0"	D+L (Strength)				55		51	62	73		69	82	96		90	107	123
	D+L (Deflection)				45		51	62	73		69	82	96		90	107	123
	L (Deflection)				45		51	62	73		69	82	96		90	107	123
29' - 0"	D+L (Strength)						42	52	62		57	70	82		76	91	106
	D+L (Deflection)						41	51	62		57	70	82		76	91	106
	L (Deflection)						41	51	62		57	70	82		76	91	106
30' - 0"	D+L (Strength)								51		47	58	69		39	77	91
	D+L (Deflection)								49		47	58	69		39	77	91
	L (Deflection)								49		47	58	69		39	77	91
31' - 0"	D+L (Strength)											48	58			65	78
	D+L (Deflection)											48	58			65	78
	L (Deflection)											48	58			65	78
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		14' - 7"	15' - 10"	16' - 11"	17' - 9"	13' - 11"	15' - 1"	16' - 1"	17' - 0"	13' - 4"	14' - 6"	15' - 6"	16' - 4"	12' - 6"	14' - 0"	15' - 0"	15' - 10"
1 row of shoring		13' - 1"	19' - 10"	21' - 1"	22' - 2"	11' - 4"	18' - 5"	20' - 1"	21' - 2"	10' - 0"	16' - 5"	19' - 4"	20' - 4"	8' - 11"	14' - 8"	18' - 5"	19' - 8"
2 rows of shoring		13' - 7"	-	-	-	11' - 9"	-	-	-	10' - 5"	-	-	-	9' - 3"	-	-	-
Cantilever		7' - 9"	9' - 1"	9' - 7"	10' - 1"	7' - 3"	8' - 8"	9' - 2"	9' - 8"	6' - 9"	8' - 2"	8' - 10"	9' - 3"	6' - 5"	7' - 9"	8' - 6"	9' - 0"
cy/100sf		1.40				1.71				2.02				2.33			

16'-0"	D+L (Strength)	120	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	120	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	120	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h Total height of concrete slab, inch

Wc Weight of concrete (neglecting deflection), psf

f'c 4,000 psi

D Uniform dead load, psf

L Uniform live load, psf

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.). The loads in these tables are based on a Simple Span Design Analysis.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

145 PCF CONCRETE

TABLE 5—DEEP-DEK® COMPOSITE 4.5

$4^{5}/_{8}$" high x 12" pitch x 12" wide

145 PCF CONCRETE		CONTINUOUS SLAB DESIGN - INTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (54.81 psf)				8.625" (66.89 psf)				9.625" (78.98 psf)				10.625" (91.06 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
20' - 0"	D+L (Strength)	114	226	335	400	136	270	400	400	152	313	400	400	173	357	400	400
	D+L (Deflection)	114	226	335	400	136	270	400	400	152	313	400	400	173	357	400	400
	L (Deflection)	114	226	335	400	136	270	400	400	152	313	400	400	173	357	400	400
21' - 0"	D+L (Strength)	105	213	318	384	125	254	380	400	139	295	400	400	158	336	400	400
	D+L (Deflection)	105	213	318	384	125	254	380	400	139	295	400	400	158	336	400	400
	L (Deflection)	105	213	314	346	125	254	380	400	139	295	400	400	158	336	400	400
22' - 0"	D+L (Strength)	96	201	303	344	115	239	361	400	127	278	400	400	145	317	400	400
	D+L (Deflection)	96	201	303	344	115	239	361	400	127	278	400	400	145	317	400	400
	L (Deflection)	96	201	273	301	115	239	361	400	127	278	400	400	145	317	400	400
23' - 0"	D+L (Strength)	89	190	281	308	101	227	345	390	117	263	400	400	133	300	400	400
	D+L (Deflection)	89	190	281	308	101	227	345	390	117	263	400	400	133	300	400	400
	L (Deflection)	89	190	239	263	101	227	340	373	117	263	400	400	133	300	400	400
24' - 0"	D+L (Strength)	82	180	252	277	93	215	320	351	108	249	383	400	123	284	400	400
	D+L (Deflection)	82	180	252	277	93	215	320	351	108	249	383	400	123	284	400	400
	L (Deflection)	82	180	211	232	93	215	299	328	108	249	383	400	123	284	400	400
25' - 0"	D+L (Strength)	76	171	227	250	86	204	289	317	100	237	361	396	113	270	400	400
	D+L (Deflection)	76	171	227	250	86	204	289	317	100	237	361	396	113	270	400	400
	L (Deflection)	76	170	186	205	86	204	265	291	100	237	361	396	113	270	400	400
26' - 0"	D+L (Strength)	71	163	205	226	80	194	261	287	92	226	327	359	105	257	400	400
	D+L (Deflection)	71	163	205	226	80	194	261	287	92	226	327	359	105	257	400	400
	L (Deflection)	71	151	166	182	80	194	235	258	92	226	323	354	105	257	400	400
27' - 0"	D+L (Strength)	62	155	185	205	74	185	236	260	86	215	296	325	97	245	365	400
	D+L (Deflection)	62	155	185	205	74	185	236	260	86	215	296	325	97	245	365	400
	L (Deflection)	62	135	148	163	74	185	210	231	86	215	288	316	97	245	365	400
28' - 0"	D+L (Strength)	58	148	167	185	69	177	214	236	80	205	269	296	86	234	331	364
	D+L (Deflection)	58	148	167	185	69	177	214	236	80	205	269	296	86	234	331	364
	L (Deflection)	58	121	133	146	69	172	188	207	80	205	258	283	86	234	331	364
29' - 0"	D+L (Strength)	54	135	151	168	64	169	194	214	74	197	244	269	80	224	301	332
	D+L (Deflection)	54	135	151	168	64	169	194	214	74	197	244	269	80	224	301	332
	L (Deflection)	54	109	119	131	64	154	169	186	74	197	233	255	80	224	301	332
30' - 0"	D+L (Strength)	50	121	137	152	60	156	175	194	69	188	222	245	74	205	274	303
	D+L (Deflection)	50	121	137	152	60	156	175	194	69	188	222	245	74	205	274	303
	L (Deflection)	50	98	108	119	60	140	153	168	69	188	210	230	74	205	274	303
31' - 0"	D+L (Strength)	47	109	124	138	56	141	159	177	64	179	201	223	69	188	250	277
	D+L (Deflection)	47	109	124	138	56	141	159	177	64	179	201	223	69	188	250	277
	L (Deflection)	47	89	98	108	56	126	139	152	64	174	190	209	69	188	250	277
32' - 0"	D+L (Strength)	44	99	112	125	52	128	144	161	56	162	183	204	64	172	228	253
	D+L (Deflection)	44	99	112	125	52	128	144	161	56	162	183	204	64	172	228	253
	L (Deflection)	44	81	89	98	52	115	126	139	56	158	173	190	64	172	228	253
33' - 0"	D+L (Strength)	41	89	101	114	48	115	131	146	52	134	166	186	59	158	208	231
	D+L (Deflection)	41	89	101	114	48	115	131	146	52	134	166	186	59	158	208	231
	L (Deflection)	41	74	81	89	48	105	115	126	52	134	158	173	59	158	208	230
34' - 0"	D+L (Strength)		80	91	103	45	104	118	133	49	123	151	169	55	144	189	211
	D+L (Deflection)		80	91	103	45	104	118	133	49	123	151	169	55	144	189	211
	L (Deflection)		67	74	82	45	96	105	115	49	123	144	158	55	144	189	211
35' - 0"	D+L (Strength)		71	82	93	42	93	107	121	45	113	137	154	51	132	173	193
	D+L (Deflection)		71	82	93	42	93	107	121	45	113	137	154	51	132	173	193
	L (Deflection)		62	68	75	42	88	96	106	45	113	132	145	51	132	173	193
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		14' - 7"	15' - 10"	16' - 11"	17' - 9"	13' - 11"	15' - 1"	16' - 1"	17' - 0"	13' - 4"	14' - 6"	15' - 6"	16' - 4"	12' - 6"	14' - 0"	15' - 0"	15' - 10"
1 row of shoring		13' - 1"	19' - 10"	21' - 1"	22' - 2"	11' - 4"	18' - 5"	20' - 1"	21' - 2"	10' - 0"	16' - 5"	19' - 4"	20' - 4"	8' - 11"	14' - 8"	18' - 5"	19' - 8"
2 rows of shoring		13' - 7"	-	-	-	11' - 9"	-	-	-	10' - 5"	-	-	-	9' - 3"	-	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	10' - 11"	-	-	-	9' - 9"	-	-	-
cy/100sf		1.40				1.71				2.02				2.33			

23'-0"	D+L (Strength)	89	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	89	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	89	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.0643wL^2$, D+L Deflection - $0.0054wL^4/EI$, L Deflection - $0.0063wL^4/EI$, Shear - $0.355wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumesspans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

145 PCF CONCRETE

TABLE 6—DEEP-DEK® COMPOSITE 4.5

$4^{5}/_{8}$" high x 12" pitch x 12" wide

145 PCF CONCRETE		CONTINUOUS SLAB DESIGN - EXTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (54.81 psf)				8.625" (66.89 psf)				9.625" (78.98 psf)				10.625" (91.06 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
20' - 0"	D+L (Strength)	79	167	230	253	93	199	292	320	103	231	350	400	117	263	399	400
	D+L (Deflection)	79	167	230	253	93	199	292	320	103	231	350	400	117	263	399	400
	L (Deflection)	79	167	214	236	93	199	292	320	103	231	350	400	117	263	399	400
21' - 0"	D+L (Strength)	71	156	202	223	85	186	257	283	93	216	323	354	106	246	378	400
	D+L (Deflection)	71	156	202	223	85	186	257	283	93	216	323	354	106	246	378	400
	L (Deflection)	71	156	185	204	85	186	257	283	93	216	323	354	106	246	378	400
22' - 0"	D+L (Strength)	65	147	178	197	77	175	227	250	84	203	285	314	95	231	352	386
	D+L (Deflection)	65	147	178	197	77	175	227	250	84	203	285	314	95	231	352	386
	L (Deflection)	65	146	161	177	77	175	227	250	84	203	285	314	95	231	352	386
23' - 0"	D+L (Strength)	59	138	157	175	65	165	201	222	76	191	253	279	86	218	313	344
	D+L (Deflection)	59	138	157	175	65	165	201	222	76	191	253	279	86	218	313	344
	L (Deflection)	59	128	141	155	65	165	200	220	76	191	253	279	86	218	313	344
24' - 0"	D+L (Strength)	54	124	139	155	59	156	178	197	68	181	225	248	78	205	278	307
	D+L (Deflection)	54	124	139	155	59	156	178	197	68	181	225	248	78	205	278	307
	L (Deflection)	54	113	124	136	59	156	176	193	68	181	225	248	78	205	278	307
25' - 0"	D+L (Strength)	49	109	123	137	54	140	158	175	62	171	200	221	70	194	248	274
	D+L (Deflection)	49	109	123	137	54	140	158	175	62	171	200	221	70	194	248	274
	L (Deflection)	49	100	110	121	54	140	156	171	62	171	200	221	70	194	248	274
26' - 0"	D+L (Strength)	45	95	109	122	49	124	140	156	56	157	178	197	64	184	221	245
	D+L (Deflection)	45	95	109	122	49	124	140	156	56	157	178	197	64	184	221	245
	L (Deflection)	45	89	98	107	49	124	138	152	56	157	178	197	64	184	221	245
27' - 0"	D+L (Strength)		84	96	108	44	109	124	139	51	139	158	176	58	175	197	220
	D+L (Deflection)		83	95	108	44	109	124	139	51	139	158	176	58	175	197	220
	L (Deflection)		79	87	96	44	109	124	136	51	139	158	176	58	175	197	220
28' - 0"	D+L (Strength)		73	84	95	40	96	109	123	46	123	140	157	49	155	176	197
	D+L (Deflection)		69	80	92	40	96	109	123	46	123	140	157	49	155	176	197
	L (Deflection)		69	78	86	40	96	109	122	46	123	140	157	49	155	176	197
29' - 0"	D+L (Strength)		64	74	84		84	97	109	41	108	124	140	44	137	157	176
	D+L (Deflection)		58	67	78		84	97	109	41	108	124	140	44	137	157	176
	L (Deflection)		58	67	77		84	97	109	41	108	124	140	44	137	157	176
30' - 0"	D+L (Strength)		55	65	74		73	85	97		95	110	125		79	139	157
	D+L (Deflection)		48	56	66		73	85	97		95	110	125		79	139	157
	L (Deflection)		48	56	66		73	85	97		95	110	125		79	139	157
31' - 0"	D+L (Strength)			56	65		63	74	85		83	97	111		68	124	140
	D+L (Deflection)			47	55		63	74	85		83	97	111		68	124	140
	L (Deflection)			47	55		63	74	85		83	97	111		68	124	140
32' - 0"	D+L (Strength)				57		55	65	75		72	85	98		58	109	125
	D+L (Deflection)				46		55	64	75		72	85	98		58	109	125
	L (Deflection)				46		55	64	75		72	85	98		58	109	125
33' - 0"	D+L (Strength)						47	56	66		40	74	86		49	96	111
	D+L (Deflection)						45	54	64		40	74	86		49	96	111
	L (Deflection)						45	54	64		40	74	86		49	96	111
34' - 0"	D+L (Strength)							48	57			65	76		40	85	98
	D+L (Deflection)							44	53			65	76		40	85	98
	L (Deflection)							44	53			65	76		40	85	98
35' - 0"	D+L (Strength)								49			56	66			74	86
	D+L (Deflection)								44			56	66			74	86
	L (Deflection)								44			56	66			74	86
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		14' - 7"	15' - 10"	16' - 11"	17' - 9"	13' - 11"	15' - 1"	16' - 1"	17' - 0"	13' - 4"	14' - 6"	15' - 6"	16' - 4"	12' - 6"	14' - 0"	15' - 0"	15' - 10"
1 row of shoring		13' - 1"	19' - 10"	21' - 1"	22' - 2"	11' - 4"	18' - 5"	20' - 1"	21' - 2"	10' - 0"	16' - 5"	19' - 4"	20' - 4"	8' - 11"	14' - 8"	18' - 5"	19' - 8"
2 rows of shoring		13' - 7"	-	-	-	11' - 9"	-	-	-	10' - 5"	-	-	-	9' - 3"	-	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	10' - 11"	-	-	-	9' - 9"	-	-	-
Cantilever		7' - 9"	9' - 1"	9' - 7"	10' - 1"	7' - 3"	8' - 8"	9' - 2"	9' - 8"	6' - 9"	8' - 2"	8' - 10"	9' - 3"	6' - 5"	7' - 9"	8' - 6"	9' - 0"
cy/100sf		1.40				1.71				2.02				2.33			

23'-0"	D+L (Strength)	59	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	59	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	59	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - 0.10wL2, D+L Deflection - 0.0099wL4/ EI, L Deflection - 0.0107wL4/ EI, Shear - 0.45wL.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumesspans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

145 PCF CONCRETE

TABLE 7—DEEP-DEK® COMPOSITE 4.5

$4^{5}/_{8}$" high x 12" pitch x 12" wide

110 PCF CONCRETE		SINGLE SPAN SLAB DESIGN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (41.58 psf)				8.625" (50.75 psf)				9.625" (59.91 psf)				10.625" (69.08 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
16' - 0"	D+L (Strength)	123	158	227	298	147	168	257	346	171	299	282	391	195	340	298	400
	D+L (Deflection)	123	158	227	298	147	168	257	346	171	299	282	391	195	340	298	400
	L (Deflection)	123	158	227	298	147	168	257	346	171	299	282	391	195	340	298	400
17' - 0"	D+L (Strength)	111	200	190	252	133	239	211	290	154	277	396	323	176	316	400	400
	D+L (Deflection)	111	200	190	252	133	239	211	290	154	277	396	323	176	316	400	400
	L (Deflection)	111	200	190	252	133	239	211	290	154	277	396	323	176	316	400	400
18' - 0"	D+L (Strength)	101	183	226	215	121	223	289	243	140	259	360	400	159	295	400	400
	D+L (Deflection)	101	183	226	215	121	223	289	243	140	259	360	400	159	295	400	400
	L (Deflection)	101	173	192	213	121	223	271	243	140	259	360	400	159	295	400	400
19' - 0"	D+L (Strength)	92	162	200	245	110	208	256	313	128	242	320	389	146	276	392	400
	D+L (Deflection)	92	162	198	223	110	208	256	313	128	242	320	389	146	276	392	400
	L (Deflection)	92	147	163	181	110	208	231	255	128	242	316	348	146	276	392	400
20' - 0"	D+L (Strength)	85	143	177	218	101	186	228	279	117	228	286	348	133	259	351	400
	D+L (Deflection)	85	143	163	185	101	186	228	271	117	228	286	348	133	259	351	400
	L (Deflection)	85	126	140	155	101	179	198	219	117	228	271	299	133	259	351	397
21' - 0"	D+L (Strength)	78	127	157	194	93	166	204	249	108	212	257	313	123	244	317	384
	D+L (Deflection)	78	118	135	153	93	166	200	226	108	212	257	313	123	244	317	384
	L (Deflection)	78	109	121	134	93	154	171	189	108	212	234	258	123	244	311	343
22' - 0"	D+L (Strength)	72	113	140	174	86	149	183	224	100	192	232	282	113	231	287	347
	D+L (Deflection)	72	96	111	127	86	147	167	189	100	192	232	270	113	231	287	347
	L (Deflection)	72	95	105	117	86	134	149	164	100	184	203	224	113	231	270	298
23' - 0"	D+L (Strength)	67	101	126	156	80	134	164	202	92	173	210	256	101	218	260	316
	D+L (Deflection)	66	79	91	105	80	121	139	158	92	173	202	228	101	218	260	316
	L (Deflection)	66	79	91	102	80	118	130	144	92	161	178	196	101	214	237	261
24' - 0"	D+L (Strength)	62	90	113	140	74	121	148	183	86	158	190	232	87	199	237	286
	D+L (Deflection)	52	64	75	87	74	100	116	133	86	149	170	193	87	199	237	269
	L (Deflection)	52	64	75	87	74	100	114	127	86	142	157	173	87	189	208	230
25' - 0"	D+L (Strength)	58	81	101	127	69	109	134	165	61	143	173	208	74	183	217	257
	D+L (Deflection)	41	51	61	71	68	82	96	111	61	124	143	163	74	177	202	229
	L (Deflection)	41	51	61	71	68	82	96	111	61	124	139	153	74	167	184	203
26' - 0"	D+L (Strength)		73	91	114	64	99	122	147	52	131	158	186	62	168	199	230
	D+L (Deflection)		40	49	58	55	67	79	92	52	103	120	137	62	149	171	195
	L (Deflection)		40	49	58	55	67	79	92	52	103	120	136	62	148	164	181
27' - 0"	D+L (Strength)				103	60	90	110	132	43	120	144	166	52	155	183	207
	D+L (Deflection)				47	43	54	65	76	43	85	100	116	52	126	145	166
	L (Deflection)				47	43	54	65	76	43	85	100	116	52	126	145	161
28' - 0"	D+L (Strength)						82	100	117		110	132	149	43	142	168	185
	D+L (Deflection)						43	52	62		70	83	97	43	105	122	141
	L (Deflection)						43	52	62		70	83	97	43	105	122	141
29' - 0"	D+L (Strength)							91	104		101	120	133		128	150	166
	D+L (Deflection)							41	50		56	68	81		87	103	120
	L (Deflection)							41	50		56	68	81		87	103	120
30' - 0"	D+L (Strength)								93		93	107	119		115	134	149
	D+L (Deflection)								40		45	55	66		72	86	101
	L (Deflection)								40		45	55	66		72	86	101
31' - 0"	D+L (Strength)											95	106		103	120	134
	D+L (Deflection)											44	54		58	71	84
	L (Deflection)											44	54		58	71	84
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		15' - 7"	16' - 10"	18' - 0"	18' - 11"	14' - 11"	16' - 1"	17' - 2"	18' - 1"	14' - 4"	15' - 6"	16' - 6"	17' - 5"	13' - 10"	15' - 0"	16' - 0"	16' - 10"
1 row of shoring		15' - 9"	21' - 3"	22' - 5"	23' - 6"	13' - 9"	20' - 4"	21' - 5"	22' - 6"	12' - 3"	19' - 3"	20' - 7"	21' - 8"	11' - 0"	18' - 2"	19' - 11"	21' - 0"
2 rows of shoring		16' - 5"	-	-	-	14' - 4"	-	-	-	12' - 9"	-	-	-	11' - 6"	-	-	-
Cantilever		8' - 6"	9' - 8"	10' - 3"	10' - 9"	8' - 0"	9' - 3"	9' - 9"	10' - 3"	7' - 6"	8' - 11"	9' - 5"	9' - 11"	7' - 2"	8' - 7"	9' - 1"	9' - 7"
cy/100sf		1.40				1.71				2.02				2.33			

16'-0" ↑	D+L (Strength)	123	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	123	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	123	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Simple Span Design Analysis.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

110 PCF CONCRETE

TABLE 8—DEEP-DEK® COMPOSITE 4.5

$4^{5}/_{8}$" high x 12" pitch x 12" wide

110 PCF CONCRETE		CONTINUOUS SLAB DESIGN - INTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (41.58 psf)				8.625" (50.75 psf)				9.625" (59.91 psf)				10.625" (69.08 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
20' - 0"	D+L (Strength)	119	231	340	400	142	276	400	400	165	321	400	400	188	365	400	400
	D+L (Deflection)	119	231	340	400	142	276	400	400	165	321	400	400	188	365	400	400
	L (Deflection)	119	231	289	320	142	276	400	400	165	321	400	400	188	365	400	400
21' - 0"	D+L (Strength)	110	218	323	400	131	260	386	400	152	302	400	400	173	344	400	400
	D+L (Deflection)	110	218	323	400	131	260	386	400	152	302	400	400	173	344	400	400
	L (Deflection)	110	218	250	277	131	260	353	390	152	302	400	400	173	344	400	400
22' - 0"	D+L (Strength)	101	206	308	400	121	246	368	400	140	285	400	400	160	325	400	400
	D+L (Deflection)	101	206	308	396	121	246	368	400	140	285	400	400	160	325	400	400
	L (Deflection)	101	196	217	241	121	246	307	339	140	285	400	400	160	325	400	400
23' - 0"	D+L (Strength)	94	195	294	365	112	233	351	400	130	270	400	400	143	308	400	400
	D+L (Deflection)	94	195	294	344	112	233	351	400	130	270	400	400	143	308	400	400
	L (Deflection)	94	171	190	211	112	233	268	297	130	270	367	400	143	308	400	400
24' - 0"	D+L (Strength)	87	185	279	335	104	221	336	400	121	257	390	400	133	293	400	400
	D+L (Deflection)	87	185	268	299	104	221	336	400	121	257	390	400	133	293	400	400
	L (Deflection)	87	151	167	185	104	213	236	261	121	257	323	357	133	293	400	400
25' - 0"	D+L (Strength)	81	176	257	307	97	210	321	395	108	244	374	400	123	278	400	400
	D+L (Deflection)	81	176	234	262	97	210	321	375	108	244	374	400	123	278	400	400
	L (Deflection)	81	133	148	164	97	189	209	231	108	244	286	316	123	278	380	400
26' - 0"	D+L (Strength)	76	168	237	280	91	201	308	360	101	233	358	400	115	265	400	400
	D+L (Deflection)	76	168	206	230	91	201	296	330	101	233	358	400	115	265	400	400
	L (Deflection)	76	118	131	146	91	168	186	205	101	230	254	281	115	265	338	373
27' - 0"	D+L (Strength)	71	161	217	256	85	192	287	329	94	222	344	400	107	253	393	400
	D+L (Deflection)	71	161	181	203	85	192	261	291	94	222	344	400	107	253	393	400
	L (Deflection)	71	106	117	130	85	150	166	183	94	205	227	251	107	253	302	333
28' - 0"	D+L (Strength)	67	154	198	235	76	183	267	302	88	213	331	374	100	242	378	400
	D+L (Deflection)	67	142	160	179	76	183	231	258	88	213	322	359	100	242	378	400
	L (Deflection)	67	95	105	117	76	134	149	164	88	184	204	225	100	242	271	298
29' - 0"	D+L (Strength)	63	147	182	216	71	175	250	277	83	204	317	344	94	232	364	400
	D+L (Deflection)	63	126	141	159	71	175	205	229	83	204	287	319	94	232	364	400
	L (Deflection)	63	85	95	105	71	121	134	148	83	166	183	202	94	221	244	269
30' - 0"	D+L (Strength)	59	141	167	198	67	168	233	254	78	196	291	316	88	223	351	388
	D+L (Deflection)	59	111	125	141	67	163	183	204	78	196	256	285	88	223	346	385
	L (Deflection)	59	77	86	95	67	109	121	134	78	150	165	183	88	199	220	243
31' - 0"	D+L (Strength)	56	136	153	183	63	162	214	234	73	188	268	291	83	214	329	358
	D+L (Deflection)	56	99	111	126	63	145	163	182	73	188	229	255	83	214	310	345
	L (Deflection)	56	70	78	86	63	99	110	121	73	136	150	166	83	181	199	220
32' - 0"	D+L (Strength)	50	130	141	169	59	156	197	216	69	181	247	269	78	206	303	330
	D+L (Deflection)	50	87	99	112	59	129	145	163	69	181	205	229	78	206	279	310
	L (Deflection)	50	64	71	78	59	90	100	110	69	123	136	150	78	164	181	200
33' - 0"	D+L (Strength)	47	125	130	156	56	150	182	199	65	174	228	248	73	198	280	305
	D+L (Deflection)	47	78	88	100	56	115	130	146	65	164	184	206	73	198	251	280
	L (Deflection)	47	58	64	71	56	82	91	100	65	113	124	137	73	150	165	182
34' - 0"	D+L (Strength)	44	118	119	144	53	144	167	184	61	168	210	230	69	191	259	283
	D+L (Deflection)	44	69	79	89	53	103	116	131	61	147	165	185	69	191	226	252
	L (Deflection)	44	53	59	65	53	75	83	92	61	103	114	125	69	137	151	167
35' - 0"	D+L (Strength)	42	109	110	133	50	139	154	170	57	162	194	212	62	184	240	262
	D+L (Deflection)	42	61	70	80	50	92	104	118	57	132	148	167	62	182	204	228
	L (Deflection)	42	49	54	60	50	69	76	84	57	94	104	115	62	126	139	153
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		15' - 7"	16' - 10"	18' - 0"	18' - 11"	14' - 11"	16' - 1"	17' - 2"	18' - 1"	14' - 4"	15' - 6"	16' - 6"	17' - 5"	13' - 10"	15' - 0"	16' - 0"	16' - 10"
1 row of shoring		15' - 9"	21' - 3"	22' - 5"	23' - 6"	13' - 9"	20' - 4"	21' - 5"	22' - 6"	12' - 3"	19' - 3"	20' - 7"	21' - 8"	11' - 0"	18' - 2"	19' - 11"	21' - 0"
2 rows of shoring		16' - 5"	-	-	-	14' - 4"	-	-	-	12' - 9"	-	-	-	11' - 6"	-	-	-
cy/100sf		1.40				1.71				2.02				2.33			

23'-0"	D+L (Strength)	94	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	94	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	94	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.0643wL^2$, D+L Deflection - $0.0054wL^4/EI$, L Deflection - $0.0063wL^4/EI$, Shear - $0.355wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumesspans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

110 PCF CONCRETE

TABLE 9—DEEP-DEK® COMPOSITE 4.5

$4^{5}/_{8}$" high x 12" pitch x 12" wide

110 PCF CONCRETE		CONTINUOUS SLAB DESIGN - EXTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (41.58 psf)				8.625" (50.75 psf)				9.625" (59.91 psf)				10.625" (69.08 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
20' - 0"	D+L (Strength)	85	173	242	293	102	207	309	374	118	240	359	400	134	274	400	400
	D+L (Deflection)	85	173	239	268	102	207	309	374	118	240	359	400	134	274	400	400
	L (Deflection)	85	153	170	189	102	207	240	266	118	240	329	363	134	274	400	400
21' - 0"	D+L (Strength)	78	163	217	264	93	194	279	337	107	226	341	400	122	257	389	400
	D+L (Deflection)	78	163	202	227	93	194	279	328	107	226	341	400	122	257	389	400
	L (Deflection)	78	132	147	163	93	188	208	230	107	226	284	314	122	257	378	400
22' - 0"	D+L (Strength)	71	153	196	238	85	183	253	305	98	213	318	382	112	242	370	400
	D+L (Deflection)	71	151	171	192	85	183	249	279	98	213	318	382	112	242	370	400
	L (Deflection)	71	115	128	142	85	163	181	200	98	213	247	273	112	242	329	362
23' - 0"	D+L (Strength)	65	145	178	216	78	173	230	278	90	201	291	349	98	229	352	400
	D+L (Deflection)	65	128	145	164	78	173	213	239	90	201	291	335	98	229	352	400
	L (Deflection)	65	101	112	124	78	143	158	175	90	196	216	239	98	229	288	317
24' - 0"	D+L (Strength)	60	133	161	197	72	164	210	254	83	190	266	319	90	217	330	391
	D+L (Deflection)	60	108	123	140	72	161	182	205	83	190	258	289	90	217	330	391
	L (Deflection)	60	89	98	109	72	126	139	154	83	172	190	210	90	217	253	279
25' - 0"	D+L (Strength)	56	121	147	179	66	155	192	232	73	180	245	289	83	205	304	354
	D+L (Deflection)	56	92	105	119	66	138	156	176	73	180	222	250	83	205	304	342
	L (Deflection)	56	78	87	97	66	111	123	136	73	152	168	186	83	203	224	247
26' - 0"	D+L (Strength)	51	111	134	163	61	147	177	210	67	171	226	261	76	195	282	321
	D+L (Deflection)	51	78	89	102	61	118	134	152	67	170	192	216	76	195	265	297
	L (Deflection)	51	70	77	86	61	99	109	121	67	135	150	165	76	180	199	219
27' - 0"	D+L (Strength)	48	102	123	148	56	137	163	190	62	163	209	237	70	186	262	292
	D+L (Deflection)	48	66	76	87	56	101	115	131	62	146	166	188	70	186	230	259
	L (Deflection)	48	62	69	77	56	88	98	108	62	121	134	148	70	161	178	196
28' - 0"	D+L (Strength)	44	93	111	134	49	126	150	172	57	155	194	215	64	177	243	265
	D+L (Deflection)	44	55	64	74	49	86	99	113	57	126	144	163	64	177	201	226
	L (Deflection)	44	55	62	69	49	79	88	97	57	108	120	132	64	144	159	176
29' - 0"	D+L (Strength)		86	100	122	45	117	139	156	52	148	178	195	59	169	221	241
	D+L (Deflection)		46	54	63	45	73	84	97	52	109	124	141	59	154	175	198
	L (Deflection)		46	54	62	45	71	79	87	52	98	108	119	59	130	143	158
30' - 0"	D+L (Strength)			90	110	39	109	128	141	47	139	162	178	55	161	201	220
	D+L (Deflection)			45	53	39	62	72	83	47	93	107	123	55	134	152	173
	L (Deflection)			45	53	39	62	71	79	47	88	97	108	55	117	130	143
31' - 0"	D+L (Strength)				100		101	116	128	40	126	147	162	48	147	183	201
	D+L (Deflection)				45		52	61	71	40	80	93	106	48	116	133	151
	L (Deflection)				45		52	61	71	40	80	88	97	48	106	117	129
32' - 0"	D+L (Strength)						94	105	117		114	133	147	41	133	166	183
	D+L (Deflection)						43	52	61		68	80	92	41	100	115	132
	L (Deflection)						43	52	61		68	80	89	41	97	107	118
33' - 0"	D+L (Strength)							95	106		104	121	134		121	152	167
	D+L (Deflection)							43	51		58	68	79		86	100	115
	L (Deflection)							43	51		58	68	79		86	97	107
34' - 0"	D+L (Strength)								96		94	110	122		110	138	153
	D+L (Deflection)								43		48	58	68		74	87	100
	L (Deflection)								43		48	58	68		74	87	98
35' - 0"	D+L (Strength)										85	100	111		99	125	139
	D+L (Deflection)										40	49	58		63	75	87
	L (Deflection)										40	49	58		63	75	87
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		15' - 7"	16' - 10"	18' - 0"	18' - 11"	14' - 11"	16' - 1"	17' - 2"	18' - 1"	14' - 4"	15' - 6"	16' - 6"	17' - 5"	13' - 10"	15' - 0"	16' - 0"	16' - 10"
1 row of shoring		15' - 9"	21' - 3"	22' - 5"	23' - 6"	13' - 9"	20' - 4"	21' - 5"	22' - 6"	12' - 3"	19' - 3"	20' - 7"	21' - 8"	11' - 0"	18' - 2"	19' - 11"	21' - 0"
2 rows of shoring		16' - 5"	-	-	-	14' - 4"	-	-	-	12' - 9"	-	-	-	11' - 6"	-	-	-
3 rows of shoring		8' - 6"	9' - 8"	10' - 3"	10' - 9"	8' - 0"	9' - 3"	9' - 9"	10' - 3"	7' - 6"	8' - 11"	9' - 5"	9' - 11"	7' - 2"	8' - 7"	9' - 1"	9' - 7"
cy/100sf		1.40				1.71				2.02				2.33			

23'-0"	D+L (Strength)	65	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	65	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	65	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.). The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - 0.10wL2, D+L Deflection - 0.0099wL4/ EI, L Deflection - 0.0107wL4/ EI, Shear - 0.45wL.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumesspans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

110 PCF CONCRETE

TABLE 10—DEEP-DEK® COMPOSITE 6

$6^{1}/_{8}$" high x 12" pitch x 12" wide

145 PCF CONCRETE		SINGLE SPAN SLAB DESIGN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (60.4 psf)				10.125" (72.48 psf)				11.125" (84.56 psf)				12.125" (96.65 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
18' - 0"	D+L (Strength)	190	141	221	300	237	287	235	331	287	329	392	357	253	370	400	377
	D+L (Deflection)	190	141	221	300	237	287	235	331	287	329	392	357	253	370	400	377
	L (Deflection)	190	141	221	300	237	287	235	331	287	329	392	357	253	370	400	377
19' - 0"	D+L (Strength)	167	212	185	256	210	263	319	279	187	308	365	400	216	346	400	400
	D+L (Deflection)	167	212	185	256	210	263	319	279	187	308	365	400	216	346	400	400
	L (Deflection)	167	212	185	256	210	263	319	279	187	308	365	400	216	346	400	400
20' - 0"	D+L (Strength)	147	187	235	219	187	233	289	329	159	285	342	394	185	325	385	400
	D+L (Deflection)	147	187	235	219	187	233	289	329	159	285	342	394	185	325	385	400
	L (Deflection)	147	187	235	219	187	233	289	329	159	285	342	394	185	325	385	400
21' - 0"	D+L (Strength)	130	166	208	240	167	207	257	289	136	254	313	347	157	306	361	400
	D+L (Deflection)	130	166	208	240	167	207	257	289	136	254	313	347	157	306	361	400
	L (Deflection)	130	166	208	240	167	207	257	289	136	254	313	347	157	306	361	400
22' - 0"	D+L (Strength)	116	147	185	211	98	184	229	254	115	228	276	306	134	278	330	365
	D+L (Deflection)	116	147	185	211	98	184	229	254	115	228	276	306	134	278	330	365
	L (Deflection)	116	147	185	211	98	184	229	254	115	228	276	306	134	278	330	365
23' - 0"	D+L (Strength)	103	131	165	186	83	165	201	224	98	205	243	270	113	251	291	323
	D+L (Deflection)	103	131	165	186	83	165	201	224	98	205	243	270	113	251	291	323
	L (Deflection)	103	131	165	186	83	165	201	224	98	205	243	270	113	251	291	323
24' - 0"	D+L (Strength)	92	116	146	164	70	148	177	198	82	185	214	239	95	227	257	286
	D+L (Deflection)	92	116	146	164	70	148	177	198	82	185	214	239	95	227	257	286
	L (Deflection)	92	116	146	164	70	148	177	198	82	185	214	239	95	227	257	286
25' - 0"	D+L (Strength)	49	104	128	145	58	133	155	175	68	165	188	211	79	200	227	254
	D+L (Deflection)	49	104	128	145	58	133	155	175	68	165	188	211	79	200	227	254
	L (Deflection)	49	104	128	145	58	133	155	175	68	165	188	211	79	200	227	254
26' - 0"	D+L (Strength)	40	92	112	127	48	118	136	154	56	145	166	187	65	175	200	225
	D+L (Deflection)	40	92	112	127	48	118	136	154	56	145	166	187	65	175	200	225
	L (Deflection)	40	92	112	127	48	118	136	154	56	145	166	187	65	175	200	225
27' - 0"	D+L (Strength)		80	98	112		103	119	135	45	126	145	165	74	153	176	199
	D+L (Deflection)		80	98	112		103	119	135	45	126	145	165	74	153	176	199
	L (Deflection)		80	98	112		103	119	135	45	126	145	165	74	153	176	199
28' - 0"	D+L (Strength)		70	85	98		89	104	119		109	127	145	63	85	155	176
	D+L (Deflection)		70	85	98		89	104	119		109	127	145	63	85	155	176
	L (Deflection)		70	85	98		89	104	119		109	127	145	63	85	155	176
29' - 0"	D+L (Strength)		61	74	86		76	90	104		94	111	127	53	72	136	155
	D+L (Deflection)		61	74	86		76	90	104		94	111	127	53	72	136	155
	L (Deflection)		61	74	86		76	90	104		94	111	127	53	72	136	155
30' - 0"	D+L (Strength)		53	64	75		65	78	91		81	96	112	44	61	118	136
	D+L (Deflection)		51	61	73		65	78	91		81	96	112	44	61	118	136
	L (Deflection)		51	61	73		65	78	91		81	96	112	44	61	118	136
31' - 0"	D+L (Strength)		44	54	65		55	67	79		42	83	97		50	103	120
	D+L (Deflection)		40	49	59		55	67	79		42	83	97		50	103	120
	L (Deflection)		40	49	59		55	67	79		42	83	97		50	103	120
32' - 0"	D+L (Strength)				55		45	57	68			71	84		40	88	104
	D+L (Deflection)				48		45	57	68			71	84		40	88	104
	L (Deflection)				48		45	57	68			71	84		40	88	104
33' - 0"	D+L (Strength)							47	58			60	72			76	90
	D+L (Deflection)							47	58			60	72			76	90
	L (Deflection)							47	58			60	72			76	90
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		16' - 10"	18' - 2"	19' - 5"	20' - 5"	16' - 1"	17' - 5"	18' - 7"	19' - 7"	15' - 2"	16' - 10"	17' - 11"	18' - 11"	14' - 4"	16' - 3"	17' - 5"	18' - 4"
1 row of shoring		12' - 1"	19' - 10"	24' - 3"	25' - 5"	10' - 6"	17' - 4"	23' - 3"	24' - 5"	9' - 4"	15' - 5"	22' - 5"	23' - 7"	8' - 5"	13' - 11"	21' - 0"	22' - 10"
2 rows of shoring		12' - 7"	-	-	-	11' - 0"	18' - 1"	-	-	9' - 9"	16' - 1"	-	-	8' - 9"	14' - 6"	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	10' - 3"	-	-	-	9' - 3"	-	-	-
Cantilever		9' - 4"	10' - 6"	11' - 0"	11' - 7"	8' - 8"	10' - 0"	10' - 7"	11' - 2"	8' - 2"	9' - 8"	10' - 3"	10' - 9"	7' - 9"	9' - 4"	9' - 11"	10' - 5"
cy/100sf		1.54				1.85				2.16				2.47			

18'-0" ↑	D+L (Strength)	190	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	190	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	190	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Simple Span Design Analysis.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

145 PCF CONCRETE

TABLE 11—DEEP-DEK® COMPOSITE 6

$6^{1}/_{8}$" high x 12" pitch x 12" wide

145 PCF CONCRETE		CONTINUOUS SLAB DESIGN - INTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (60.4 psf)				10.125" (72.48 psf)				11.125" (84.56 psf)				12.125" (96.65 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
20' - 0"	D+L (Strength)	268	305	360	400	313	356	400	400	344	400	400	400	387	400	400	400
	D+L (Deflection)	268	305	360	400	313	356	400	400	344	400	400	400	387	400	400	400
	L (Deflection)	268	305	360	400	313	356	400	400	344	400	400	400	387	400	400	400
21' - 0"	D+L (Strength)	253	287	338	400	295	335	395	400	324	383	400	400	365	400	400	400
	D+L (Deflection)	253	287	338	400	295	335	395	400	324	383	400	400	365	400	400	400
	L (Deflection)	253	287	338	400	295	335	395	400	324	383	400	400	365	400	400	400
22' - 0"	D+L (Strength)	239	271	318	400	268	316	372	400	306	362	400	400	344	400	400	400
	D+L (Deflection)	239	271	318	400	268	316	372	400	306	362	400	400	344	400	400	400
	L (Deflection)	239	271	318	400	268	316	372	400	306	362	400	400	344	400	400	400
23' - 0"	D+L (Strength)	227	257	300	400	254	300	351	400	290	343	400	400	326	386	400	400
	D+L (Deflection)	227	257	300	400	254	300	351	400	290	343	400	400	326	386	400	400
	L (Deflection)	227	257	300	400	254	300	351	400	290	343	400	400	326	386	400	400
24' - 0"	D+L (Strength)	216	244	284	400	238	284	332	400	275	325	380	400	309	366	400	400
	D+L (Deflection)	216	244	284	400	238	284	332	400	275	325	380	400	309	366	400	400
	L (Deflection)	216	244	284	377	238	284	332	400	275	325	380	400	309	366	400	400
25' - 0"	D+L (Strength)	182	232	270	368	216	270	315	400	252	309	361	400	290	348	400	400
	D+L (Deflection)	182	232	270	368	216	270	315	400	252	309	361	400	290	348	400	400
	L (Deflection)	182	232	270	333	216	270	315	400	252	309	361	400	290	348	400	400
26' - 0"	D+L (Strength)	165	221	257	335	195	258	300	400	228	295	343	400	262	332	386	400
	D+L (Deflection)	165	221	257	335	195	258	300	400	228	295	343	400	262	332	386	400
	L (Deflection)	165	221	257	296	195	258	300	396	228	295	343	400	262	332	386	400
27' - 0"	D+L (Strength)	150	211	244	305	177	246	286	366	207	281	327	400	257	317	368	400
	D+L (Deflection)	150	211	244	305	177	246	286	366	207	281	327	400	257	317	368	400
	L (Deflection)	150	211	241	265	177	246	286	354	207	281	327	400	257	317	368	400
28' - 0"	D+L (Strength)	136	198	233	278	161	235	273	334	188	269	312	400	245	287	351	400
	D+L (Deflection)	136	198	233	278	161	235	273	334	188	269	312	400	245	287	351	400
	L (Deflection)	136	197	216	237	161	235	273	317	188	269	312	400	245	287	351	400
29' - 0"	D+L (Strength)	124	180	222	254	147	225	260	305	171	257	298	366	234	274	335	400
	D+L (Deflection)	124	180	222	254	147	225	260	305	171	257	298	366	234	274	335	400
	L (Deflection)	124	177	194	214	147	225	260	286	171	257	298	366	234	274	335	400
30' - 0"	D+L (Strength)	113	164	204	232	134	216	249	279	187	247	285	335	221	255	321	399
	D+L (Deflection)	113	164	204	232	134	216	249	279	187	247	285	335	221	255	321	399
	L (Deflection)	113	160	175	193	134	215	235	258	187	247	285	335	221	255	321	399
31' - 0"	D+L (Strength)	103	149	186	213	122	206	230	256	173	203	273	307	205	234	308	366
	D+L (Deflection)	103	149	186	213	122	206	230	256	173	203	273	307	205	234	308	366
	L (Deflection)	103	145	159	175	122	195	213	234	173	203	273	305	205	234	308	366
32' - 0"	D+L (Strength)	94	136	171	195	111	188	211	234	160	187	254	282	190	215	295	336
	D+L (Deflection)	94	136	171	195	111	188	211	234	160	187	254	282	190	215	295	336
	L (Deflection)	94	132	145	159	111	177	194	213	160	187	253	278	190	215	295	336
33' - 0"	D+L (Strength)	86	124	157	178	123	171	193	215	149	172	233	259	177	198	279	309
	D+L (Deflection)	86	124	157	178	123	171	193	215	149	172	233	259	177	198	279	309
	L (Deflection)	86	120	132	145	123	161	177	194	149	172	231	253	177	198	279	309
34' - 0"	D+L (Strength)	79	113	144	164	114	156	177	197	138	159	213	238	165	183	256	284
	D+L (Deflection)	79	113	144	164	114	156	177	197	138	159	213	238	165	183	256	284
	L (Deflection)	79	110	121	133	114	147	162	177	138	159	211	231	165	183	256	284
35' - 0"	D+L (Strength)	72	103	132	150	106	125	162	181	129	146	196	218	152	168	235	262
	D+L (Deflection)	72	103	132	150	106	125	162	181	129	146	196	218	152	168	235	262
	L (Deflection)	72	101	110	122	106	125	148	162	129	146	194	212	152	168	235	262
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		16' - 10"	18' - 2"	19' - 5"	20' - 5"	16' - 1"	17' - 5"	18' - 7"	19' - 7"	15' - 2"	16' - 10"	17' - 11"	18' - 11"	14' - 4"	16' - 3"	17' - 5"	18' - 4"
1 row of shoring		12' - 1"	19' - 10"	24' - 3"	25' - 5"	10' - 6"	17' - 4"	23' - 3"	24' - 5"	9' - 4"	15' - 5"	22' - 5"	23' - 7"	8' - 5"	13' - 11"	21' - 0"	22' - 10"
2 rows of shoring		12' - 7"	-	-	-	11' - 0"	18' - 1"	-	-	9' - 9"	16' - 1"	-	-	8' - 9"	14' - 6"	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	10' - 3"	-	-	-	9' - 3"	-	-	-
cy/100sf		1.54				1.85				2.16				2.47			

23'-0" ▲	D+L (Strength)	227	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	227	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	227	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.0643wL^2$, D+L Deflection - $0.0054wL^4/EI$, L Deflection - $0.0063wL^4/EI$, Shear - $0.355wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumesspans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

145 PCF CONCRETE

TABLE 12—DEEP-DEK® COMPOSITE 6

$6^1/_8$" high x 12" pitch x 12" wide

145 PCF CONCRETE		CONTINUOUS SLAB DESIGN - EXTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (60.4 psf)				10.125" (72.48 psf)				11.125" (84.56 psf)				12.125" (96.65 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
20' - 0"	D+L (Strength)	199	227	271	273	232	266	316	400	227	304	362	400	263	342	400	400
	D+L (Deflection)	199	227	271	273	232	266	316	400	227	304	362	400	263	342	400	400
	L (Deflection)	199	227	271	273	232	266	316	400	227	304	362	400	263	342	400	400
21' - 0"	D+L (Strength)	187	214	254	330	218	249	296	396	198	285	339	400	228	320	381	400
	D+L (Deflection)	187	214	254	330	218	249	296	396	198	285	339	400	228	320	381	400
	L (Deflection)	187	214	254	330	218	249	296	396	198	285	339	400	228	320	381	400
22' - 0"	D+L (Strength)	173	201	238	294	147	235	278	353	172	268	318	400	199	302	358	400
	D+L (Deflection)	173	201	238	294	147	235	278	353	172	268	318	400	199	302	358	400
	L (Deflection)	173	201	238	288	147	235	278	353	172	268	318	400	199	302	358	400
23' - 0"	D+L (Strength)	157	186	224	263	128	221	262	316	150	253	299	378	173	284	337	400
	D+L (Deflection)	157	186	224	263	128	221	262	316	150	253	299	378	173	284	337	400
	L (Deflection)	157	186	224	252	128	221	262	316	150	253	299	378	173	284	337	400
24' - 0"	D+L (Strength)	143	165	205	235	111	209	247	283	130	239	282	339	151	269	318	400
	D+L (Deflection)	143	165	205	235	111	209	247	283	130	239	282	339	151	269	318	400
	L (Deflection)	143	165	202	222	111	209	247	283	130	239	282	339	151	269	318	400
25' - 0"	D+L (Strength)	81	147	184	211	97	198	229	253	113	227	267	304	131	255	300	363
	D+L (Deflection)	81	147	184	211	97	198	229	253	113	227	267	304	131	255	300	363
	L (Deflection)	81	147	179	196	97	198	229	253	113	227	267	304	131	255	300	363
26' - 0"	D+L (Strength)	71	131	165	189	84	182	205	228	98	215	247	274	113	242	285	327
	D+L (Deflection)	71	131	165	189	84	182	205	228	98	215	247	274	113	242	285	327
	L (Deflection)	71	131	159	175	84	182	205	228	98	215	247	274	113	242	285	327
27' - 0"	D+L (Strength)	61	117	148	170	72	162	183	204	84	197	222	246	139	230	265	294
	D+L (Deflection)	61	117	148	170	72	162	183	204	84	197	222	246	139	230	265	294
	L (Deflection)	61	117	142	156	72	162	183	204	84	197	222	246	139	230	265	294
28' - 0"	D+L (Strength)	52	104	133	153	62	145	164	184	72	176	199	222	125	139	239	266
	D+L (Deflection)	52	104	133	153	62	145	164	184	72	176	199	222	125	139	239	266
	L (Deflection)	52	104	127	140	62	145	164	184	72	176	199	222	125	139	239	266
29' - 0"	D+L (Strength)	44	93	119	137	52	129	147	165	61	157	179	200	113	122	215	240
	D+L (Deflection)	44	93	119	137	52	129	147	165	61	157	179	200	113	122	215	240
	L (Deflection)	44	93	114	126	52	129	147	165	61	157	179	200	113	122	215	240
30' - 0"	D+L (Strength)		82	107	123	44	115	132	149	84	140	160	180	101	108	193	216
	D+L (Deflection)		82	107	123	44	115	132	149	84	140	160	180	101	108	193	216
	L (Deflection)		82	103	114	44	115	132	149	84	140	160	180	101	108	193	216
31' - 0"	D+L (Strength)		73	96	111		102	118	134	75	81	144	162	91	94	174	195
	D+L (Deflection)		73	96	111		102	118	134	75	81	144	162	91	94	174	195
	L (Deflection)		73	94	103		102	118	134	75	81	144	162	91	94	174	195
32' - 0"	D+L (Strength)		64	86	99		91	105	120	67	71	129	146	81	82	156	176
	D+L (Deflection)		64	86	99		91	105	120	67	71	129	146	81	82	156	176
	L (Deflection)		64	85	94		91	105	120	67	71	129	146	81	82	156	176
33' - 0"	D+L (Strength)		57	77	89		80	94	107	60	61	115	131	73	71	140	159
	D+L (Deflection)		57	74	86		80	94	107	60	61	115	131	73	71	140	159
	L (Deflection)		57	74	85		80	94	107	60	61	115	131	73	71	140	159
34' - 0"	D+L (Strength)		50	68	79		71	83	96	53	53	102	117	65	61	125	143
	D+L (Deflection)		50	64	74		71	83	96	53	53	102	117	65	61	125	143
	L (Deflection)		50	64	74		71	83	96	53	53	102	117	65	61	125	143
35' - 0"	D+L (Strength)		43	60	70		38	74	86	47	45	91	105	58	52	111	128
	D+L (Deflection)		43	54	64		38	74	86	47	45	91	105	58	52	111	128
	L (Deflection)		43	54	64		38	74	86	47	45	91	105	58	52	111	128
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		16' - 10"	18' - 2"	19' - 5"	20' - 5"	16' - 1"	17' - 5"	18' - 7"	19' - 7"	15' - 2"	16' - 10"	17' - 11"	18' - 11"	14' - 4"	16' - 3"	17' - 5"	18' - 4"
1 row of shoring		12' - 1"	19' - 10"	24' - 3"	25' - 5"	10' - 6"	17' - 4"	23' - 3"	24' - 5"	9' - 4"	15' - 5"	22' - 5"	23' - 7"	8' - 5"	13' - 11"	21' - 0"	22' - 10"
2 rows of shoring		12' - 7"	-	-	-	11' - 0"	18' - 1"	-	-	9' - 9"	16' - 1"	-	-	8' - 9"	14' - 6"	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	10' - 3"	-	-	-	9' - 3"	-	-	-
Cantilever		9' - 4"	10' - 6"	11' - 0"	11' - 7"	8' - 8"	10' - 0"	10' - 7"	11' - 2"	8' - 2"	9' - 8"	10' - 3"	10' - 9"	7' - 9"	9' - 4"	9' - 11"	10' - 5"
cy/100sf		1.54				1.85				2.16				2.47			

23'-0"	D+L (Strength)	157	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	157	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	157	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - 0.10wL2, D+L Deflection - 0.0099wL4/ EI, L Deflection - 0.0107wL4/ EI, Shear - 0.45wL.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumesspans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

145 PCF CONCRETE

TABLE 13—DEEP-DEK® COMPOSITE 6

$6^{1}/_{8}$" high x 12" pitch x 12" wide

110 PCF CONCRETE		SINGLE SPAN SLAB DESIGN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (45.82 psf)				10.125" (54.98 psf)				11.125" (64.15 psf)				12.125" (73.32 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
18' - 0"	D+L (Strength)	186	165	233	297	231	174	262	349	281	334	284	388	330	377	302	400
	D+L (Deflection)	186	165	233	297	231	174	262	349	281	334	284	388	330	377	302	400
	L (Deflection)	186	165	233	297	231	174	262	349	281	334	284	388	330	377	302	400
19' - 0"	D+L (Strength)	164	137	199	257	204	256	221	300	251	310	236	330	303	353	400	357
	D+L (Deflection)	164	137	199	257	204	256	221	300	251	310	236	330	303	353	400	357
	L (Deflection)	164	137	199	257	204	256	221	300	251	310	236	330	303	353	400	357
20' - 0"	D+L (Strength)	146	185	171	223	182	228	281	258	225	276	339	281	272	331	391	400
	D+L (Deflection)	146	185	171	223	182	228	281	258	225	276	339	281	272	331	391	400
	L (Deflection)	146	185	171	223	182	228	281	258	225	276	339	281	272	331	391	400
21' - 0"	D+L (Strength)	129	164	201	194	163	203	251	309	202	248	303	372	172	297	362	400
	D+L (Deflection)	129	164	201	194	163	203	251	309	202	248	303	372	172	297	362	400
	L (Deflection)	129	164	197	194	163	203	251	290	202	248	303	372	172	297	362	400
22' - 0"	D+L (Strength)	116	147	179	216	146	182	225	277	182	222	273	335	150	268	326	398
	D+L (Deflection)	116	147	179	216	146	182	225	277	182	222	273	335	150	268	326	398
	L (Deflection)	116	147	171	191	146	182	225	252	182	222	273	328	150	268	326	398
23' - 0"	D+L (Strength)	103	131	161	194	132	163	202	250	165	201	246	302	130	243	295	361
	D+L (Deflection)	103	131	161	194	132	163	202	250	165	201	246	302	130	243	295	361
	L (Deflection)	103	131	150	167	132	163	200	221	165	201	246	287	130	243	295	361
24' - 0"	D+L (Strength)	93	117	144	174	119	147	182	226	97	181	222	274	113	221	268	328
	D+L (Deflection)	93	117	144	168	119	147	182	226	97	181	222	274	113	221	268	328
	L (Deflection)	93	117	132	147	119	147	176	194	97	181	222	253	113	221	268	323
25' - 0"	D+L (Strength)	83	105	130	157	108	133	165	205	83	165	202	249	97	201	244	299
	D+L (Deflection)	83	105	123	142	108	133	165	196	83	165	202	249	97	201	244	299
	L (Deflection)	83	105	117	130	108	133	155	172	83	165	202	224	97	201	244	286
26' - 0"	D+L (Strength)	75	95	117	142	61	120	149	186	72	150	183	227	84	184	223	273
	D+L (Deflection)	75	90	104	121	61	120	146	167	72	150	183	227	84	184	223	273
	L (Deflection)	75	90	104	116	61	120	138	153	72	150	180	199	84	184	223	254
27' - 0"	D+L (Strength)	68	85	105	129	52	108	135	169	61	136	167	207	72	168	204	250
	D+L (Deflection)	62	75	87	102	52	108	124	143	61	136	167	195	72	168	204	250
	L (Deflection)	62	75	87	102	52	108	123	137	61	136	161	178	72	168	204	227
28' - 0"	D+L (Strength)	61	77	95	117	44	98	123	154	52	124	153	190	61	154	187	230
	D+L (Deflection)	50	62	73	86	44	90	105	121	52	124	146	168	61	154	187	224
	L (Deflection)	50	62	73	86	44	90	105	121	52	124	144	159	61	154	184	203
29' - 0"	D+L (Strength)	55	69	86	106		89	112	141	44	113	139	174	51	142	171	211
	D+L (Deflection)	40	50	60	72		75	89	103	44	108	125	144	51	142	170	194
	L (Deflection)	40	50	60	72		75	89	103	44	108	125	143	51	142	166	183
30' - 0"	D+L (Strength)		62	78	96		81	101	128		104	128	159	42	131	158	195
	D+L (Deflection)		41	50	60		62	74	87		90	106	123	42	126	146	167
	L (Deflection)		41	50	60		62	74	87		90	106	123	42	126	146	165
31' - 0"	D+L (Strength)			70	87		73	92	117		95	117	146		120	145	180
	D+L (Deflection)			40	49		51	61	73		76	89	105		107	125	144
	L (Deflection)			40	49		51	61	73		76	89	105		107	125	144
32' - 0"	D+L (Strength)				79		67	84	108		87	107	135		111	134	166
	D+L (Deflection)				40		41	50	61		62	75	89		90	106	124
	L (Deflection)				40		41	50	61		62	75	89		90	106	124
33' - 0"	D+L (Strength)				72			77	98		80	98	124		103	124	152
	D+L (Deflection)							41	50		51	62	75		75	90	106
	L (Deflection)							41	50		51	62	75		75	90	106
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		18' - 0"	19' - 5"	20' - 8"	21' - 9"	17' - 3"	18' - 7"	19' - 10"	20' - 10"	16' - 7"	17' - 11"	19' - 2"	20' - 2"	16' - 0"	17' - 5"	18' - 7"	19' - 7"
1 row of shoring		14' - 7"	23' - 11"	25' - 9"	27' - 0"	12' - 11"	21' - 2"	24' - 9"	26' - 0"	11' - 6"	19' - 0"	23' - 11"	25' - 1"	10' - 5"	17' - 2"	23' - 2"	24' - 4"
2 rows of shoring		-	-	-	-	13' - 5"	-	-	-	12' - 0"	-	-	-	10' - 10"	17' - 11"	-	-
Cantilever		10' - 4"	11' - 2"	11' - 9"	12' - 4"	9' - 8"	10' - 8"	11' - 3"	11' - 10"	9' - 1"	10' - 4"	10' - 11"	11' - 5"	8' - 8"	10' - 0"	10' - 7"	11' - 1"
cy/100sf		1.54				1.85				2.16				2.47			

18'-0"	D+L (Strength)	186	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	186	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	186	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Simple Span Design Analysis.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

110 PCF CONCRETE

TABLE 14—DEEP-DEK® COMPOSITE 6

$6^{1}/_{8}$" high x 12" pitch x 12" wide

110 PCF CONCRETE		CONTINUOUS SLAB DESIGN - INTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (45.82 psf)				10.125" (54.98 psf)				11.125" (64.15 psf)				12.125" (73.32 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
20' - 0"	D+L (Strength)	273	310	332	400	319	362	400	400	365	400	400	400	400	400	400	400
	D+L (Deflection)	273	310	332	400	319	362	400	400	365	400	400	400	400	400	400	400
	L (Deflection)	273	310	332	400	319	362	400	400	365	400	400	400	400	400	400	400
21' - 0"	D+L (Strength)	258	292	344	378	302	342	400	400	345	391	400	400	377	400	400	400
	D+L (Deflection)	258	292	344	378	302	342	400	400	345	391	400	400	377	400	400	400
	L (Deflection)	258	292	344	378	302	342	400	400	345	391	400	400	377	400	400	400
22' - 0"	D+L (Strength)	245	277	324	400	286	323	379	400	327	370	400	400	357	400	400	400
	D+L (Deflection)	245	277	324	400	286	323	379	400	327	370	400	400	357	400	400	400
	L (Deflection)	245	277	324	394	286	323	379	400	327	370	400	400	357	400	400	400
23' - 0"	D+L (Strength)	233	262	306	400	272	306	358	400	311	351	400	400	339	395	400	400
	D+L (Deflection)	233	262	306	400	272	306	358	400	311	351	400	400	339	395	400	400
	L (Deflection)	233	262	306	345	272	306	358	400	311	351	400	400	339	395	400	400
24' - 0"	D+L (Strength)	222	249	290	400	259	291	339	400	280	333	388	400	322	375	400	400
	D+L (Deflection)	222	249	290	400	259	291	339	400	280	333	388	400	322	375	400	400
	L (Deflection)	218	245	272	304	259	291	339	400	280	333	388	400	322	375	400	400
25' - 0"	D+L (Strength)	212	237	276	374	247	277	322	400	254	317	369	400	293	357	400	400
	D+L (Deflection)	212	237	276	374	247	277	322	400	254	317	369	400	293	357	400	400
	L (Deflection)	193	217	241	269	247	277	321	355	254	317	369	400	293	357	400	400
26' - 0"	D+L (Strength)	202	226	262	345	197	264	307	400	231	303	351	400	267	341	395	400
	D+L (Deflection)	202	226	262	345	197	264	307	400	231	303	351	400	267	341	395	400
	L (Deflection)	171	193	214	239	197	258	285	315	231	303	351	400	267	341	395	400
27' - 0"	D+L (Strength)	194	216	250	318	180	253	292	400	211	289	335	400	243	326	377	400
	D+L (Deflection)	194	216	250	318	180	253	292	400	211	289	335	400	243	326	377	400
	L (Deflection)	153	172	191	213	180	230	255	282	211	289	332	367	243	326	377	400
28' - 0"	D+L (Strength)	182	207	239	295	165	242	279	380	193	277	320	400	222	312	360	400
	D+L (Deflection)	182	207	239	295	165	242	279	380	193	277	320	400	222	312	360	400
	L (Deflection)	137	154	171	191	165	206	228	253	193	270	298	329	222	312	360	400
29' - 0"	D+L (Strength)	170	195	229	274	151	232	267	353	176	265	306	400	203	299	344	400
	D+L (Deflection)	170	195	229	274	151	232	267	353	176	265	306	400	203	299	344	400
	L (Deflection)	123	139	154	172	151	186	206	227	176	243	268	296	203	299	342	378
30' - 0"	D+L (Strength)	116	179	217	255	138	223	256	326	162	255	293	400	186	287	330	400
	D+L (Deflection)	116	179	217	245	138	223	256	326	162	255	293	400	186	287	330	400
	L (Deflection)	111	125	139	155	138	168	186	205	162	219	242	267	186	280	309	341
31' - 0"	D+L (Strength)	107	164	201	238	127	214	246	301	148	245	281	376	171	276	317	400
	D+L (Deflection)	107	164	194	219	127	214	246	293	148	245	281	376	171	276	317	400
	L (Deflection)	101	114	126	141	127	152	168	186	148	199	219	242	171	254	280	309
32' - 0"	D+L (Strength)	98	151	185	222	117	206	236	279	136	236	270	354	157	265	304	400
	D+L (Deflection)	98	151	174	197	117	206	236	264	136	236	270	348	157	265	304	400
	L (Deflection)	92	103	115	128	117	138	153	169	136	181	199	220	157	231	255	281
33' - 0"	D+L (Strength)	91	139	171	208	107	194	227	258	125	227	260	333	175	256	293	400
	D+L (Deflection)	91	139	156	177	107	190	212	238	125	227	260	314	175	256	293	400
	L (Deflection)	84	94	105	117	107	126	139	154	125	165	182	201	175	211	232	256
34' - 0"	D+L (Strength)	83	128	158	193	99	183	214	240	115	219	250	313	163	246	282	371
	D+L (Deflection)	83	125	141	159	99	171	192	215	115	219	250	284	163	246	282	368
	L (Deflection)	77	86	96	107	99	115	128	141	115	151	166	184	163	193	213	234
35' - 0"	D+L (Strength)	77	118	147	179	91	173	202	223	106	211	241	291	153	175	272	345
	D+L (Deflection)	77	112	127	144	91	154	173	194	106	206	230	257	153	175	272	334
	L (Deflection)	70	79	88	98	91	106	117	129	106	138	152	168	153	175	195	215
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		18' - 0"	19' - 5"	20' - 8"	21' - 9"	17' - 3"	18' - 7"	19' - 10"	20' - 10"	16' - 7"	17' - 11"	19' - 2"	20' - 2"	16' - 0"	17' - 5"	18' - 7"	19' - 7"
1 row of shoring		14' - 7"	23' - 11"	25' - 9"	27' - 0"	12' - 11"	21' - 2"	24' - 9"	26' - 0"	11' - 6"	19' - 0"	23' - 11"	25' - 1"	10' - 5"	17' - 2"	23' - 2"	24' - 4"
2 rows of shoring		15' - 2"	-	-	-	13' - 5"	-	-	-	12' - 0"	-	-	-	10' - 10"	17' - 11"	-	-
3rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	11' - 5"	-	-	-
cy/100sf		1.54				1.85				2.16				2.47			

23'-0" ↑	D+L (Strength)	233	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	233	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	233	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.0643wL^2$, D+L Deflection - $0.0054wL^4/EI$, L Deflection - $0.0063wL^4/EI$, Shear - $0.355wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumes spans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

110 PCF CONCRETE

TABLE 15—DEEP-DEK® COMPOSITE 6

$6^{1}/_{8}$" high x 12" pitch x 12" wide

110 PCF CONCRETE		CONTINUOUS SLAB DESIGN - EXTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (45.82 psf)				10.125" (54.98 psf)				11.125" (64.15 psf)				12.125" (73.32 psf)			
Span	Load Combinations	GAGE															
		20	18	16	14	20	18	16	14	20	18	16	14	20	18	16	14
20' - 0"	D+L (Strength)	204	235	213	279	240	274	325	322	275	314	372	351	309	353	400	400
	D+L (Deflection)	204	235	213	279	240	274	325	322	275	314	372	351	309	353	400	400
	L (Deflection)	204	235	213	279	240	274	325	322	275	314	372	351	309	353	400	400
21' - 0"	D+L (Strength)	184	221	261	243	227	258	305	400	259	295	349	400	240	332	393	400
	D+L (Deflection)	184	221	261	243	227	258	305	400	259	295	349	400	240	332	393	400
	L (Deflection)	184	215	239	243	227	258	305	353	259	295	349	400	240	332	393	400
22' - 0"	D+L (Strength)	166	205	245	293	209	243	287	374	245	278	328	400	211	313	369	400
	D+L (Deflection)	166	205	245	293	209	243	287	374	245	278	328	400	211	313	369	400
	L (Deflection)	166	187	208	232	209	243	277	307	245	278	328	399	211	313	369	400
23' - 0"	D+L (Strength)	151	186	223	266	190	230	270	340	232	263	309	400	187	296	348	400
	D+L (Deflection)	151	186	223	266	190	230	270	340	232	263	309	400	187	296	348	400
	L (Deflection)	146	164	182	203	190	219	243	268	232	263	309	349	187	296	348	400
24' - 0"	D+L (Strength)	138	169	203	241	175	210	254	310	142	249	292	374	165	281	329	400
	D+L (Deflection)	138	169	203	241	175	210	254	310	142	249	292	374	165	281	329	400
	L (Deflection)	128	144	160	179	172	193	213	236	142	249	278	307	165	281	329	392
25' - 0"	D+L (Strength)	126	154	185	220	160	192	232	283	126	236	277	343	146	266	312	400
	D+L (Deflection)	126	154	185	215	160	192	232	283	126	236	277	343	146	266	312	400
	L (Deflection)	113	128	142	158	152	171	189	209	126	223	246	272	146	266	312	347
26' - 0"	D+L (Strength)	115	141	169	201	94	176	213	260	111	217	260	315	129	253	296	377
	D+L (Deflection)	115	141	164	187	94	176	213	253	111	217	260	315	129	253	296	377
	L (Deflection)	101	113	126	141	94	152	168	186	111	198	219	242	129	253	280	309
27' - 0"	D+L (Strength)	106	129	154	184	83	162	196	239	98	201	240	290	114	242	282	348
	D+L (Deflection)	106	125	142	162	83	162	196	221	98	201	240	290	114	242	282	348
	L (Deflection)	90	101	113	126	83	136	150	166	98	177	195	216	114	226	250	276
28' - 0"	D+L (Strength)	98	118	142	169	73	149	180	220	86	186	221	268	100	227	268	323
	D+L (Deflection)	93	108	124	141	73	149	171	193	86	186	221	258	100	227	268	323
	L (Deflection)	81	91	101	113	73	121	134	149	86	159	175	194	100	203	224	247
29' - 0"	D+L (Strength)	90	107	130	156	64	138	166	203	76	172	205	249	88	212	249	300
	D+L (Deflection)	79	93	107	123	64	131	149	169	76	172	202	227	88	212	249	298
	L (Deflection)	73	82	91	101	64	109	121	134	76	143	158	174	88	183	202	222
30' - 0"	D+L (Strength)	48	97	120	143	56	127	154	187	66	160	190	231	77	198	232	279
	D+L (Deflection)	48	81	93	107	56	114	130	148	66	156	177	200	77	198	232	263
	L (Deflection)	48	74	82	92	56	99	109	121	66	129	143	157	77	165	182	201
31' - 0"	D+L (Strength)	41	88	110	132	49	118	142	171	58	149	177	214	67	185	216	260
	D+L (Deflection)	41	69	80	93	49	99	113	129	58	136	155	176	67	182	206	233
	L (Deflection)	41	67	74	83	49	90	99	110	58	117	129	143	67	150	165	182
32' - 0"	D+L (Strength)		79	101	122	43	110	132	157	50	139	165	200	58	172	202	243
	D+L (Deflection)		60	70	81	43	86	99	113	50	119	136	155	58	160	182	206
	L (Deflection)		60	68	75	43	81	90	100	50	106	117	130	58	136	150	166
33' - 0"	D+L (Strength)		71	92	113		102	123	144	43	130	154	186	81	157	189	226
	D+L (Deflection)		51	60	70		74	86	99	43	104	119	136	81	141	160	182
	L (Deflection)		51	60	69		74	82	91	43	97	107	118	81	124	137	151
34' - 0"	D+L (Strength)		64	83	105		95	114	132		122	144	174	74	144	178	208
	D+L (Deflection)		43	51	61		64	75	86		90	104	120	74	123	141	161
	L (Deflection)		43	51	61		64	75	83		89	98	108	74	113	125	138
35' - 0"	D+L (Strength)			76	96		88	106	121		114	134	160	67	69	167	191
	D+L (Deflection)			44	52		55	64	75		78	91	105	67	69	125	143
	L (Deflection)			44	52		55	64	75		78	90	99	67	69	115	126
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
Unshored		18' - 0"	19' - 5"	20' - 8"	21' - 9"	17' - 3"	18' - 7"	19' - 10"	20' - 10"	16' - 7"	17' - 11"	19' - 2"	20' - 2"	16' - 0"	17' - 5"	18' - 7"	19' - 7"
1 row of shoring		14' - 7"	23' - 11"	25' - 9"	27' - 0"	12' - 11"	21' - 2"	24' - 9"	26' - 0"	11' - 6"	19' - 0"	23' - 11"	25' - 1"	10' - 5"	17' - 2"	23' - 2"	24' - 4"
2 rows of shoring		15' - 2"	-	-	-	13' - 5"	-	-	-	12' - 0"	-	-	-	10' - 10"	17' - 11"	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	11' - 5"	-	-	-
Cantilever		10' - 4"	11' - 2"	11' - 9"	12' - 4"	9' - 8"	10' - 8"	11' - 3"	11' - 10"	9' - 1"	10' - 4"	10' - 11"	11' - 5"	8' - 8"	10' - 0"	10' - 7"	11' - 1"
cy/100sf		1.54				1.85				2.16				2.47			

23'-0"	D+L (Strength)	151	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	151	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	146	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.10wL^2$, D+L Deflection - $0.0099wL^4/EI$, L Deflection - $0.0107wL^4/EI$, Shear - $0.45wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumes spans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

110 PCF CONCRETE

TABLE 16—DEEP-DEK® 4.5 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 4.5 CELLULAR ACOUSTICAL COMPOSITE FLOOR
$4^{5}/_{8}$" high x 12" pitch x 24" wide

145 PCF CONCRETE		SINGLE SPAN SLAB DESIGN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (54.81 psf)				8.625" (66.89 psf)				9.625" (78.98 psf)				10.625" (91.06 psf)			
Span	Load Combinations	GAGE															
		20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
20' - 0"	D+L (Strength)	81	140	159	177	96	183	205	227	108	222	259	286	123	253	321	355
	D+L (Deflection)	81	140	159	177	96	183	205	227	108	222	259	286	123	253	321	355
	L (Deflection)	81	140	159	177	96	183	205	227	108	222	259	286	123	253	321	355
21' - 0"	D+L (Strength)	74	122	137	153	88	158	177	197	98	201	225	250	112	238	280	310
	D+L (Deflection)	74	122	137	153	88	158	177	197	98	201	225	250	112	238	280	310
	L (Deflection)	74	122	137	153	88	158	177	197	98	201	225	250	112	238	280	310
22' - 0"	D+L (Strength)	68	104	118	133	81	136	153	171	84	173	195	218	101	217	244	271
	D+L (Deflection)	68	104	118	133	81	136	153	171	84	173	195	218	101	217	244	271
	L (Deflection)	68	104	118	133	81	136	153	171	84	173	195	218	101	217	244	271
23' - 0"	D+L (Strength)	63	89	101	115	57	116	132	148	69	150	169	190	83	188	213	238
	D+L (Deflection)	63	89	101	115	57	116	132	148	69	150	169	190	83	188	213	238
	L (Deflection)	63	89	101	115	57	116	132	148	69	150	169	190	83	188	213	238
24' - 0"	D+L (Strength)	58	75	86	99	46	99	114	128	56	129	147	165	68	163	185	208
	D+L (Deflection)	58	75	86	99	46	99	114	128	56	129	147	165	68	163	185	208
	L (Deflection)	58	75	86	99	46	99	114	128	56	129	147	165	68	163	185	208
25' - 0"	D+L (Strength)	51	63	74	85		84	97	111	45	110	127	144	54	141	161	182
	D+L (Deflection)	51	62	73	85		84	97	111	45	110	127	144	54	141	161	182
	L (Deflection)	51	62	73	85		84	97	111	45	110	127	144	54	141	161	182
26' - 0"	D+L (Strength)		53	62	72		71	83	95		94	109	124	42	121	139	159
	D+L (Deflection)		48	57	68		71	83	95		94	109	124	42	121	139	159
	L (Deflection)		48	57	68		71	83	95		94	109	124	42	121	139	159
27' - 0"	D+L (Strength)			52	61		59	70	82		79	93	107		103	120	138
	D+L (Deflection)			45	54		59	70	82		79	93	107		103	120	138
	L (Deflection)			45	54		59	70	82		79	93	107		103	120	138
28' - 0"	D+L (Strength)				51		49	58	69		66	79	92		87	103	119
	D+L (Deflection)				42		49	58	69		66	79	92		87	103	119
	L (Deflection)				42		49	58	69		66	79	92		87	103	119
29' - 0"	D+L (Strength)							48	58		54	66	78		48	88	103
	D+L (Deflection)							48	58		54	66	78		48	88	103
	L (Deflection)							48	58		54	66	78		48	88	103
30' - 0"	D+L (Strength)								48		44	55	66			74	88
	D+L (Deflection)								46		44	55	66			74	88
	L (Deflection)								46		44	55	66			74	88
31' - 0"	D+L (Strength)											44	55			61	74
	D+L (Deflection)											44	55			61	74
	L (Deflection)											44	55			61	74
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		15' - 7"	17' - 4"	18' - 6"	19' - 7"	14' - 6"	16' - 7"	17' - 9"	18' - 9"	13' - 6"	15' - 11"	17' - 1"	18' - 0"	12' - 9"	15' - 5"	16' - 6"	17' - 6"
1 row of shoring		12' - 10"	21' - 1"	23' - 1"	24' - 4"	11' - 2"	18' - 4"	22' - 1"	23' - 4"	9' - 10"	16' - 3"	21' - 3"	22' - 6"	8' - 10"	14' - 6"	20' - 7"	21' - 9"
2 rows of shoring		13' - 4"	-	-	-	11' - 7"	-	-	-	10' - 3"	-	-	-	9' - 2"	-	-	-
Cantilever		9' - 1"	9' - 8"	10' - 3"	10' - 11"	8' - 5"	9' - 3"	9' - 10"	10' - 5"	7' - 11"	8' - 10"	9' - 6"	10' - 1"	7' - 6"	8' - 7"	9' - 2"	9' - 9"
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		15' - 7"	17' - 7"	18' - 9"	19' - 10"	14' - 6"	16' - 10"	18' - 0"	19' - 0"	13' - 6"	16' - 2"	17' - 4"	18' - 3"	12' - 9"	15' - 8"	16' - 9"	17' - 8"
1 row of shoring		12' - 9"	21' - 0"	23' - 5"	24' - 8"	11' - 1"	18' - 3"	22' - 4"	23' - 7"	9' - 9"	16' - 2"	21' - 6"	22' - 9"	8' - 9"	14' - 6"	20' - 9"	22' - 1"
2 rows of shoring		13' - 3"	-	-	-	11' - 6"	-	-	-	10' - 2"	-	-	-	9' - 2"	-	-	-
Cantilever		9' - 3"	9' - 11"	10' - 6"	11' - 1"	8' - 7"	9' - 5"	10' - 1"	10' - 8"	8' - 1"	9' - 1"	9' - 8"	10' - 3"	7' - 8"	8' - 10"	9' - 4"	9' - 11"
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	17' - 10"	19' - 0"	-	-	17' - 1"	18' - 2"	-	-	16' - 5"	17' - 6"	-	-	15' - 11"	17' - 0"	-
1 row of shoring		-	20' - 10"	23' - 8"	-	-	18' - 1"	22' - 8"	-	-	16' - 1"	21' - 10"	-	-	14' - 5"	21' - 0"	-
Cantilever		-	10' - 2"	10' - 9"	-	-	9' - 8"	10' - 3"	-	-	9' - 4"	9' - 11"	-	-	9' - 0"	9' - 7"	-
cy/100sf		1.40				1.71				2.02				2.33			

20'-0" ↑	D+L (Strength)	81	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	81	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	81	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Simple Span Design Analysis.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

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TABLE 17—DEEP-DEK® 4.5 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 4.5 CELLULAR ACOUSTICAL COMPOSITE FLOOR
$4^{5}/_{8}$" high x 12" pitch x 24" wide

145 PCF CONCRETE		CONTINUOUS SLAB DESIGN - INTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (54.81 psf)				8.625" (66.89 psf)				9.625" (78.98 psf)				10.625" (91.06 psf)			
Span	Load Combinations	GAGE															
		20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
24' - 0"	D+L (Strength)	82	179	249	274	92	214	317	348	107	249	382	400	122	283	400	400
	D+L (Deflection)	82	179	249	274	92	214	317	348	107	249	382	400	122	283	400	400
	L (Deflection)	82	179	211	232	92	214	299	329	107	249	382	400	122	283	400	400
25' - 0"	D+L (Strength)	76	170	224	247	85	203	286	314	99	236	358	393	113	269	400	400
	D+L (Deflection)	76	170	224	247	85	203	286	314	99	236	358	393	113	269	400	400
	L (Deflection)	76	170	187	205	85	203	265	291	99	236	358	393	113	269	400	400
26' - 0"	D+L (Strength)	66	162	202	223	79	193	258	284	92	225	324	356	104	256	399	400
	D+L (Deflection)	66	162	202	223	79	193	258	284	92	225	324	356	104	256	399	400
	L (Deflection)	66	151	166	183	79	193	235	259	92	225	323	354	104	256	399	400
27' - 0"	D+L (Strength)	62	155	182	201	73	184	233	257	85	214	293	322	97	244	362	397
	D+L (Deflection)	62	155	182	201	73	184	233	257	85	214	293	322	97	244	362	397
	L (Deflection)	62	135	148	163	73	184	210	231	85	214	288	316	97	244	362	397
28' - 0"	D+L (Strength)	57	147	164	182	68	176	210	233	79	205	266	293	86	233	328	362
	D+L (Deflection)	57	147	164	182	68	176	210	233	79	205	266	293	86	233	328	362
	L (Deflection)	57	121	133	146	68	172	189	207	79	205	259	284	86	233	328	362
29' - 0"	D+L (Strength)	53	132	148	165	63	168	190	211	73	196	241	266	79	216	298	329
	D+L (Deflection)	53	132	148	165	63	168	190	211	73	196	241	266	79	216	298	329
	L (Deflection)	53	109	120	132	63	155	170	186	73	196	233	255	79	216	298	329
30' - 0"	D+L (Strength)	49	119	134	149	59	154	172	191	68	187	218	242	73	206	271	300
	D+L (Deflection)	49	119	134	149	59	154	172	191	68	187	218	242	73	206	271	300
	L (Deflection)	49	98	108	119	59	140	153	168	68	187	210	231	73	206	271	300
31' - 0"	D+L (Strength)	46	107	121	135	55	139	156	174	60	177	198	220	68	189	247	274
	D+L (Deflection)	46	107	121	135	55	139	156	174	60	177	198	220	68	189	247	274
	L (Deflection)	46	89	98	108	55	127	139	153	60	174	191	209	68	189	247	274
32' - 0"	D+L (Strength)	43	96	109	122	51	125	141	158	56	160	180	200	63	173	225	250
	D+L (Deflection)	43	96	109	122	51	125	141	158	56	160	180	200	63	173	225	250
	L (Deflection)	43	81	89	98	51	115	126	139	56	158	173	190	63	173	225	250
33' - 0"	D+L (Strength)	40	86	98	111	48	113	127	143	52	135	163	182	59	158	205	228
	D+L (Deflection)	40	86	98	111	48	113	127	143	52	135	163	182	59	158	205	228
	L (Deflection)	40	74	81	89	48	105	115	126	52	135	158	173	59	158	205	228
34' - 0"	D+L (Strength)		77	88	100	44	101	115	130	48	123	148	166	54	145	186	208
	D+L (Deflection)		77	88	100	44	101	115	130	48	123	148	166	54	145	186	208
	L (Deflection)		67	74	82	44	96	105	116	48	123	144	158	54	145	186	208
35' - 0"	D+L (Strength)		69	79	90		91	104	117	44	113	134	151	51	133	169	190
	D+L (Deflection)		69	79	90		91	104	117	44	113	134	151	51	133	169	190
	L (Deflection)		62	68	75		88	97	106	44	113	132	145	51	133	169	190
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		15' - 7"	17' - 4"	18' - 6"	19' - 7"	14' - 6"	16' - 7"	17' - 9"	18' - 9"	13' - 6"	15' - 11"	17' - 1"	18' - 0"	12' - 9"	15' - 5"	16' - 6"	17' - 6"
1 row of shoring		12' - 10"	21' - 1"	23' - 1"	24' - 4"	11' - 2"	18' - 4"	22' - 1"	23' - 4"	9' - 10"	16' - 3"	21' - 3"	22' - 6"	8' - 10"	14' - 6"	20' - 6"	21' - 9"
2 rows of shoring		13' - 4"	-	-	-	11' - 7"	-	-	-	10' - 3"	16' - 11"	-	-	9' - 2"	15' - 2"	-	-
3 rows of shoring		-	-	-	-	12' - 3"	-	-	-	10' - 9"	-	-	-	9' - 8"	-	-	-
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		15' - 7"	17' - 7"	18' - 9"	19' - 10"	14' - 6"	16' - 10"	18' - 0"	19' - 0"	13' - 6"	16' - 2"	17' - 4"	18' - 3"	12' - 9"	15' - 8"	16' - 9"	17' - 8"
1 row of shoring		12' - 9"	21' - 0"	23' - 5"	24' - 8"	11' - 1"	18' - 3"	22' - 4"	23' - 8"	9' - 9"	16' - 2"	21' - 6"	22' - 9"	8' - 9"	14' - 6"	20' - 9"	22' - 1"
2 rows of shoring		13' - 3"	-	-	-	11' - 6"	-	-	-	10' - 2"	16' - 10"	-	-	9' - 2"	15' - 1"	-	-
3 rows of shoring		-	-	-	-	12' - 2"	-	-	-	10' - 9"	-	-	-	9' - 7"	-	-	-
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	17' - 10"	19' - 0"	-	-	17' - 1"	18' - 2"	-	-	16' - 5"	17' - 6"	-	-	15' - 11"	17' - 0"	-
1 row of shoring		-	20' - 10"	23' - 8"	-	-	18' - 1"	22' - 8"	-	-	16' - 1"	21' - 10"	-	-	14' - 5"	21' - 0"	-
2 rows of shoring		-	-	-	-	-	-	-	-	-	16' - 9"	-	-	-	15' - 0"	-	-
cy/100sf		1.40				1.71				2.02				2.33			

29'0"	D+L (Strength)	53	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	53	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	53	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.0643wL^2$, D+L Deflection - $0.0054wL^4/EI$, L Deflection - $0.0063wL^4/EI$, Shear - $0.355wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumes spans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%..

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TABLE 18—DEEP-DEK® 4.5 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 4.5 CELLULAR ACOUSTICAL COMPOSITE FLOOR

$4^5/_8$" high x 12" pitch x 24" wide

145 PCF CONCRETE		CONTINUOUS SLAB DESIGN - EXTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (54.81 psf)				8.625" (66.89 psf)				9.625" (78.98 psf)				10.625" (91.06 psf)			
		GAGE															
Span	Load Combinations	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
24' - 0"	D+L (Strength)	53	121	136	152	58	154	175	194	68	179	222	245	77	204	275	304
	D+L (Deflection)	53	121	136	152	58	154	175	194	68	179	222	245	77	204	275	304
	L (Deflection)	53	113	124	137	58	154	175	194	68	179	222	245	77	204	275	304
25' - 0"	D+L (Strength)	48	106	120	134	53	138	155	172	61	170	197	218	69	193	245	272
	D+L (Deflection)	48	106	120	134	53	138	155	172	61	170	197	218	69	193	245	272
	L (Deflection)	48	100	110	121	53	138	155	171	61	170	197	218	69	193	245	272
26' - 0"	D+L (Strength)	40	93	105	119	48	121	137	153	55	155	175	194	63	183	218	243
	D+L (Deflection)	40	93	105	119	48	121	137	153	55	155	175	194	63	183	218	243
	L (Deflection)	40	89	98	107	48	121	137	152	55	155	175	194	63	183	218	243
27' - 0"	D+L (Strength)		81	93	105	43	106	121	136	50	137	155	173	57	172	194	217
	D+L (Deflection)		81	92	105	43	106	121	136	50	137	155	173	57	172	194	217
	L (Deflection)		79	87	96	43	106	121	136	50	137	155	173	57	172	194	217
28' - 0"	D+L (Strength)		71	81	92		93	106	120	45	120	137	154	48	152	173	194
	D+L (Deflection)		68	78	90		93	106	120	45	120	137	154	48	152	173	194
	L (Deflection)		68	78	86		93	106	120	45	120	137	154	48	152	173	194
29' - 0"	D+L (Strength)		61	71	81		81	93	106		106	121	137	43	91	153	173
	D+L (Deflection)		56	65	76		81	93	106		106	121	137	43	91	153	173
	L (Deflection)		56	65	76		81	93	106		106	121	137	43	91	153	173
30' - 0"	D+L (Strength)		53	62	71		70	82	94		93	107	121		79	136	154
	D+L (Deflection)		46	54	64		70	82	94		93	107	121		79	136	154
	L (Deflection)		46	54	64		70	82	94		93	107	121		79	136	154
31' - 0"	D+L (Strength)			53	62		61	71	82		81	94	107		67	120	137
	D+L (Deflection)			44	53		61	71	82		81	94	107		67	120	137
	L (Deflection)			44	53		61	71	82		81	94	107		67	120	137
32' - 0"	D+L (Strength)				54		52	62	72		70	82	95		57	106	122
	D+L (Deflection)				44		52	62	72		70	82	95		57	106	122
	L (Deflection)				44		52	62	72		70	82	95		57	106	122
33' - 0"	D+L (Strength)						44	53	62			71	83		48	93	108
	D+L (Deflection)						43	52	61			71	83		48	93	108
	L (Deflection)						43	52	61			71	83		48	93	108
34' - 0"	D+L (Strength)							45	54			61	73			81	95
	D+L (Deflection)							42	51			61	73			81	95
	L (Deflection)							42	51			61	73			81	95
35' - 0"	D+L (Strength)								46			52	63			70	83
	D+L (Deflection)								42			52	63			70	83
	L (Deflection)								42			52	63			70	83
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		15' - 7"	17' - 4"	18' - 6"	19' - 7"	14' - 6"	16' - 7"	17' - 9"	18' - 9"	13' - 6"	15' - 11"	17' - 1"	18' - 0"	12' - 9"	15' - 5"	16' - 6"	17' - 6"
1 row of shoring		12' - 10"	21' - 1"	23' - 1"	24' - 4"	11' - 2"	18' - 4"	22' - 1"	23' - 4"	9' - 10"	16' - 3"	21' - 3"	22' - 6"	8' - 10"	14' - 6"	20' - 6"	21' - 9"
2 rows of shoring		13' - 4"	-	-	-	11' - 7"	-	-	-	10' - 3"	16' - 11"	-	-	9' - 2"	15' - 2"	-	-
3 rows of shoring		-	-	-	-	12' - 3"	-	-	-	10' - 9"	-	-	-	9' - 8"	-	-	-
Cantilever		9' - 1"	9' - 8"	10' - 3"	10' - 11"	8' - 5"	9' - 3"	9' - 10"	10' - 5"	7' - 11"	8' - 10"	9' - 6"	10' - 1"	7' - 6"	8' - 7"	9' - 2"	9' - 9"
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		15' - 7"	17' - 7"	18' - 9"	19' - 10"	14' - 6"	16' - 10"	18' - 0"	19' - 0"	13' - 6"	16' - 2"	17' - 4"	18' - 3"	12' - 9"	15' - 8"	16' - 9"	17' - 8"
1 row of shoring		12' - 9"	21' - 0"	23' - 5"	24' - 8"	11' - 1"	18' - 3"	22' - 4"	23' - 8"	9' - 9"	16' - 2"	21' - 6"	22' - 9"	8' - 9"	14' - 6"	20' - 9"	22' - 1"
2 rows of shoring		13' - 3"	-	-	-	11' - 6"	-	-	-	10' - 2"	16' - 10"	-	-	9' - 2"	15' - 1"	-	-
3 rows of shoring		-	-	-	-	12' - 2"	-	-	-	10' - 9"	-	-	-	9' - 7"	-	-	-
Cantilever		9' - 3"	9' - 11"	10' - 6"	11' - 1"	8' - 7"	9' - 5"	10' - 1"	10' - 8"	8' - 1"	9' - 1"	9' - 8"	10' - 3"	7' - 8"	8' - 10"	9' - 4"	9' - 11"
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	17' - 10"	19' - 0"	-	-	17' - 1"	18' - 2"	-	-	16' - 5"	17' - 6"	-	-	15' - 11"	17' - 0"	-
1 row of shoring		-	20' - 10"	23' - 8"	-	-	18' - 1"	22' - 8"	-	-	16' - 1"	21' - 10"	-	-	14' - 5"	21' - 0"	-
2 rows of shoring		-	-	-	-	-	-	-	-	-	16' - 9"	-	-	-	15' - 0"	-	-
Cantilever		-	10' - 2"	10' - 9"	-	-	9' - 8"	10' - 3"	-	-	9' - 4"	9' - 11"	-	-	9' - 0"	9' - 7"	-
cy/100sf		1.40				1.71				2.02				2.33			

29'-0"	D+L (Strength) D+L (Deflection) L (Deflection)	61 56 56	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation) ← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240) ← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.10wL^2$, D+L Deflection - $0.0099wL^4/EI$, L Deflection - $0.0107wL^4/EI$, Shear - $0.45wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumes spans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

145 PCF CONCRETE

TABLE 19—DEEP-DEK® 4.5 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 4.5 CELLULAR ACOUSTICAL COMPOSITE FLOOR
$4^{5}/_{8}$" high x 12" pitch x 24" wide

110 PCF CONCRETE		SINGLE SPAN SLAB DESIGN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (41.58 psf)				8.625" (50.75 psf)				9.625" (59.91 psf)				10.625" (69.08 psf)			
Span	Load Combinations	GAGE															
		20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
20' - 0"	D+L (Strength)	84	139	122	174	101	181	220	198	117	227	276	336	133	259	338	400
	D+L (Deflection)	84	139	122	174	101	181	220	198	117	227	276	336	133	259	338	400
	L (Deflection)	84	126	122	155	101	179	198	198	117	227	271	299	133	259	338	397
21' - 0"	D+L (Strength)	78	123	151	187	93	161	195	240	107	206	247	300	122	244	304	367
	D+L (Deflection)	78	116	132	150	93	161	195	224	107	206	247	300	122	244	304	367
	L (Deflection)	78	109	121	134	93	155	171	189	107	206	234	258	122	244	304	343
22' - 0"	D+L (Strength)	72	109	134	166	86	144	174	214	99	185	221	269	110	230	273	331
	D+L (Deflection)	72	94	108	124	86	144	164	187	99	185	221	268	110	230	273	331
	L (Deflection)	72	94	105	117	86	134	149	165	99	184	204	225	110	230	271	299
23' - 0"	D+L (Strength)	66	97	119	148	79	129	156	192	92	167	199	243	100	209	247	299
	D+L (Deflection)	64	76	88	102	76	119	136	156	92	167	199	226	100	209	247	299
	L (Deflection)	64	76	88	102	76	118	130	144	92	161	178	197	100	209	237	261
24' - 0"	D+L (Strength)	62	86	106	133	74	116	140	173	71	151	180	219	85	191	224	271
	D+L (Deflection)	51	61	72	84	61	98	113	130	71	146	167	190	85	191	224	266
	L (Deflection)	51	61	72	84	61	98	113	127	71	142	157	173	85	189	209	230
25' - 0"	D+L (Strength)		77	95	119	69	104	126	155	60	137	162	198	72	174	204	246
	D+L (Deflection)		49	58	68	49	80	93	108	60	122	140	160	72	174	199	227
	L (Deflection)		49	58	68	49	80	93	108	60	122	139	153	72	167	185	203
26' - 0"	D+L (Strength)			84	106		94	113	140	50	124	147	180	61	159	186	224
	D+L (Deflection)			46	55		65	76	89	50	101	117	135	61	147	169	193
	L (Deflection)			46	55		65	76	89	50	101	117	135	61	147	164	181
27' - 0"	D+L (Strength)				96		84	102	127	41	113	133	163	50	146	170	203
	D+L (Deflection)				44		52	62	73	41	83	97	113	50	123	142	164
	L (Deflection)				44		52	62	73	41	83	97	113	50	123	142	161
28' - 0"	D+L (Strength)						76	92	114		103	121	145	41	134	155	182
	D+L (Deflection)						40	49	59		68	80	94	41	103	120	139
	L (Deflection)						40	49	59		68	80	94	41	103	120	139
29' - 0"	D+L (Strength)								101		94	110	129		124	142	163
	D+L (Deflection)								48		54	65	78		85	100	117
	L (Deflection)								48		54	65	78		85	100	117
30' - 0"	D+L (Strength)										86	101	115		113	131	146
	D+L (Deflection)										42	52	64		69	83	98
	L (Deflection)										42	52	64		69	83	98
31' - 0"	D+L (Strength)											91	102		101	116	130
	D+L (Deflection)											41	51		56	68	81
	L (Deflection)											41	51		56	68	81
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		17' - 1"	18' - 5"	19' - 8"	20' - 9"	16' - 0"	17' - 8"	18' - 10"	19' - 10"	15' - 1"	17' - 0"	18' - 2"	19' - 2"	14' - 3"	16' - 5"	17' - 7"	18' - 7"
1 row of shoring		15' - 5"	23' - 0"	24' - 6"	25' - 10"	13' - 6"	22' - 0"	23' - 6"	24' - 9"	12' - 1"	19' - 10"	22' - 7"	23' - 11"	10' - 10"	17' - 11"	21' - 11"	23' - 2"
2 rows of shoring		16' - 0"	-	-	-	-	-	-	-	12' - 7"	-	-	-	11' - 4"	-	-	-
Cantilever		9' - 9"	10' - 3"	10' - 11"	11' - 7"	9' - 4"	9' - 10"	10' - 6"	11' - 1"	8' - 10"	9' - 5"	10' - 1"	10' - 8"	8' - 4"	9' - 2"	9' - 9"	10' - 4"
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		17' - 1"	18' - 9"	19' - 11"	21' - 0"	16' - 0"	17' - 11"	19' - 1"	20' - 2"	15' - 1"	17' - 3"	18' - 5"	19' - 5"	14' - 3"	16' - 8"	17' - 10"	18' - 10"
1 row of shoring		15' - 3"	23' - 4"	24' - 10"	26' - 2"	13' - 5"	22' - 1"	23' - 9"	25' - 1"	12' - 0"	19' - 9"	22' - 11"	24' - 2"	10' - 10"	17' - 10"	22' - 3"	23' - 6"
2 rows of shoring		-	-	-	-	-	-	-	-	12' - 6"	-	-	-	11' - 3"	-	-	-
Cantilever		10' - 1"	10' - 6"	11' - 2"	11' - 9"	9' - 6"	10' - 1"	10' - 8"	11' - 3"	9' - 0"	9' - 8"	10' - 4"	10' - 11"	8' - 6"	9' - 5"	10' - 0"	10' - 7"
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	18' - 11"	20' - 2"	-	-	18' - 2"	19' - 4"	-	-	17' - 6"	18' - 8"	-	-	16' - 11"	18' - 1"	-
1 row of shoring		-	23' - 9"	25' - 2"	-	-	21' - 11"	24' - 1"	-	-	19' - 7"	23' - 3"	-	-	17' - 9"	22' - 6"	-
Cantilever		-	10' - 9"	11' - 5"	-	-	10' - 4"	10' - 11"	-	-	9' - 11"	10' - 6"	-	-	9' - 7"	10' - 2"	-
cy/100sf		1.40				1.71				2.02				2.33			

20'0"	D+L (Strength) D+L (Deflection) L (Deflection)	84 84 84	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation) ← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240) ← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Simple Span Design Analysis.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

110 PCF CONCRETE

TABLE 20—DEEP-DEK® 4.5 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 4.5 CELLULAR ACOUSTICAL COMPOSITE FLOOR
$4^{5}/_{8}$" high x 12" pitch x 24" wide

110 PCF CONCRETE		CONTINUOUS SLAB DESIGN - INTERIOR SPAN MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (41.58 psf)				8.625" (50.75 psf)				9.625" (59.91 psf)				10.625" (69.08 psf)			
Span	Load Combinations	GAGE															
		20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
24' - 0"	D+L (Strength)	87	184	270	323	104	220	335	400	116	256	389	400	132	292	400	400
	D+L (Deflection)	87	184	267	298	104	220	335	400	116	256	389	400	132	292	400	400
	L (Deflection)	87	151	167	186	104	214	237	262	116	256	324	357	132	292	400	400
25' - 0"	D+L (Strength)	81	175	248	297	97	210	320	380	108	244	373	400	123	278	400	400
	D+L (Deflection)	81	175	233	261	97	210	320	374	108	244	373	400	123	278	400	400
	L (Deflection)	81	133	148	164	97	189	209	231	108	244	286	316	123	278	381	400
26' - 0"	D+L (Strength)	76	167	228	273	90	200	296	350	100	232	357	400	114	265	400	400
	D+L (Deflection)	76	167	204	229	90	200	295	329	100	232	357	400	114	265	400	400
	L (Deflection)	76	119	132	146	90	168	186	206	100	230	255	281	114	265	339	373
27' - 0"	D+L (Strength)	71	160	211	251	81	191	274	324	94	222	343	400	107	253	391	400
	D+L (Deflection)	71	160	180	202	81	191	260	290	94	222	343	400	107	253	391	400
	L (Deflection)	71	106	118	130	81	150	166	184	94	206	227	251	107	253	302	333
28' - 0"	D+L (Strength)	66	153	195	232	75	182	255	299	87	212	324	371	100	242	377	400
	D+L (Deflection)	66	141	159	178	75	182	230	257	87	212	321	358	100	242	377	400
	L (Deflection)	66	95	105	117	75	135	149	165	87	184	204	225	100	242	271	299
29' - 0"	D+L (Strength)	62	146	179	213	71	175	237	274	82	203	302	341	93	231	363	400
	D+L (Deflection)	62	125	140	158	71	175	204	228	82	203	286	318	93	231	363	400
	L (Deflection)	62	86	95	105	71	121	134	148	82	166	183	202	93	221	244	269
30' - 0"	D+L (Strength)	59	140	164	195	66	168	221	251	77	195	283	313	88	222	350	385
	D+L (Deflection)	59	110	124	140	66	162	181	203	77	195	254	284	88	222	345	384
	L (Deflection)	59	77	86	95	66	109	121	134	77	150	166	183	88	200	220	243
31' - 0"	D+L (Strength)	52	135	150	180	62	161	207	231	72	187	265	288	82	213	326	355
	D+L (Deflection)	52	97	110	124	62	144	161	181	72	187	227	254	82	213	309	344
	L (Deflection)	52	70	78	86	62	99	110	121	72	136	150	166	82	181	200	220
32' - 0"	D+L (Strength)	49	127	138	166	58	155	194	213	68	180	244	266	77	205	300	327
	D+L (Deflection)	49	86	98	110	58	128	144	162	68	180	203	228	77	205	277	309
	L (Deflection)	49	64	71	78	58	90	100	110	68	124	137	151	77	165	182	200
33' - 0"	D+L (Strength)	46	119	127	153	55	149	178	196	64	173	224	245	73	197	277	302
	D+L (Deflection)	46	76	87	98	55	114	129	145	64	163	182	204	73	197	249	279
	L (Deflection)	46	58	64	71	55	82	91	101	64	113	124	137	73	150	166	183
34' - 0"	D+L (Strength)	43	112	116	141	52	143	164	180	60	167	207	226	65	190	256	280
	D+L (Deflection)	43	68	77	88	52	102	115	130	60	146	164	184	65	190	225	251
	L (Deflection)	43	53	59	65	52	75	83	92	60	103	114	126	65	137	151	167
35' - 0"	D+L (Strength)	41	105	107	130	49	137	151	166	57	161	191	209	61	183	237	259
	D+L (Deflection)	41	60	69	78	49	91	103	116	57	131	147	165	61	181	203	227
	L (Deflection)	41	49	54	60	49	69	76	84	57	94	104	115	61	126	139	153
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		17' - 1"	18' - 5"	19' - 8"	20' - 9"	16' - 0"	17' - 8"	18' - 10"	18' - 9"	15' - 1"	17' - 0"	18' - 2"	19' - 2"	14' - 3"	16' - 5"	17' - 7"	18' - 7"
1 row of shoring		15' - 5"	23' - 0"	24' - 6"	25' - 10"	13' - 6"	22' - 0"	23' - 6"	23' - 4"	12' - 1"	19' - 10"	22' - 7"	23' - 11"	10' - 10"	17' - 11"	21' - 11"	23' - 2"
2 rows of shoring		16' - 0"	-	-	-	14' - 1"	-	-	-	12' - 7"	-	-	-	11' - 4"	-	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	11' - 11"	-	-	-
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		17' - 1"	18' - 9"	19' - 11"	21' - 0"	16' - 0"	17' - 11"	19' - 1"	19' - 0"	15' - 1"	17' - 3"	18' - 5"	19' - 5"	14' - 3"	16' - 8"	17' - 10"	18' - 10"
1 row of shoring		15' - 3"	23' - 4"	24' - 10"	26' - 2"	13' - 5"	22' - 1"	23' - 9"	23' - 8"	12' - 0"	19' - 9"	22' - 11"	24' - 2"	10' - 10"	17' - 10"	22' - 3"	23' - 6"
2 rows of shoring		15' - 11"	-	-	-	14' - 0"	-	-	-	12' - 6"	-	-	-	11' - 3"	-	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	11' - 10"	-	-	-
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	18' - 11"	20' - 2"	-	-	18' - 2"	19' - 4"	-	-	17' - 6"	18' - 8"	-	-	16' - 11"	18' - 1"	-
1 row of shoring		-	23' - 9"	25' - 2"	-	-	21' - 11"	24' - 1"	-	-	19' - 7"	23' - 3"	-	-	17' - 9"	22' - 6"	-
cy/100sf		1.40				1.71				2.02				2.33			

29'0"	D+L (Strength)	62	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	62	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	62	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.0643wL^2$, D+L Deflection - $0.0054wL^4/EI$, L Deflection - $0.0063wL^4/EI$, Shear - $0.355wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumes spans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

110 PCF CONCRETE

TABLE 21—DEEP-DEK® 4.5 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 4.5 CELLULAR ACOUSTICAL COMPOSITE FLOOR

$4^{5}/_{8}$" high x 12" pitch x 24" wide

110 PCF CONCRETE		CONTINUOUS SLAB DESIGN - EXTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		7.625" (41.58 psf)				8.625" (50.75 psf)				9.625" (59.91 psf)				10.625" (69.08 psf)			
Span	Load Combinations	GAGE															
		20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
24' - 0"	D+L (Strength)	59	129	155	188	71	163	201	242	78	189	254	304	89	215	314	373
	D+L (Deflection)	59	107	121	138	71	160	180	203	78	189	254	287	89	215	314	373
	L (Deflection)	59	89	99	109	71	126	139	154	78	172	191	210	89	215	253	279
25' - 0"	D+L (Strength)	55	117	140	171	65	154	183	221	72	179	233	278	82	204	289	342
	D+L (Deflection)	55	90	103	117	65	136	154	174	72	179	220	248	82	204	289	340
	L (Deflection)	55	79	87	97	65	111	123	136	72	153	169	186	82	203	224	247
26' - 0"	D+L (Strength)	50	106	128	156	60	142	167	202	66	170	214	255	75	194	266	315
	D+L (Deflection)	50	76	87	100	60	116	132	150	66	168	190	214	75	194	263	295
	L (Deflection)	50	70	78	86	60	99	110	121	66	136	150	165	75	181	199	220
27' - 0"	D+L (Strength)	47	97	116	142	52	131	153	185	61	162	197	234	69	185	246	289
	D+L (Deflection)	47	64	74	85	52	99	113	129	61	145	164	186	69	185	229	257
	L (Deflection)	47	62	69	77	52	88	98	108	61	121	134	148	69	161	178	196
28' - 0"	D+L (Strength)	43	89	106	130	48	120	141	169	56	154	182	212	64	176	228	262
	D+L (Deflection)	43	53	62	72	48	84	96	111	56	124	142	161	64	176	199	224
	L (Deflection)	43	53	62	69	48	79	88	97	56	109	120	132	64	145	160	176
29' - 0"	D+L (Strength)		81	97	119	44	111	130	153	51	147	168	192	59	168	212	238
	D+L (Deflection)		44	52	61	44	71	82	95	51	107	122	139	59	152	173	196
	L (Deflection)		44	52	61	44	71	79	87	51	98	108	119	59	130	144	158
30' - 0"	D+L (Strength)			87	107		103	119	138	46	137	156	175	54	160	197	217
	D+L (Deflection)			43	51		60	70	81	46	92	105	121	54	132	150	171
	L (Deflection)			43	51		60	70	79	46	88	98	108	54	118	130	143
31' - 0"	D+L (Strength)				97		95	110	125		124	144	159	47	145	180	198
	D+L (Deflection)				43		50	59	69		78	90	104	47	114	131	149
	L (Deflection)				43		50	59	69		78	88	98	47	107	118	130
32' - 0"	D+L (Strength)						88	102	113		113	130	144		131	163	180
	D+L (Deflection)						42	50	59		66	77	90		98	113	130
	L (Deflection)						42	50	59		66	77	89		97	107	118
33' - 0"	D+L (Strength)							92	103		102	118	131		119	148	164
	D+L (Deflection)							41	49		56	66	77		84	98	113
	L (Deflection)							41	49		56	66	77		84	97	107
34' - 0"	D+L (Strength)								93		92	107	119		108	135	149
	D+L (Deflection)								41		47	56	66		72	84	98
	L (Deflection)								41		47	56	66		72	84	98
35' - 0"	D+L (Strength)											96	108		97	122	136
	D+L (Deflection)											47	56		61	72	85
	L (Deflection)											47	56		61	72	85
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		17' - 1"	18' - 5"	19' - 8"	20' - 9"	16' - 0"	17' - 8"	18' - 10"	19' - 10"	15' - 1"	17' - 0"	18' - 2"	19' - 2"	14' - 3"	16' - 5"	17' - 7"	18' - 7"
1 row of shoring		15' - 5"	23' - 0"	24' - 6"	25' - 10"	13' - 6"	22' - 0"	23' - 6"	24' - 9"	12' - 1"	19' - 10"	22' - 7"	23' - 11"	10' - 10"	17' - 11"	21' - 11"	23' - 2"
2 rows of shoring		-	-	-	-	14' - 1"	-	-	-	12' - 7"	-	-	-	11' - 4"	-	-	-
Cantilever		9' - 9"	10' - 3"	10' - 11"	11' - 7"	9' - 4"	9' - 10"	10' - 6"	11' - 1"	8' - 10"	9' - 5"	10' - 1"	10' - 8"	8' - 4"	9' - 2"	9' - 9"	10' - 4"
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		17' - 1"	18' - 9"	19' - 11"	21' - 0"	16' - 0"	17' - 11"	19' - 1"	20' - 2"	15' - 1"	17' - 3"	18' - 5"	19' - 5"	14' - 3"	16' - 8"	17' - 10"	18' - 10"
1 row of shoring		15' - 3"	23' - 4"	24' - 10"	26' - 2"	13' - 5"	22' - 1"	23' - 9"	25' - 1"	12' - 0"	19' - 9"	22' - 11"	24' - 2"	10' - 10"	17' - 10"	22' - 3"	23' - 6"
2 rows of shoring		-	-	-	-	14' - 0"	-	-	-	12' - 6"	-	-	-	11' - 3"	-	-	-
Cantilever		10' - 1"	10' - 6"	11' - 2"	11' - 9"	9' - 6"	10' - 1"	10' - 8"	11' - 3"	9' - 0"	9' - 8"	10' - 4"	10' - 11"	8' - 6"	9' - 5"	10' - 0"	10' - 7"
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	18' - 11"	20' - 2"	-	-	18' - 2"	19' - 4"	-	-	17' - 6"	18' - 8"	-	-	16' - 11"	18' - 1"	-
1 row of shoring		-	23' - 9"	25' - 2"	-	-	21' - 11"	24' - 1"	-	-	19' - 7"	23' - 3"	-	-	17' - 9"	22' - 6"	-
Cantilever		-	10' - 9"	11' - 5"	-	-	10' - 4"	10' - 11"	-	-	9' - 11"	10' - 6"	-	-	9' - 7"	10' - 2"	-
cy/100sf		1.40				1.71				2.02				2.33			

24'0" ▲	D+L (Strength) D+L (Deflection) L (Deflection)	59 59 59	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation) ← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240) ← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - 0.10wL2, D+L Deflection - 0.0099wL4/ EI, L Deflection - 0.0107wL4/ EI, Shear - 0.45wL.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumes spans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

110 PCF CONCRETE

TABLE 22—DEEP-DEK® 6 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 6 CELLULAR ACOUSTICAL COMPOSITE FLOOR

$6^{1}/_{8}$" high x 12" pitch x 24" wide

145 PCF CONCRETE		SINGLE SPAN SLAB DESIGN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (60.4 psf)				10.125" (72.48 psf)				11.125" (84.56 psf)				12.125" (96.65 psf)			
Span	Load Combinations	GAGE															
		20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
22' - 0"	D+L (Strength)	113	145	180	180	97	182	224	251	114	226	273	303	133	275	327	362
	D+L (Deflection)	113	145	180	180	97	182	224	251	114	226	273	303	133	275	327	362
	L (Deflection)	113	145	180	180	97	182	224	251	114	226	273	303	133	275	327	362
23' - 0"	D+L (Strength)	101	128	160	183	82	163	198	221	96	203	240	267	112	248	288	320
	D+L (Deflection)	101	128	160	183	82	163	198	221	96	203	240	267	112	248	288	320
	L (Deflection)	101	128	160	183	82	163	198	221	96	203	240	267	112	248	288	320
24' - 0"	D+L (Strength)	57	114	142	161	69	145	173	195	81	183	211	236	94	225	254	283
	D+L (Deflection)	57	114	142	161	69	145	173	195	81	183	211	236	94	225	254	283
	L (Deflection)	57	114	142	161	69	145	173	195	81	183	211	236	94	225	254	283
25' - 0"	D+L (Strength)	47	101	124	141	57	130	152	171	67	163	185	208	78	197	223	250
	D+L (Deflection)	47	101	124	141	57	130	152	171	67	163	185	208	78	197	223	250
	L (Deflection)	47	101	124	141	57	130	152	171	67	163	185	208	78	197	223	250
26' - 0"	D+L (Strength)		89	109	124	47	116	133	150	55	142	162	183	85	172	197	221
	D+L (Deflection)		89	109	124	47	116	133	150	55	142	162	183	85	172	197	221
	L (Deflection)		89	109	124	47	116	133	150	55	142	162	183	85	172	197	221
27' - 0"	D+L (Strength)		78	94	109		100	116	132	44	123	142	161	72	150	173	196
	D+L (Deflection)		78	94	109		100	116	132	44	123	142	161	72	150	173	196
	L (Deflection)		78	94	109		100	116	132	44	123	142	161	72	150	173	196
28' - 0"	D+L (Strength)		68	82	95		86	100	116		107	124	142	61	84	151	172
	D+L (Deflection)		68	82	95		86	100	116		107	124	142	61	84	151	172
	L (Deflection)		68	82	95		86	100	116		107	124	142	61	84	151	172
29' - 0"	D+L (Strength)		59	70	82		73	87	101		92	107	124	51	70	132	152
	D+L (Deflection)		59	70	82		73	87	101		92	107	124	51	70	132	152
	L (Deflection)		59	70	82		73	87	101		92	107	124	51	70	132	152
30' - 0"	D+L (Strength)		50	60	71		62	74	87		78	93	108	42	59	115	133
	D+L (Deflection)		49	58	70		62	74	87		78	93	108	42	59	115	133
	L (Deflection)		49	58	70		62	74	87		78	93	108	42	59	115	133
31' - 0"	D+L (Strength)			51	61		52	63	75		40	79	94		48	99	116
	D+L (Deflection)			46	57		52	63	75		40	79	94		48	99	116
	L (Deflection)			46	57		52	63	75		40	79	94		48	99	116
32' - 0"	D+L (Strength)				52		43	53	64			67	81			85	101
	D+L (Deflection)				45		43	53	64			67	81			85	101
	L (Deflection)				45		43	53	64			67	81			85	101
33' - 0"	D+L (Strength)							44	54			56	69			72	87
	D+L (Deflection)							44	54			56	69			72	87
	L (Deflection)							44	54			56	69			72	87
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		17' - 5"	19' - 9"	21' - 2"	22' - 4"	16' - 4"	18' - 11"	20' - 4"	21' - 5"	15' - 4"	18' - 3"	19' - 7"	20' - 9"	14' - 7"	17' - 9"	19' - 0"	20' - 1"
1 row of shoring		11' - 10"	19' - 6"	26' - 4"	27' - 9"	10' - 5"	17' - 1"	25' - 3"	26' - 8"	9' - 3"	15' - 3"	22' - 11"	25' - 9"	8' - 4"	13' - 9"	20' - 8"	25' - 0"
2 rows of shoring		12' - 4"	-	-	-	10' - 10"	-	-	-	9' - 7"	15' - 10"	-	-	8' - 8"	14' - 4"	-	-
Cantilever		10' - 6"	11' - 1"	11' - 9"	12' - 5"	10' - 1"	10' - 7"	11' - 3"	11' - 11"	9' - 6"	10' - 3"	10' - 11"	11' - 7"	9' - 0"	9' - 11"	10' - 7"	11' - 2"
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		17' - 5"	20' - 0"	21' - 5"	22' - 7"	16' - 3"	19' - 3"	20' - 7"	21' - 9"	15' - 4"	18' - 6"	19' - 10"	21' - 0"	14' - 7"	18' - 0"	19' - 3"	20' - 4"
1 row of shoring		11' - 9"	19' - 5"	26' - 8"	28' - 2"	10' - 4"	17' - 0"	25' - 6"	27' - 0"	9' - 2"	15' - 2"	22' - 9"	26' - 2"	8' - 3"	13' - 8"	20' - 7"	25' - 4"
2 rows of shoring		12' - 3"	-	-	-	10' - 9"	-	-	-	9' - 7"	15' - 9"	-	-	8' - 7"	14' - 3"	-	-
Cantilever		10' - 9"	11' - 4"	12' - 0"	12' - 8"	10' - 3"	10' - 10"	11' - 6"	12' - 2"	9' - 8"	10' - 6"	11' - 1"	11' - 9"	9' - 2"	10' - 2"	10' - 9"	11' - 5"
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	20' - 3"	21' - 9"	-	-	19' - 5"	20' - 10"	-	-	18' - 9"	20' - 2"	-	-	18' - 2"	19' - 6"	-
1 row of shoring		-	19' - 3"	27' - 0"	-	-	16' - 11"	25' - 4"	-	-	15' - 1"	22' - 8"	-	-	13' - 7"	20' - 5"	-
2 rows of shoring		-	-	-	-	-	-	-	-	-	15' - 9"	-	-	-	14' - 2"	-	-
Cantilever		-	11' - 7"	12' - 3"	-	-	11' - 1"	11' - 9"	-	-	10' - 8"	11' - 4"	-	-	10' - 4"	11' - 0"	-
cy/100sf		1.54				1.85				2.16				2.47			

22'0"	D+L (Strength)	113	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	113	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	113	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Simple Span Design Analysis.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

145 PCF CONCRETE

TABLE 23—DEEP-DEK® 6 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 6 CELLULAR ACOUSTICAL COMPOSITE FLOOR
$6^1/_8$" high x 12" pitch x 24" wide

145 PCF CONCRETE		CONTINUOUS SLAB DESIGN - INTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (60.4 psf)				10.125" (72.48 psf)				11.125" (84.56 psf)				12.125" (96.65 psf)			
Span	Load Combinations	GAGE															
		20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
24' - 0"	D+L (Strength)	201	243	284	400	238	284	331	400	274	325	379	400	308	365	400	400
	D+L (Deflection)	201	243	284	400	238	284	331	400	274	325	379	400	308	365	400	400
	L (Deflection)	201	243	284	377	238	284	331	400	274	325	379	400	308	365	400	400
25' - 0"	D+L (Strength)	181	231	269	365	216	270	314	400	252	309	360	400	290	347	400	400
	D+L (Deflection)	181	231	269	365	216	270	314	400	252	309	360	400	290	347	400	400
	L (Deflection)	181	231	269	334	216	270	314	400	252	309	360	400	290	347	400	400
26' - 0"	D+L (Strength)	164	220	256	332	195	257	299	399	228	294	342	400	269	331	385	400
	D+L (Deflection)	164	220	256	332	195	257	299	399	228	294	342	400	269	331	385	400
	L (Deflection)	164	220	256	297	195	257	299	397	228	294	342	400	269	331	385	400
27' - 0"	D+L (Strength)	149	210	244	302	177	245	285	363	207	280	326	400	256	316	367	400
	D+L (Deflection)	149	210	244	302	177	245	285	363	207	280	326	400	256	316	367	400
	L (Deflection)	149	210	241	265	177	245	285	354	207	280	326	400	256	316	367	400
28' - 0"	D+L (Strength)	136	195	232	275	161	234	272	331	188	268	311	397	244	286	350	400
	D+L (Deflection)	136	195	232	275	161	234	272	331	188	268	311	397	244	286	350	400
	L (Deflection)	136	195	216	238	161	234	272	318	188	268	311	397	244	286	350	400
29' - 0"	D+L (Strength)	124	178	219	251	146	224	260	302	201	257	297	363	233	273	334	400
	D+L (Deflection)	124	178	219	251	146	224	260	302	201	257	297	363	233	273	334	400
	L (Deflection)	124	177	195	214	146	224	260	286	201	257	297	363	233	273	334	400
30' - 0"	D+L (Strength)	113	162	200	229	133	215	248	276	186	246	284	332	220	255	320	396
	D+L (Deflection)	113	162	200	229	133	215	248	276	186	246	284	332	220	255	320	396
	L (Deflection)	113	160	176	193	133	215	236	258	186	246	284	332	220	255	320	396
31' - 0"	D+L (Strength)	103	147	183	210	121	203	227	253	172	202	272	304	203	234	307	363
	D+L (Deflection)	103	147	183	210	121	203	227	253	172	202	272	304	203	234	307	363
	L (Deflection)	103	145	159	175	121	195	213	234	172	202	272	304	203	234	307	363
32' - 0"	D+L (Strength)	94	134	168	192	111	185	208	231	159	186	251	279	189	215	294	333
	D+L (Deflection)	94	134	168	192	111	185	208	231	159	186	251	279	189	215	294	333
	L (Deflection)	94	132	145	159	111	177	194	213	159	186	251	278	189	215	294	333
33' - 0"	D+L (Strength)	85	122	154	175	122	169	190	212	147	171	230	256	175	198	276	306
	D+L (Deflection)	85	122	154	175	122	169	190	212	147	171	230	256	175	198	276	306
	L (Deflection)	85	120	132	145	122	162	177	194	147	171	230	253	175	198	276	306
34' - 0"	D+L (Strength)	78	111	141	161	113	135	173	194	137	158	210	235	163	182	253	281
	D+L (Deflection)	78	111	141	161	113	135	173	194	137	158	210	235	163	182	253	281
	L (Deflection)	78	110	121	133	113	135	162	178	137	158	210	232	163	182	253	281
35' - 0"	D+L (Strength)	71	101	129	147	105	124	158	178	127	145	192	215	150	168	232	259
	D+L (Deflection)	71	101	129	147	105	124	158	178	127	145	192	215	150	168	232	259
	L (Deflection)	71	101	111	122	105	124	148	163	127	145	192	212	150	168	232	259
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		17' - 5"	19' - 9"	21' - 2"	22' - 4"	16' - 4"	18' - 11"	20' - 4"	21' - 5"	15' - 4"	18' - 3"	19' - 7"	20' - 9"	14' - 7"	17' - 9"	19' - 0"	20' - 1"
1 row of shoring		11' - 10"	19' - 6"	26' - 4"	27' - 9"	10' - 5"	17' - 1"	25' - 3"	26' - 8"	9' - 3"	15' - 3"	22' - 11"	25' - 9"	8' - 4"	13' - 9"	20' - 8"	25' - 0"
2 rows of shoring		12' - 4"	-	-	-	10' - 10"	-	-	-	9' - 7"	15' - 10"	-	-	8' - 8"	14' - 4"	-	-
3 rows of shoring		13' - 0"	-	-	-	11' - 5"	-	-	-	10' - 1"	-	-	-	9' - 1"	-	-	-
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		17' - 5"	20' - 0"	21' - 5"	22' - 7"	16' - 3"	19' - 3"	20' - 7"	21' - 9"	15' - 4"	18' - 6"	19' - 10"	21' - 0"	14' - 7"	18' - 0"	19' - 3"	20' - 4"
1 row of shoring		11' - 9"	19' - 5"	26' - 8"	28' - 2"	10' - 4"	17' - 0"	25' - 6"	27' - 0"	9' - 2"	15' - 2"	22' - 9"	26' - 2"	8' - 3"	13' - 8"	20' - 7"	25' - 4"
2 rows of shoring		12' - 3"	-	-	-	10' - 9"	-	-	-	9' - 7"	15' - 9"	-	-	8' - 7"	14' - 3"	-	-
3 rows of shoring		12' - 11"	-	-	-	11' - 4"	-	-	-	10' - 1"	-	-	-	9' - 1"	-	-	-
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	20' - 3"	21' - 9"	-	-	19' - 5"	20' - 10"	-	-	18' - 9"	20' - 2"	-	-	18' - 2"	19' - 6"	-
1 row of shoring		-	19' - 3"	27' - 0"	-	-	16' - 11"	25' - 4"	-	-	15' - 1"	22' - 8"	-	-	13' - 7"	20' - 5"	-
2 rows of shoring		-	-	-	-	-	-	-	-	-	15' - 9"	-	-	-	14' - 2"	-	-
cy/100sf		1.54				1.85				2.16				2.47			

29'0"	D+L (Strength) D+L (Deflection) L (Deflection)	124 124 124	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation) ← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240) ← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.0643wL^2$, D+L Deflection - $0.0054wL^4/EI$, L Deflection - $0.0063wL^4/EI$, Shear - $0.355wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumes spans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

145 PCF CONCRETE

TABLE 24—DEEP-DEK® 6 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 6 CELLULAR ACOUSTICAL COMPOSITE FLOOR

$6^1/_8$" high x 12" pitch x 24" wide

145 PCF CONCRETE		CONTINUOUS SLAB DESIGN - EXTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (60.4 psf)				10.125" (72.48 psf)				11.125" (84.56 psf)				12.125" (96.65 psf)			
		GAGE															
Span	Load Combinations	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
24' - 0"	D+L (Strength)	93	163	202	232	110	208	246	280	129	238	281	336	150	268	316	400
	D+L (Deflection)	93	163	202	232	110	208	246	280	129	238	281	336	150	268	316	400
	L (Deflection)	93	163	202	222	110	208	246	280	129	238	281	336	150	268	316	400
25' - 0"	D+L (Strength)	80	145	181	208	95	197	225	250	112	225	266	302	130	254	299	360
	D+L (Deflection)	80	145	181	208	95	197	225	250	112	225	266	302	130	254	299	360
	L (Deflection)	80	145	179	197	95	197	225	250	112	225	266	302	130	254	299	360
26' - 0"	D+L (Strength)	69	129	162	186	82	180	202	225	97	214	244	271	154	241	283	324
	D+L (Deflection)	69	129	162	186	82	180	202	225	97	214	244	271	154	241	283	324
	L (Deflection)	69	129	159	175	82	180	202	225	97	214	244	271	154	241	283	324
27' - 0"	D+L (Strength)	60	114	145	167	71	160	180	202	83	194	219	243	138	229	262	292
	D+L (Deflection)	60	114	145	167	71	160	180	202	83	194	219	243	138	229	262	292
	L (Deflection)	60	114	142	156	71	160	180	202	83	194	219	243	138	229	262	292
28' - 0"	D+L (Strength)	51	102	130	150	60	143	161	181	71	174	196	219	124	137	236	263
	D+L (Deflection)	51	102	130	150	60	143	161	181	71	174	196	219	124	137	236	263
	L (Deflection)	51	102	127	140	60	143	161	181	71	174	196	219	124	137	236	263
29' - 0"	D+L (Strength)	43	90	116	134	51	127	144	162	92	155	175	197	111	121	212	237
	D+L (Deflection)	43	90	116	134	51	127	144	162	92	155	175	197	111	121	212	237
	L (Deflection)	43	90	115	126	51	127	144	162	92	155	175	197	111	121	212	237
30' - 0"	D+L (Strength)		80	104	120	43	113	129	146	83	138	157	177	99	106	190	213
	D+L (Deflection)		80	104	120	43	113	129	146	83	138	157	177	99	106	190	213
	L (Deflection)		80	103	114	43	113	129	146	83	138	157	177	99	106	190	213
31' - 0"	D+L (Strength)		70	93	107		100	115	130	74	79	140	159	89	93	170	192
	D+L (Deflection)		70	93	107		100	115	130	74	79	140	159	89	93	170	192
	L (Deflection)		70	93	103		100	115	130	74	79	140	159	89	93	170	192
32' - 0"	D+L (Strength)		62	83	96		88	102	117	65	69	125	143	80	81	153	173
	D+L (Deflection)		62	83	96		88	102	117	65	69	125	143	80	81	153	173
	L (Deflection)		62	83	94		88	102	117	65	69	125	143	80	81	153	173
33' - 0"	D+L (Strength)		54	74	86		78	91	104	58	59	112	128	71	70	137	156
	D+L (Deflection)		54	72	84		78	91	104	58	59	112	128	71	70	137	156
	L (Deflection)		54	72	84		78	91	104	58	59	112	128	71	70	137	156
34' - 0"	D+L (Strength)		47	65	76		43	80	93	51	51	99	114	63	60	122	140
	D+L (Deflection)		47	61	72		43	80	93	51	51	99	114	63	60	122	140
	L (Deflection)		47	61	72		43	80	93	51	51	99	114	63	60	122	140
35' - 0"	D+L (Strength)		41	57	67			70	82	45	43	88	102	56	50	108	125
	D+L (Deflection)		41	52	61			70	82	45	43	88	102	56	50	108	125
	L (Deflection)		41	52	61			70	82	45	43	88	102	56	50	108	125
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		17' - 5"	19' - 9"	21' - 2"	22' - 4"	16' - 4"	18' - 11"	20' - 4"	21' - 5"	15' - 4"	18' - 3"	19' - 7"	20' - 9"	14' - 7"	17' - 9"	19' - 0"	20' - 1"
1 row of shoring		11' - 10"	19' - 6"	26' - 4"	27' - 9"	10' - 5"	17' - 1"	25' - 3"	26' - 8"	9' - 3"	15' - 3"	22' - 11"	25' - 9"	8' - 4"	13' - 9"	20' - 8"	25' - 0"
2 rows of shoring		12' - 4"	-	-	-	10' - 10"	-	-	-	9' - 7"	15' - 10"	-	-	8' - 8"	14' - 4"	-	-
3 rows of shoring		13' - 0"	-	-	-	11' - 5"	-	-	-	10' - 1"	-	-	-	9' - 1"	-	-	-
Cantilever		10' - 6"	11' - 1"	11' - 9"	12' - 5"	10' - 1"	10' - 7"	11' - 3"	11' - 11"	9' - 6"	10' - 3"	10' - 11"	11' - 7"	9' - 0"	9' - 11"	10' - 7"	11' - 2"
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		17' - 5"	20' - 0"	21' - 5"	22' - 7"	16' - 3"	19' - 3"	20' - 7"	21' - 9"	15' - 4"	18' - 6"	19' - 10"	21' - 0"	14' - 7"	18' - 0"	19' - 3"	20' - 4"
1 row of shoring		11' - 9"	19' - 5"	26' - 8"	28' - 2"	10' - 4"	17' - 0"	25' - 6"	27' - 0"	9' - 2"	15' - 2"	22' - 9"	26' - 2"	8' - 3"	13' - 8"	20' - 7"	25' - 4"
2 rows of shoring		12' - 3"	-	-	-	10' - 9"	-	-	-	9' - 7"	15' - 9"	-	-	8' - 7"	14' - 3"	-	-
3 rows of shoring		12' - 11"	-	-	-	11' - 4"	-	-	-	10' - 1"	-	-	-	9' - 1"	-	-	-
Cantilever		10' - 9"	11' - 4"	12' - 0"	12' - 8"	10' - 3"	10' - 10"	11' - 6"	12' - 2"	9' - 8"	10' - 6"	11' - 1"	11' - 9"	9' - 2"	10' - 2"	10' - 9"	11' - 5"
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	20' - 3"	21' - 9"	-	-	19' - 5"	20' - 10"	-	-	18' - 9"	20' - 2"	-	-	18' - 2"	19' - 6"	-
1 row of shoring		-	19' - 3"	27' - 0"	-	-	16' - 11"	25' - 4"	-	-	15' - 1"	22' - 8"	-	-	13' - 7"	20' - 5"	-
2 rows of shoring		-	-	-	-	-	-	-	-	-	15' - 9"	-	-	-	14' - 2"	-	-
Cantilever		-	11' - 7"	12' - 3"	-	-	11' - 1"	11' - 9"	-	-	10' - 8"	11' - 4"	-	-	10' - 4"	11' - 0"	-
cy/100sf		1.54				1.85				2.16				2.47			

29'0"	D+L (Strength) D+L (Deflection) L (Deflection)	43 43 43	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation) ← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240) ← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.10wL^2$, D+L Deflection - $0.0099wL^4/EI$, L Deflection - $0.0107wL^4/EI$, Shear - $0.45wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumes spans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

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TABLE 25—DEEP-DEK® 6 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 6 CELLULAR ACOUSTICAL COMPOSITE FLOOR
$6^{1}/_{8}$" high x 12" pitch x 24" wide

110 PCF CONCRETE		SINGLE SPAN SLAB DESIGN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (45.82 psf)				10.125" (54.98 psf)				11.125" (64.15 psf)				12.125" (73.32 psf)			
Span	Load Combinations	GAGE															
		20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
22' - 0"	D+L (Strength)	113	145	130	184	144	180	139	212	180	220	267	231	149	266	319	386
	D+L (Deflection)	113	145	130	184	144	180	139	212	180	220	267	231	149	266	319	386
	L (Deflection)	113	145	130	184	144	180	139	212	180	220	267	231	149	266	319	386
23' - 0"	D+L (Strength)	101	129	111	161	129	161	197	186	110	199	240	292	129	241	288	348
	D+L (Deflection)	101	129	111	161	129	161	197	186	110	199	240	292	129	241	288	348
	L (Deflection)	101	129	111	161	129	161	197	186	110	199	240	288	129	241	288	348
24' - 0"	D+L (Strength)	91	115	140	168	115	145	177	217	95	179	217	264	111	218	261	315
	D+L (Deflection)	91	115	140	165	115	145	177	217	95	179	217	264	111	218	261	315
	L (Deflection)	91	115	132	147	115	145	176	195	95	179	217	253	111	218	261	315
25' - 0"	D+L (Strength)	81	103	125	151	103	130	159	196	82	162	196	239	96	199	237	286
	D+L (Deflection)	81	103	121	140	103	130	159	193	82	162	196	239	96	199	237	286
	L (Deflection)	81	103	117	130	103	130	156	172	82	162	196	224	96	199	237	286
26' - 0"	D+L (Strength)	73	92	112	135	60	118	144	177	70	147	177	216	82	181	215	260
	D+L (Deflection)	73	87	101	118	60	118	144	164	70	147	177	216	82	181	215	260
	L (Deflection)	73	87	101	116	60	118	138	153	70	147	177	199	82	181	215	254
27' - 0"	D+L (Strength)	65	83	101	122	51	106	130	161	60	134	161	197	70	166	196	237
	D+L (Deflection)	60	72	84	99	51	105	122	140	60	134	161	192	70	166	196	237
	L (Deflection)	60	72	84	99	51	105	122	137	60	134	161	178	70	166	196	227
28' - 0"	D+L (Strength)	59	74	90	110	43	96	117	145	50	122	146	179	59	152	179	217
	D+L (Deflection)	48	59	70	83	43	88	102	119	50	122	144	165	59	152	179	217
	L (Deflection)	48	59	70	83	43	88	102	119	50	122	144	160	59	152	179	204
29' - 0"	D+L (Strength)		67	81	99		87	106	132	42	111	133	163	50	139	164	198
	D+L (Deflection)		48	58	69		73	86	100	42	105	122	141	50	139	164	191
	L (Deflection)		48	58	69		73	86	100	42	105	122	141	50	139	164	183
30' - 0"	D+L (Strength)			73	89		79	96	120		101	121	149	41	128	150	181
	D+L (Deflection)			47	57		60	71	84		88	103	120	41	124	143	165
	L (Deflection)			47	57		60	71	84		88	103	120	41	124	143	165
31' - 0"	D+L (Strength)				80		71	87	109		93	111	136		118	138	166
	D+L (Deflection)				47		49	59	70		73	87	102		105	122	142
	L (Deflection)				47		49	59	70		73	87	102		105	122	142
32' - 0"	D+L (Strength)							79	99		85	101	124		109	127	153
	D+L (Deflection)							47	58		60	72	86		88	103	121
	L (Deflection)							47	58		60	72	86		88	103	121
33' - 0"	D+L (Strength)								90		77	92	113		100	116	140
	D+L (Deflection)								47		49	59	72		73	87	103
	L (Deflection)								47		49	59	72		73	87	103
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		19' - 2"	21' - 0"	22' - 6"	23' - 8"	18' - 0"	20' - 2"	21' - 7"	22' - 9"	17' - 0"	19' - 6"	20' - 10"	22' - 0"	16' - 3"	18' - 11"	20' - 3"	21' - 5"
1 row of shoring		14' - 3"	23' - 6"	28' - 0"	29' - 6"	12' - 8"	20' - 10"	26' - 11"	28' - 4"	11' - 4"	18' - 8"	26' - 0"	27' - 5"	10' - 3"	16' - 11"	25' - 3"	26' - 8"
2 rows of shoring		-	-	-	-	13' - 2"	-	-	-	11' - 10"	-	-	-	10' - 9"	-	-	-
Cantilever		11' - 2"	11' - 9"	12' - 6"	13' - 2"	10' - 9"	11' - 3"	12' - 0"	12' - 8"	10' - 4"	10' - 11"	11' - 7"	12' - 3"	10' - 1"	10' - 7"	11' - 3"	11' - 11"
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		19' - 1"	21' - 3"	22' - 9"	23' - 11"	18' - 0"	20' - 5"	21' - 10"	23' - 0"	17' - 0"	19' - 9"	21' - 2"	22' - 4"	16' - 3"	19' - 2"	20' - 6"	21' - 8"
1 row of shoring		14' - 2"	23' - 3"	28' - 4"	29' - 10"	12' - 7"	20' - 8"	27' - 3"	28' - 8"	11' - 3"	18' - 7"	26' - 4"	27' - 9"	10' - 3"	16' - 10"	25' - 3"	27' - 0"
2 rows of shoring		14' - 9"	-	-	-	13' - 1"	-	-	-	11' - 9"	-	-	-	10' - 8"	-	-	-
Cantilever		11' - 6"	12' - 0"	12' - 9"	13' - 5"	11' - 0"	11' - 7"	12' - 3"	12' - 11"	10' - 8"	11' - 2"	11' - 10"	12' - 6"	10' - 3"	10' - 10"	11' - 6"	12' - 2"
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	21' - 6"	23' - 0"	-	-	20' - 8"	22' - 2"	-	-	20' - 0"	21' - 5"	-	-	19' - 5"	20' - 10"	-
1 row of shoring		-	23' - 1"	28' - 8"	-	-	20' - 6"	27' - 7"	-	-	18' - 6"	26' - 8"	-	-	16' - 9"	25' - 1"	-
Cantilever		-	12' - 3"	13' - 0"	-	-	11' - 9"	12' - 6"	-	-	11' - 5"	12' - 1"	-	-	11' - 1"	11' - 9"	-
cy/100sf		1.54				1.85				2.16				2.47			

27'0"	D+L (Strength) D+L (Deflection) L (Deflection)	65 60 60	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation) ← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240) ← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Simple Span Design Analysis.

4.) Additional reinforcement may be required for Long-Term Deflection design requirements.

110 PCF CONCRETE

TABLE 26—DEEP-DEK® 6 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 6 CELLULAR ACOUSTICAL COMPOSITE FLOOR

$6^{1}/_{8}$" high x 12" pitch x 24" wide

110 PCF CONCRETE		CONTINUOUS SLAB DESIGN - INTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (45.82 psf)				10.125" (54.98 psf)				11.125" (64.15 psf)				12.125" (73.32 psf)			
Span	Load Combinations	GAGE															
		20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
24' - 0"	D+L (Strength)	221	248	289	398	258	290	338	400	280	332	387	400	321	374	400	400
	D+L (Deflection)	221	248	289	398	258	290	338	400	280	332	387	400	321	374	400	400
	L (Deflection)	218	245	272	304	258	290	338	400	280	332	387	400	321	374	400	400
25' - 0"	D+L (Strength)	211	237	275	365	246	276	321	400	254	316	368	400	293	356	400	400
	D+L (Deflection)	211	237	275	365	246	276	321	400	254	316	368	400	293	356	400	400
	L (Deflection)	193	217	241	269	246	276	321	355	254	316	368	400	293	356	400	400
26' - 0"	D+L (Strength)	202	226	261	335	197	264	306	400	231	302	350	400	267	340	394	400
	D+L (Deflection)	202	226	261	335	197	264	306	400	231	302	350	400	267	340	394	400
	L (Deflection)	171	193	214	239	197	258	286	316	231	302	350	400	267	340	394	400
27' - 0"	D+L (Strength)	193	216	249	309	180	252	291	396	211	288	334	400	243	325	376	400
	D+L (Deflection)	193	216	249	309	180	252	291	396	211	288	334	400	243	325	376	400
	L (Deflection)	153	172	191	214	180	230	255	282	211	288	332	367	243	325	376	400
28' - 0"	D+L (Strength)	180	206	238	285	164	241	278	367	192	276	319	400	222	311	359	400
	D+L (Deflection)	180	206	238	285	164	241	278	367	192	276	319	400	222	311	359	400
	L (Deflection)	137	154	172	192	164	207	229	253	192	270	298	329	222	311	359	400
29' - 0"	D+L (Strength)	126	192	228	264	150	231	266	340	176	265	305	400	203	298	344	400
	D+L (Deflection)	126	192	228	264	150	231	266	340	176	265	305	400	203	298	344	400
	L (Deflection)	124	139	154	172	150	186	206	228	176	243	268	296	203	298	343	378
30' - 0"	D+L (Strength)	116	176	212	245	138	222	255	317	161	254	292	385	186	286	329	400
	D+L (Deflection)	116	176	212	243	138	222	255	317	161	254	292	385	186	286	329	400
	L (Deflection)	112	126	140	156	138	168	186	206	161	219	242	268	186	281	310	342
31' - 0"	D+L (Strength)	106	162	198	228	126	213	245	295	148	244	280	359	171	275	316	400
	D+L (Deflection)	106	162	193	218	126	213	245	292	148	244	280	359	171	275	316	400
	L (Deflection)	101	114	126	141	126	152	169	186	148	199	220	243	171	254	281	310
32' - 0"	D+L (Strength)	98	148	182	212	116	205	235	276	136	235	269	336	157	264	303	400
	D+L (Deflection)	98	148	173	195	116	205	235	263	136	235	269	336	157	264	303	400
	L (Deflection)	92	103	115	128	116	138	153	169	136	181	200	221	157	231	255	282
33' - 0"	D+L (Strength)	90	136	168	198	107	193	221	256	125	226	259	316	174	255	292	380
	D+L (Deflection)	90	136	155	176	107	189	211	237	125	226	259	313	174	255	292	380
	L (Deflection)	84	94	105	117	107	126	140	155	125	165	182	201	174	211	233	257
34' - 0"	D+L (Strength)	83	125	155	185	98	182	207	237	115	218	249	297	162	187	281	358
	D+L (Deflection)	83	123	139	158	98	170	190	213	115	218	249	283	162	187	281	358
	L (Deflection)	77	86	96	107	98	115	128	141	115	151	167	184	162	187	213	235
35' - 0"	D+L (Strength)	76	115	144	173	90	172	195	220	105	211	241	279	152	174	271	338
	D+L (Deflection)	76	111	125	142	90	153	172	193	105	205	229	256	152	174	271	333
	L (Deflection)	70	79	88	98	90	106	117	130	105	138	153	169	152	174	195	215
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		19' - 2"	21' - 0"	22' - 6"	23' - 8"	18' - 0"	20' - 2"	21' - 7"	22' - 9"	17' - 0"	19' - 6"	20' - 10"	22' - 0"	16' - 3"	18' - 11"	20' - 3"	21' - 5"
1 row of shoring		14' - 3"	23' - 6"	28' - 0"	29' - 6"	12' - 8"	20' - 10"	26' - 11"	28' - 4"	11' - 4"	18' - 8"	26' - 0"	27' - 5"	10' - 3"	16' - 11"	25' - 3"	26' - 8"
2 rows of shoring		-	-	-	-	13' - 2"	-	-	-	11' - 10"	-	-	-	10' - 9"	-	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	11' - 3"	-	-	-
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		19' - 1"	21' - 3"	22' - 9"	23' - 11"	18' - 0"	20' - 5"	21' - 10"	23' - 0"	17' - 0"	19' - 9"	21' - 2"	22' - 4"	16' - 3"	19' - 2"	20' - 6"	21' - 8"
1 row of shoring		14' - 2"	23' - 3"	28' - 4"	29' - 10"	12' - 7"	20' - 8"	27' - 3"	28' - 8"	11' - 3"	18' - 7"	26' - 4"	27' - 9"	10' - 3"	16' - 10"	25' - 3"	27' - 0"
2 rows of shoring		14' - 9"	-	-	-	13' - 1"	-	-	-	11' - 9"	-	-	-	10' - 8"	-	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	11' - 3"	-	-	-
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	21' - 6"	23' - 0"	-	-	20' - 8"	22' - 2"	-	-	20' - 0"	21' - 5"	-	-	19' - 5"	20' - 10"	-
1 row of shoring		-	23' - 1"	28' - 8"	-	-	20' - 6"	27' - 7"	-	-	18' - 6"	26' - 8"	-	-	16' - 9"	25' - 1"	-
2 rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	-	17' - 6"	-	-
cy/100sf		1.54				1.85				2.16				2.47			

29'0"	D+L (Strength)	126	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	126	← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240)
	L (Deflection)	124	← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.0643wL^2$, D+L Deflection - $0.0054wL^4/EI$, L Deflection - $0.0063wL^4/EI$, Shear - $0.355wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumes spans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

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TABLE 27—DEEP-DEK® 6 CELLULAR COMPOSITE FLOOR & DEEP-DEK® 6 CELLULAR ACOUSTICAL COMPOSITE FLOOR
$6^{1}/_{8}$" high x 12" pitch x 24" wide

110 PCF CONCRETE		CONTINUOUS SLAB DESIGN - EXTERIOR SPAN ALLOWABLE STRENGTH DESIGN (ASD) MAXIMUM SUPERIMPOSED LOADS, (psf), NO STUDS ON BEAMS															
h (Wc)		9.125" (45.82 psf)				10.125" (54.98 psf)				11.125" (64.15 psf)				12.125" (73.32 psf)			
		GAGE															
Span	Load Combinations	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14	20/20 20/18	18/20 18/18 18/16	16/18 16/16 16/14	14/16 14/14
24' - 0"	D+L (Strength)	136	167	199	234	172	208	249	301	141	248	291	362	164	280	328	400
	D+L (Deflection)	136	167	199	234	172	208	249	301	141	248	291	362	164	280	328	400
	L (Deflection)	128	144	160	179	172	193	214	237	141	248	279	308	164	280	328	393
25' - 0"	D+L (Strength)	124	152	180	213	158	190	227	274	125	234	276	331	145	265	311	394
	D+L (Deflection)	124	152	180	213	158	190	227	274	125	234	276	331	145	265	311	394
	L (Deflection)	114	128	142	158	152	171	189	209	125	223	247	272	145	265	311	348
26' - 0"	D+L (Strength)	113	139	164	194	93	174	208	250	110	215	254	303	128	252	295	362
	D+L (Deflection)	113	139	162	185	93	174	208	250	110	215	254	303	128	252	295	362
	L (Deflection)	101	114	126	141	93	152	168	186	110	198	219	242	128	252	280	309
27' - 0"	D+L (Strength)	104	127	150	177	82	160	191	229	97	199	234	279	113	241	280	333
	D+L (Deflection)	104	123	140	160	82	160	191	219	97	199	234	279	113	241	280	333
	L (Deflection)	90	101	113	126	82	136	150	166	97	177	196	216	113	227	250	276
28' - 0"	D+L (Strength)	96	116	137	162	72	147	175	211	85	184	215	256	99	225	261	308
	D+L (Deflection)	91	106	121	139	72	147	169	191	85	184	215	256	99	225	261	308
	L (Deflection)	81	91	101	113	72	122	135	149	85	159	176	194	99	203	224	247
29' - 0"	D+L (Strength)	53	105	126	148	63	136	161	194	75	170	199	236	87	210	241	284
	D+L (Deflection)	53	92	105	121	63	129	147	167	75	170	199	225	87	210	241	284
	L (Deflection)	53	82	91	102	63	110	121	134	75	143	158	174	87	183	202	223
30' - 0"	D+L (Strength)	46	94	115	136	55	126	148	178	65	158	184	219	76	195	224	264
	D+L (Deflection)	46	79	91	105	55	112	128	146	65	154	175	198	76	195	224	261
	L (Deflection)	46	74	82	92	55	99	109	121	65	129	143	158	76	165	182	201
31' - 0"	D+L (Strength)	40	85	106	125	48	116	137	165	57	147	170	202	66	183	209	245
	D+L (Deflection)	40	68	78	91	48	97	111	127	57	135	153	174	66	181	204	231
	L (Deflection)	40	67	74	83	48	90	99	110	57	117	129	143	66	150	165	182
32' - 0"	D+L (Strength)		77	97	115	41	108	127	152	49	137	158	188	57	170	194	228
	D+L (Deflection)		58	67	79	41	84	97	111	49	117	134	153	57	158	180	204
	L (Deflection)		58	67	76	41	82	90	100	49	106	118	130	57	136	150	166
33' - 0"	D+L (Strength)		69	89	106		100	117	141	42	128	147	174	80	155	182	212
	D+L (Deflection)		49	58	68		72	84	97	42	102	117	134	80	139	158	180
	L (Deflection)		49	58	68		72	82	91	42	97	107	118	80	124	137	151
34' - 0"	D+L (Strength)		62	80	97		93	109	129		120	137	162	72	76	170	198
	D+L (Deflection)		41	49	59		62	72	84		89	102	118	72	76	139	159
	L (Deflection)		41	49	59		62	72	83		89	98	108	72	76	125	138
35' - 0"	D+L (Strength)			73	90		87	101	118		112	128	151	65	67	159	185
	D+L (Deflection)			41	50		53	62	73		77	89	103	65	67	122	141
	L (Deflection)			41	50		53	62	73		77	89	99	65	67	115	127
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
GAGE		20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16	20/20	18/20	16/18	14/16
Unshored		19' - 2"	21' - 0"	22' - 6"	23' - 8"	18' - 0"	20' - 2"	21' - 7"	22' - 9"	17' - 0"	19' - 6"	20' - 10"	22' - 0"	16' - 3"	18' - 11"	20' - 3"	21' - 5"
1 row of shoring		14' - 3"	23' - 6"	28' - 0"	29' - 6"	12' - 8"	20' - 10"	26' - 11"	28' - 4"	11' - 4"	18' - 8"	26' - 0"	27' - 5"	10' - 3"	16' - 11"	25' - 3"	26' - 8"
2 rows of shoring		-	-	-	-	13' - 2"	-	-	-	11' - 10"	-	-	-	10' - 9"	-	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	11' - 3"	-	-	-
Cantilever		11' - 2"	11' - 9"	12' - 6"	13' - 2"	10' - 9"	11' - 3"	12' - 0"	12' - 8"	10' - 4"	10' - 11"	11' - 7"	12' - 3"	10' - 1"	10' - 7"	11' - 3"	11' - 11"
GAGE		20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14	20/18	18/18	18/16	14/14
Unshored		19' - 1"	21' - 3"	22' - 9"	23' - 11"	18' - 0"	20' - 5"	21' - 10"	23' - 0"	17' - 0"	19' - 9"	21' - 2"	22' - 4"	16' - 3"	19' - 2"	20' - 6"	21' - 8"
1 row of shoring		14' - 2"	23' - 3"	28' - 4"	29' - 10"	12' - 7"	20' - 8"	27' - 3"	28' - 8"	11' - 3"	18' - 7"	26' - 4"	27' - 9"	10' - 3"	16' - 10"	25' - 3"	27' - 0"
2 rows of shoring		14' - 9"	-	-	-	13' - 1"	-	-	-	11' - 9"	-	-	-	10' - 8"	-	-	-
3 rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	11' - 3"	-	-	-
Cantilever		11' - 6"	12' - 0"	12' - 9"	13' - 5"	11' - 0"	11' - 7"	12' - 3"	12' - 11"	10' - 8"	11' - 2"	11' - 10"	12' - 6"	10' - 3"	10' - 10"	11' - 6"	12' - 2"
GAGE		-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-	-	18/16	16/14	-
Unshored		-	21' - 6"	23' - 0"	-	-	20' - 8"	22' - 2"	-	-	20' - 0"	21' - 5"	-	-	19' - 5"	20' - 10"	-
1 row of shoring		-	23' - 1"	28' - 8"	-	-	20' - 6"	27' - 7"	-	-	18' - 6"	26' - 8"	-	-	16' - 9"	25' - 1"	-
2 rows of shoring		-	-	-	-	-	-	-	-	-	-	-	-	-	17' - 6"	-	-
Cantilever		-	12' - 3"	13' - 0"	-	-	11' - 9"	12' - 6"	-	-	11' - 5"	12' - 1"	-	-	11' - 1"	11' - 9"	-
cy/100sf		1.54				1.85				2.16				2.47			

29'0"	D+L (Strength) D+L (Deflection) L (Deflection)	53 53 53	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation) ← Max. superimposed ASD dead + live load (psf) (governed by instantaneous deflection limitation of L/240) ← Max. superimposed ASD live load (psf) (governed by instantaneous deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

h	Total height of concrete slab, inch	**D**	Uniform dead load, psf
Wc	Weight of concrete (neglecting deflection), psf	**L**	Uniform live load, psf
f'c	4,000 psi		

NOTES:

1.) Unshored Construction Clear Spans shown are based on 2" exterior bearing and 4" interior bearing width.

2.) Minimum area of reinforcement (welded wire fabric) must be equal to 0.00075 times the area of concrete above the steel deck.

3.) The loads in these tables are based on a Continuous Slab Design Analysis.

4.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to negative reinforcement table for Deep-Dek Composite).

5.) Additional reinforcement may be required for Long-Term Deflection design requirements.

6.) Service Stage Design criteria: Positive Bending - $0.10wL^2$, D+L Deflection - $0.0099wL^4/EI$, L Deflection - $0.0107wL^4/EI$, Shear - $0.45wL$.

7.) Assumes dead loads greater than 65% and live loads less than 35% with pattern loads and also assumesspans are approximately equal with the larger of the adjacent spans not greater than the shorter by more than 20%.

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TABLE 28—DEEP-DEK 4.5 COMPOSITE, DEEP-DEK 4.5 COMPOSITE CELLULAR, DEEP-DEK 4.5 COMPOSITE CELLULAR ACOUSTICAL, DEEP-DEK 6 COMPOSITE, DEEP-DEK 6 COMPOSITE CELLULAR, AND DEEP-DEK 6 COMPOSITE CELLULAR ACOUSTICAL [1-10]

CONCRETE TYPE [11]	CONCRETE THICKNESS ABOVE DECK [12]	ALLOWABLE DIAPHRAGM SHEAR VALUES (plf) ALLOWABLE STRENGTH DESIGN (ASD)				FLEXIBILITY FACTOR (F) [13]
		SPACING OF $^3/_4$" DIA. STEEL HEADED STUD ANCHORS			SLABS SUPPORTED BY STEEL-ENCASED CONCRETE BEAMS	
		12"	24"	36"		
MINIMUM CONCRETE REINFORCEMENT OF 0.0055 TIMES THE AREA OF FILL ABOVE THE DECK						
Normal Weight (145 pcf)	3"	7700	5160	3440	7700	0.23
	4"	10270	5160	3440	10270	0.17
	5"	10320	5160	3440	12840	0.14
	6"	10320	5160	3440	15410	0.11
Lightweight (110 pcf)	3"	7170	5160	3440	7170	0.35
	4"	9560	5160	3440	9560	0.26
	5"	10320	5160	3440	11950	0.21
	6"	10320	5160	3440	14340	0.17
MINIMUM CONCRETE REINFORCEMENT OF 0.0025 TIMES THE AREA OF FILL ABOVE THE DECK						
Normal Weight (145 pcf)	3"	4670	4670	3440	4670	0.23
	4"	6220	5160	3440	6220	0.17
	5"	7780	5160	3440	7780	0.14
	6"	9330	5160	3440	9330	0.11
Lightweight (110 pcf)	3"	4130	4130	3440	4130	0.35
	4"	5510	5160	3440	5510	0.26
	5"	6890	5160	3440	6890	0.21
	6"	8260	5160	3440	8260	0.17
MINIMUM CONCRETE REINFORCEMENT OF 0.00075 TIMES THE AREA OF FILL ABOVE THE DECK						
Normal Weight (145 pcf)	3"	2890	2890	2890	2890	0.23
	4"	3860	3860	3440	3860	0.17
	5"	4820	4820	3440	4820	0.14
	6"	5790	5160	3440	5790	0.11
Lightweight (110 pcf)	3"	2360	2360	2360	2360	0.35
	4"	3150	3150	3150	3150	0.26
	5"	3930	3930	3440	3930	0.21
	6"	4720	4720	3440	4720	0.17

Notes:

1.) The allowable diaphragm shear values are based on concrete slab reinforcement with a minimum area as stated in the table below. The bars and fabric required cover limits must comply with ACI 318. The reinforcement must have a minimum yield strength of 60,000 psi and meet the requirements ACI 318 for ASTM standard reinforcing bars or WRI standard welded wire reinforcement.

MINIMUM REINFORCEMENT FOR TABULATED SHEAR VALUES						
Concrete Thickness (inches)	Reinforcement = 0.0055 times area of fill above deck		Reinforcement = 0.0025 times area of fill above deck		Reinforcement = 0.00075 times area of fill above deck	
	Area of Steel Required (in^2/ft)	Suggested Reinforcement (each direction)[14]	Area of Steel Required (in^2/ft)	Suggested Reinforcement[14]	Area of Steel Required (in^2/ft)	Suggested Reinforcement[14]
3"	0.198	#4@12"O.C. (0.200 in^2/ft)	0.09	6x6 - W4.5 x 4.5 (0.09 in^2/ft)	0.027	6x6 - W1.4 x 1.4 (0.028 in^2/ft)
4"	0.264	#5@14"O.C. (0.266 in^2/ft)	0.12	4x4 - W4.0 x 4.0 (0.12 in^2/ft)	0.036	6x6 - W2.0 x 2.0 (0.04 in^2/ft)
5"	0.330	#6@16"O.C. (0.330 in^2/ft)	0.15	6x6 - W7.5 x 7.5 (0.15 in^2/ft)	0.045	6x6 - W2.9 x 2.9 (0.058 in^2/ft)
6"	0.396	#4@6"O.C. (0.400 in^2/ft)	0.18	4x4 - W6.0 x 6.0 (0.18 in^2/ft)	0.054	6x6 - W2.9 x 2.9 (0.058 in^2/ft)

2.) The supporting structural steel member must not be less than 0.30 inch thick unless the welded steel headed stud anchor is welded over the web of the supporting member. Reference AISC 360-10 Section I8.1.

3.) See Figure 5 for steel headed stud anchor details. The wide flange beams are shown in Figure 5 for illustration purposes only. The allowable diaphragm shear values can be used for the slabs supported by any structural steel supports, including but not limited to W-, M-, S-, HP-, C-, MC-, WT-, MT-, ST-, HSS-shapes, and angles.

4.) Tabulated values are based on a single steel headed stud anchor installed in "weak stud position" per rib, as described in AISC 360. The tabulated values may be used when the deck is either perpendicular or parallel to supports and when more than one steel headed stud anchor is installed in each decking rib.

5.) The minimum tensile strength of the steel headed stud anchor must be 65,000 psi.

6.) The maximum spacing of welded steel headed stud anchors must not exceed 8 times the total slab thickness or 36 inches. Reference AISC 360-10 Section I8.2d.

7.) Tabulated values for composite slabs supported by steel-encased concrete beams (Figure 6) can only be used when the beams and the slabs are cast-in-place at the same time.

8.) Sidelap connections must be in accordance of Section 5.6 of this evaluation report.

9.) Multiply the allowable diaphragm shear values by 1.5 to obtain factored (LRFD) diaphragm strengths.

10.) See Section 9.3.4 of ACI 318 for possible reductions of the diaphragm shear capacity dependent on the vertical components of the primary lateral-force-resisting system. Tabulated values may be multiplied by ϕ/0.75, where ϕ is modified in accordance with Section 9.3.4 of ACI 318.

11.) Concrete must have a minimum compressive strength (f'c) of 4000 psi.

12.) Concrete thickness is measured above the top flute of the steel deck.

13.) Flexibility factor (F) indicates deflection in micro inches of 1 foot element under a shear of 1 pound per foot. See Table 29 for flexibility limitations.

14.) Laps of reinforcing bars and welded wire fabric must be in accordance with ACI 318.

TABLE 29—DIAPHRAGM FLEXIBILITY LIMITATIONS[1,2,3,4]

F	MAXIMUM SPAN FOR MASONRY OR CONCRETE WALLS (feet)	SPAN-DEPTH LIMITATION			
		Rotation Not Considered In Diaphragm		Rotation Considered In Diaphragm	
		Masonry or Concrete Walls	Flexible Walls[4]	Masonry or Concrete Walls	Flexible Walls[4]
More than 150	Not used	Not used	2:1	Not used	1½:1
70-150	200	2:1 or as required for deflection	3:1	Not used	2:1
10-70	400	2½:1 or as required for deflection	4:1	As required for deflection	2½:1
1-10	No limitation	3:1 or as required for deflection	5:1	As required for deflection	3:1
Less than 1	No limitation	As required for deflection	No limitation	As required for deflection	3½:1

[1]Diaphragms must be investigated regarding their flexibility and recommended span-depth limitations. Refer to above table for determination of value of F.

[2]Diaphragms supporting masonry or concrete walls must have their deflections limited to the following amount:

$$\Delta wall = \frac{H^2 f_c}{0.01Et}$$

where:

H = Unsupported height of wall in feet.
t = Thickness of wall in inches.
E = Modulus of elasticity of wall material for deflection determination in pounds per square inch.
f_c = Allowable compressive strength of wall material in flexure in pounds per square inch. For concrete, $f_c = 0.45f'_c$. For masonry, $f_c = F_b = 0.33f'_m$.

[3]The total deflection Δ of the diaphragm may be computed from the equation: $\Delta = \Delta_f + \Delta_w$

where:

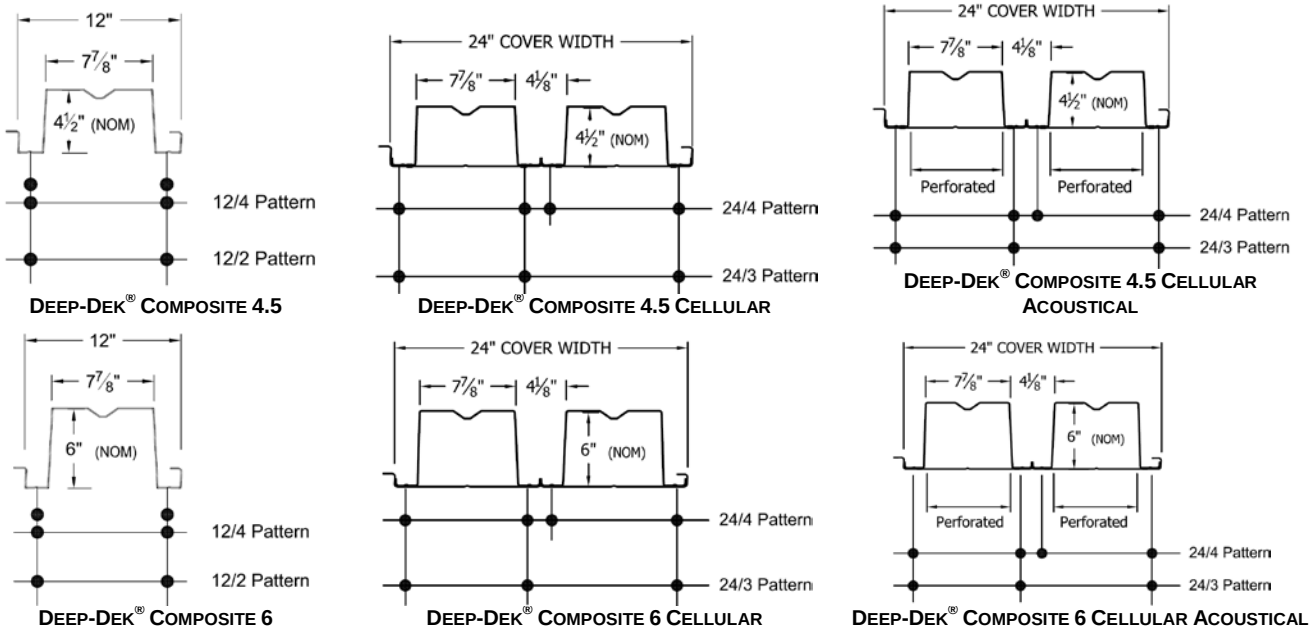
Δ_f = Flexural deflection of the diaphragm determined in the same manner as the deflection of beams.
Δ_w = The web deflection may be determined by the equation:

$$\Delta_w = \frac{q_{ave} LF}{10^6}$$

where:

L = Distance in feet between vertical resisting element (such as shear wall) and the point to which the deflection is to be determined.
q_{ave} = Average shear in diaphragm in pounds per foot over length L.
F = Flexibility factor: The average microinches a diaphragm web will deflect in a span of 1 foot under a shear of 1 pound per foot.

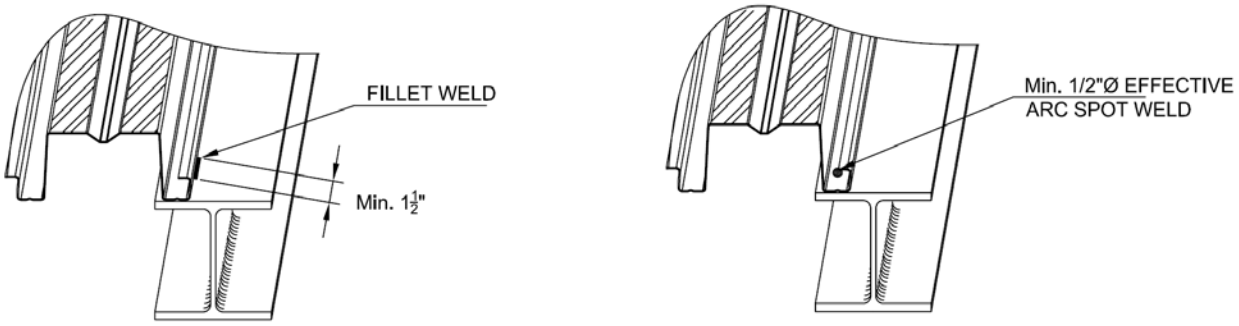
[4]When applying these limitations to cantilevered diaphragms, the allowable span-depth ratio will be half that shown.



DEEP-DEK® COMPOSITE 4.5 | **DEEP-DEK® COMPOSITE 4.5 CELLULAR** | **DEEP-DEK® COMPOSITE 4.5 CELLULAR ACOUSTICAL**

DEEP-DEK® COMPOSITE 6 | **DEEP-DEK® COMPOSITE 6 CELLULAR** | **DEEP-DEK® COMPOSITE 6 CELLULAR ACOUSTICAL**

FIGURE 1—STEEL DECK PANEL PROFILES AND ATTACHMENT AT SUPPORT



TYPICAL PERIMETER FILLET WELD | **TYPICAL ARC SPOT WELD**

FIGURE 2—WELDING DETAILS

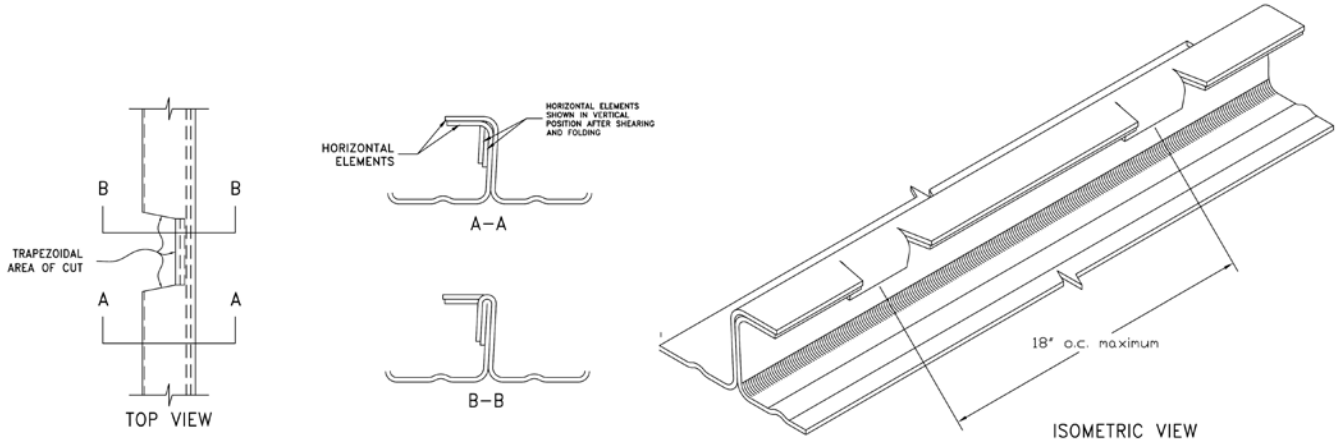
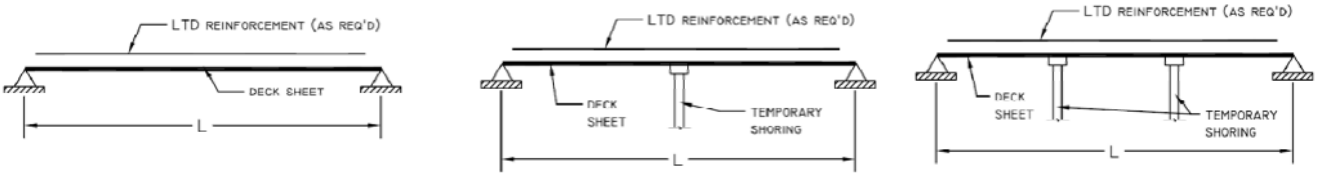


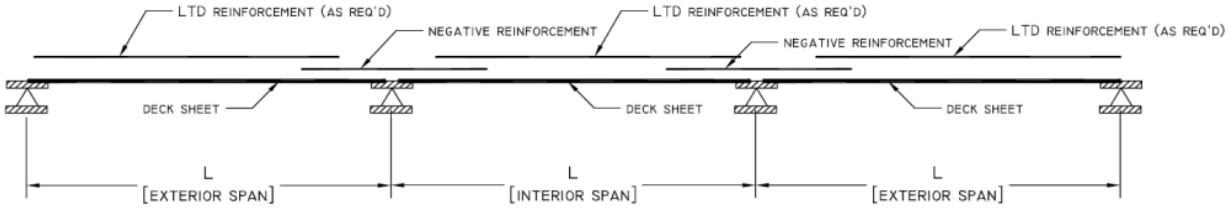
FIGURE 3—DEK-LOK™ HSL DETAILS

SINGLE SPAN SLAB DESIGN[1,3]

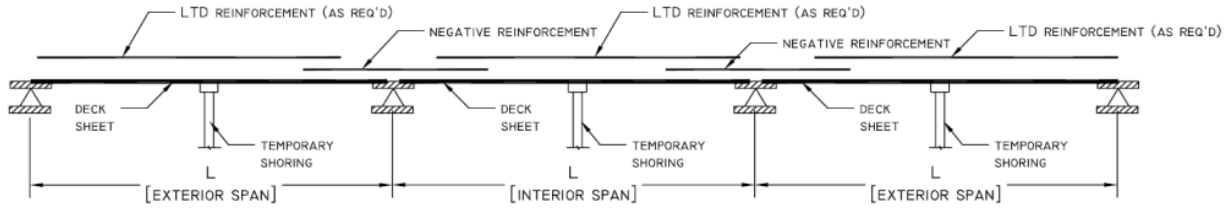


UNSHORED | 1 ROW OF SHORING | 2 ROWS OF SHORING

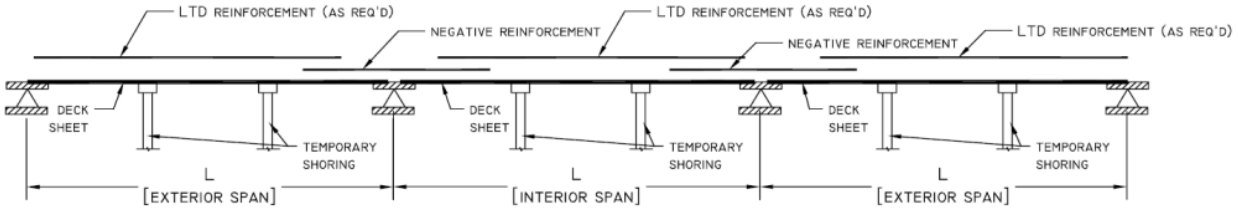
CONTINUOUS SLAB DESIGN[1,2,3]



UNSHORED



1 ROW OF SHORING



2 ROWS OF SHORING

NOTES:

1.) Reinforcement shown represents installation location relative to span length, not depth in slab. Rebar size, length, and vertical location dependent on project requirements.

2.) Negative bending reinforcement is required over supports for continuous span behavior (Refer to Negative Reinforcement Tables for Deep-Dek Composite). Negative bending reinforcement design and placement must be in accordance with Chapter 19 of the IBC.

3.) Long-Term Deflection (LTD) reinforcement may be required based on design requirements.

FIGURE 4—DEEP-DEK® COMPOSITE FLOOR SPAN CONDITIONS

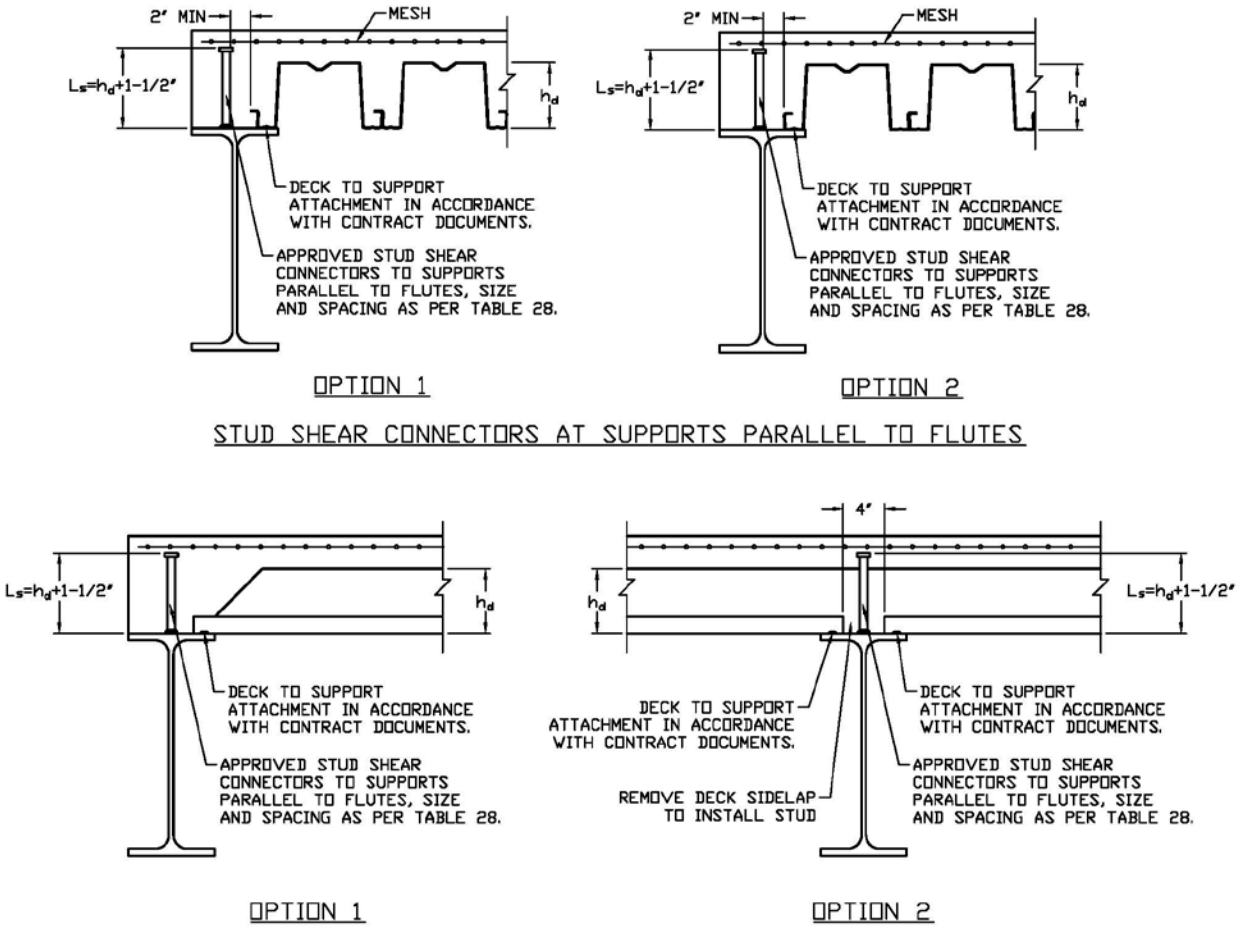


FIGURE 5—STEEL HEADED STUD ANCHOR DETAILS

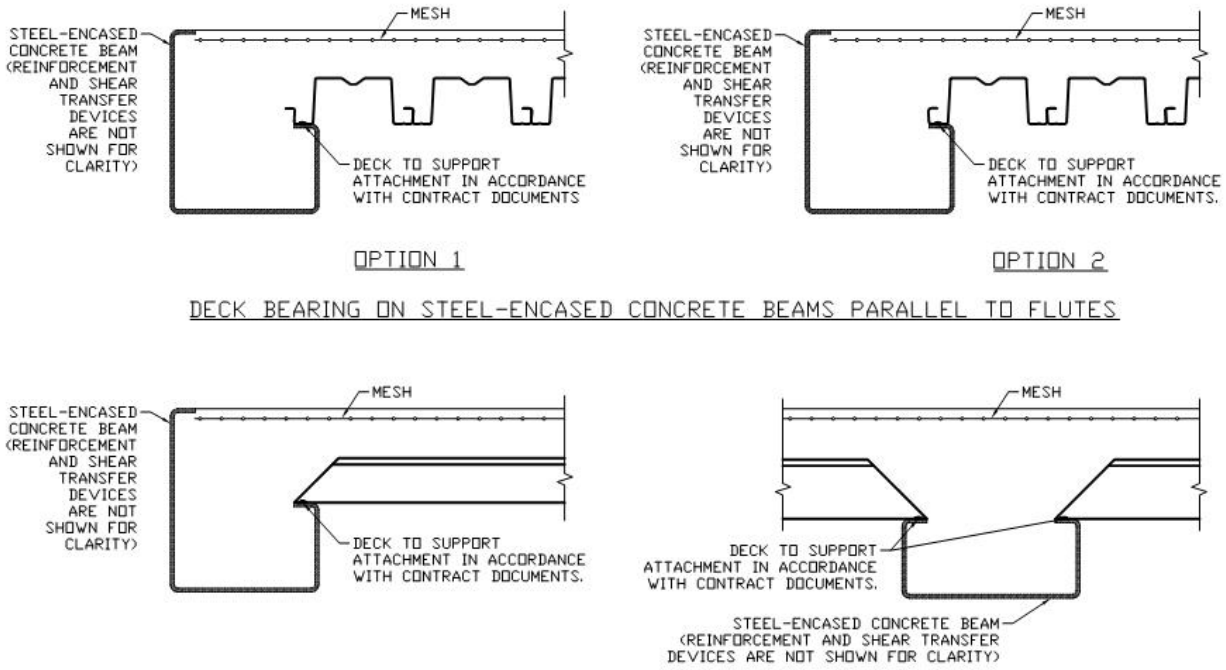


FIGURE 6—COMPOSITE SLAB SUPPORTED BY STEEL-ENCASED CONCRETE BEAMS

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ESR-2839 CBC Supplement

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DIVISION: 05 00 00—METALS
Section: 05 31 00—Steel Decking

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EVALUATION SUBJECT:

NEW MILLENNIUM COMPOSITE FLOOR DECK PANELS: DEEP-DEK® COMPOSITE 4.5 AND 6; DEEP-DEK® COMPOSITE 4.5 AND 6 CELLULAR; AND DEEP-DEK® COMPOSITE 4.5 AND 6 CELLULAR ACOUSTICAL FLOOR DECK PANELS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that New Millennium Composite Floor Deck Panels: Deep-Dek® Composite 4.5 and 6; Deep-Dek® Composite 4.5 AND 6 Cellular; and Deep-Dek® Composite 4.5 and 6 Cellular Acoustical floor deck panels, recognized in ICC-ES master evaluation report ESR-2839, have also been evaluated for compliance with Chapters 22 and 22A of the code noted below.

Applicable code edition:

2013 *California Building Code* (CBC)

2.0 CONCLUSIONS

The New Millennium Composite Floor Deck Panels: Deep-Dek® Composite 4.5 and 6; Deep-Dek® Composite 4.5 and 6 Cellular; and Deep-Dek® Composite 4.5 and 6 Cellular Acoustical floor deck panels, described in Sections 2.0 through 7.0 of the master evaluation report ESR-2839, comply with CBC Chapters 22 and 22A, provided the design and installation are in accordance with the 2012 *International Building Code®* (IBC) provisions noted in the master report and the additional requirements of the CBC Chapters 16, 16A, 17, 17A, 22 and 22A, as applicable.

This supplement expires concurrently with the master report, reissued May 2018.

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