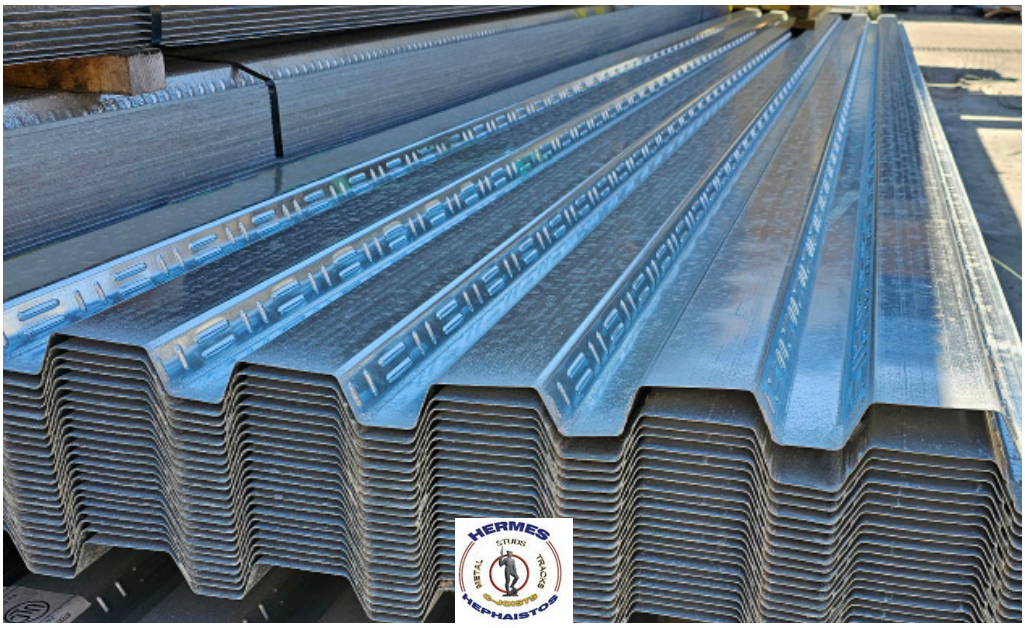
HERMES/HEPHAISTOS
METAL DECK
TECHNICAL MANUAL



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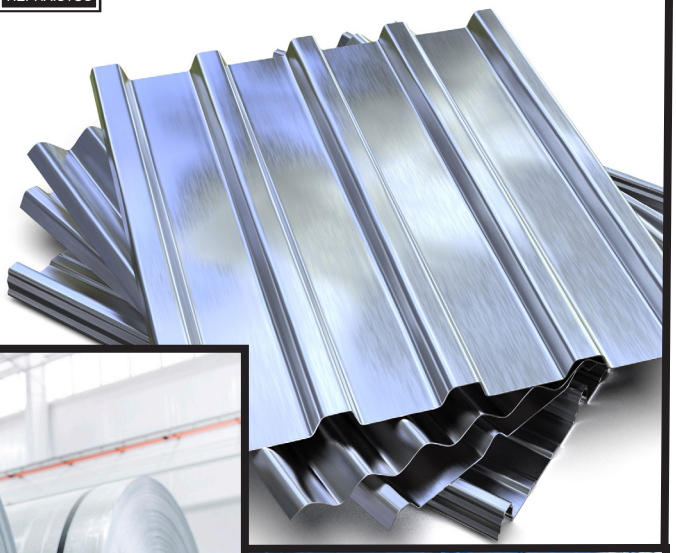
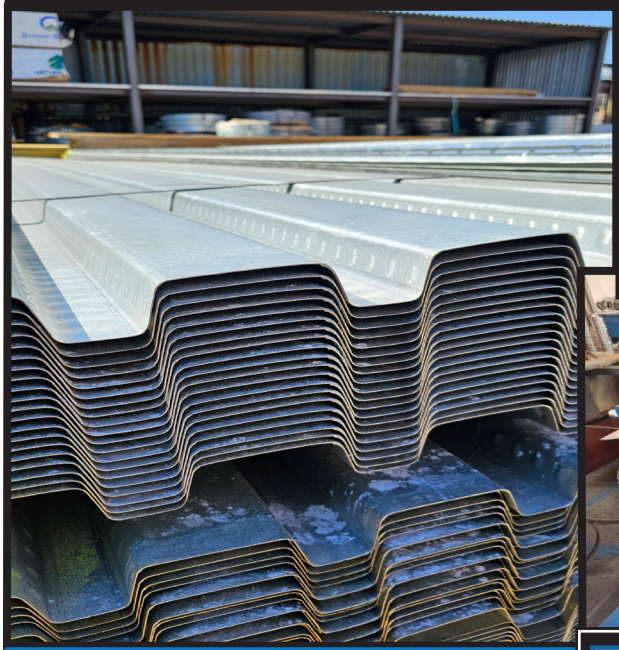
A Division of Hephaistos Building Supplies Inc.

HEPHAISTOS





HERMES

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Introduction

Corrugated steel deck, popularly known as metal deck, has been in the building and industrial use for well over one hundred years. Over the years metal deck has established itself as a safe, dependable, and economical product. The deck can be used alone as a structural component or together with concrete to take advantage of the composite action resulting in a stronger structural member. In either way, today the metal deck is indispensable for all types of building construction, whether single-family or multi-story.

As a floor deck, it serves four major functions:

1. Acts as a working platform.
2. Serves as a form for pouring concrete slab.
3. Provides positive bending reinforcement for the deck-slab composite.
4. Acts as diaphragm providing resistance to horizontal load resulting from wind or earthquake.

As a roof deck, it also offers several major functions:

1. Encloses the building from exterior environment.
2. Serves as the base for roofing materials.
3. Resists gravity (dead, live, snow), wind and seismic loads.
4. Provides bracing to joists and beams.
5. Acts a diaphragm and transfers lateral loads.

Metal Deck Production

Hephaistos/Hermes (Hermes) purchases galvanized steel sheet in coils from steel producing companies. The steel is ordered to ASTM Specification, A653. The specific shapes (profiles) are produced on roll forming equipment. A roll forming line consists of an uncoiler and a series of graduated tools that bend the flat steel sheet into the required shapes. The resulting steel deck passes through the tooling in a continuous strip and, at the correct instant, it is cut to the desired length with a shear blade making it a square cut and resulting in a product with a very consistent cross section.

Hermes manufactures metal deck with four different basic profiles: 9/16-inch, 1½-inch, 2-inch and 3-inch deep. The most common profile for forming non-composite shallow slabs is normally 9/16-inch deep (Fig.1). This profile is suitable for comparatively closely spaced open web steel joists or cold-formed trusses or joists. Thin slabs are typically poured over 9/16-inch metal deck.

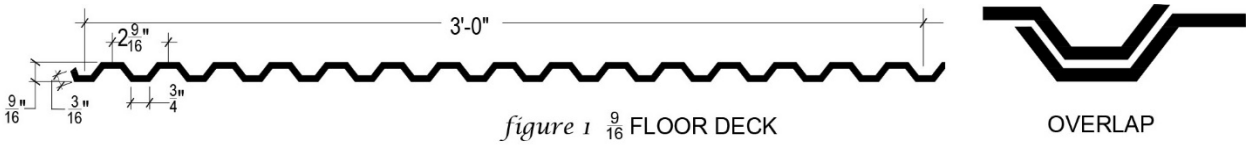

figure 1 9/16 FLOOR DECK

The other three profiles (1½-inch, 2-inch and 3-inch) are of trapezoidal shape and embossed of the pattern Type 3 of ANSI/SDI Standard SD-2022 (Fig.2, Fig.3 and Fig.4). Embossment improves structural stiffness and deck-slab composite action. Both composite and non-composite decks of these three profiles span over distances typically used in steel framed buildings. Their dimensions are selected to allow the use of shear connectors on composite steel beams. These profiles usually will not need temporary shoring for pouring concrete but shoring may be necessary for larger spans and/or heavier loads.

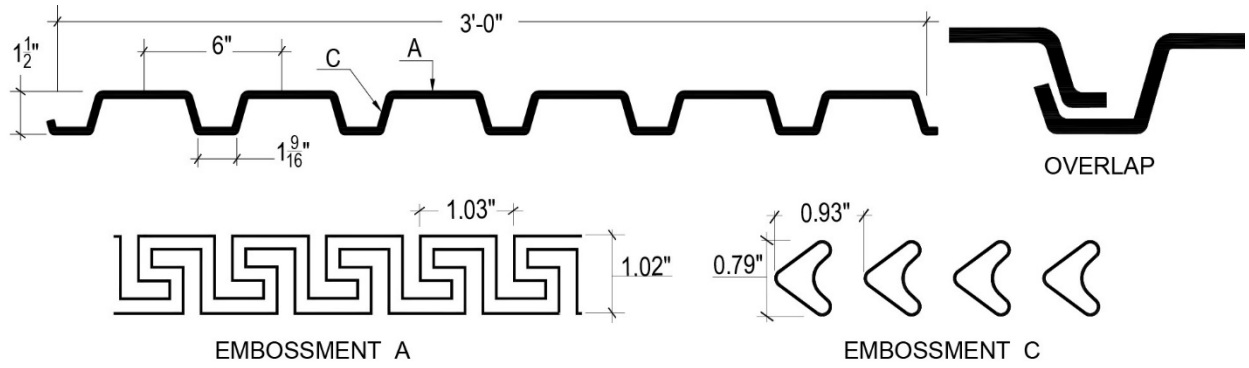

figure 2 1½ X 6 FLOOR DECK

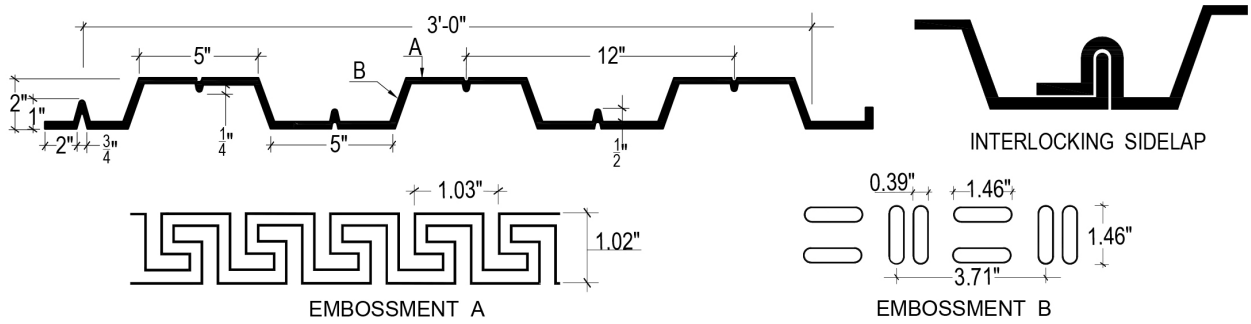

figure 3 2 X 12 FLOOR DECK

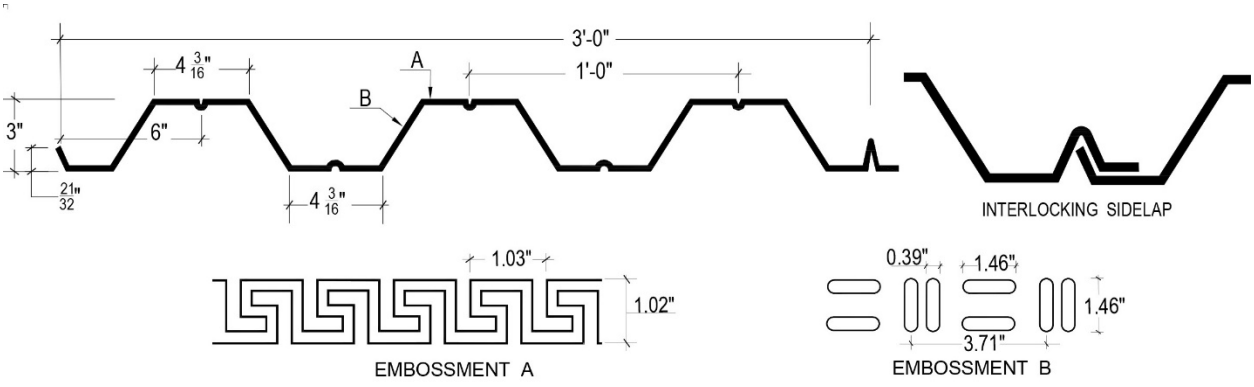

figure 4 3X12 FLOOR DECK

The 1½-inch deck can also be used in an inverted position with the wide flange facing down (Fig.5) resulting in a reduction of effective concrete slab thickness. The inverted orientation is also used as a Wide Rib (WR) roof deck. Regardless of face up or down, the 1½-inch deck

repeats its pattern (rib pitch) every 6 inches along the width while 2-inch and 3-inch decks repeat every 12 inches. Metal decks of all four profiles are supplied as 3-foot wide sections with a nested overlap at each end allowing continuous smooth installation. The length can be provided as needed.

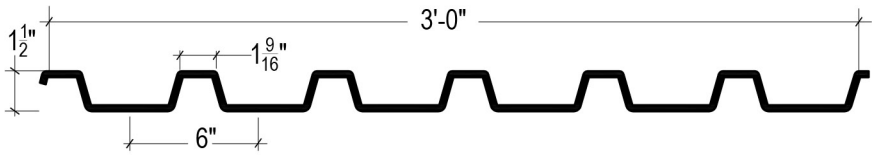

figure 5 1½ X 6 INV FLOOR DECK

Design of Steel Floor Deck

Bare steel decks initially act as construction platforms and must support both the necessary construction loads of workers and equipment. In addition, both non-composite and composite steel decks must initially support the weight of fresh concrete and the construction load. ANSI/SDI Standards NCI-2017 and C-2017 specify minimum construction loads as follows:

1. 20 psf uniform construction live load combined with the weight of fresh concrete, or
2. 150 lb concentrated load that simulates the weight of a worker combined with the weight of fresh concrete, or
3. 50 psf uniform construction load prior to placement of concrete.

The uniform construction live load of 20 psf is considered adequate for typical construction applications that consist of concrete transport and placement by hose and concrete finishing using hand tools.

In any event, for all four deck profiles (including 1½-inch inverted), structural properties of each bare deck including flexural and shear capacities are provided in this Manual as Tables of data. The bare deck data tables are followed with the allowable construction spans for both

normal weight and light weight concrete. Ultimately, the allowable load-bearing capacity of each composite deck-slab assembly is presented in terms of the superimposed load, again for both normal weight and light weight concrete. The ASD Superimposed load capacity reported in this Manual is limited to 400 psf for practical purposes. The Engineer may design for a higher load.

Design of Steel Roof Deck

Roof deck 1½" WR (same profile as 1½" x 6 INV) shall satisfy both the strength and the deflection criteria. Load Tables for these requirements are included in this Manual. Since the roof may be subjected to uplift in addition to downward loads, Load Tables are provided for both conditions.

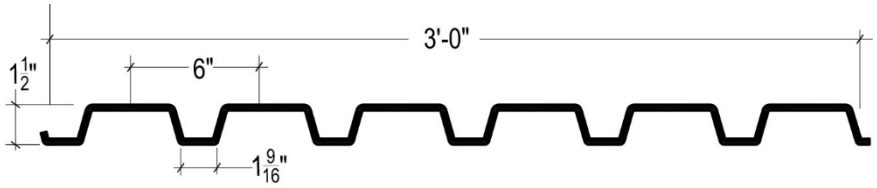

figure 6 1½ WR ROOF DECK

Fasteners

The design of fasteners primarily depends on horizontal (diaphragm) shear loads and/or uplift tension loads resulting from earthquake or wind. The magnitude of these loads is determined by the Engineer and not usually available to the deck supplier. In any event, some basic load capacities and design details are provided in this manual as an aid to the Engineer.

Metal deck panels need to be connected to each other to form a continuous seamless base. In addition, they need to be fastened to the underlying steel structure to achieve the diaphragm faction. The first type of connectors is referred as stitch fasteners and the second type as structural fasteners. Regardless of their function, deck fasteners can be mechanical (screws and power-activated nails) or welds.

Welding

Sheet steel welding methods are described in the American Welding Society Structural Welding Code – Sheet Steel, AWS D1.3. The essential challenge in forming a good weld rests in bringing the surfaces to be welded to fusion temperatures at the same time, avoiding "burn-out" in the sheet achieving adequate penetration into steel beam, and obtaining proper engagement on the weld perimeter. The most common filler weld used for welding steel deck is an E6022 electrode, due to the ability of that electrode to provide weld with good penetration.

Arc spot welds are commonly used to connect the deck to the supporting structural steel. They can also be used to fasten side laps for deck 20 gauge thick or greater. The arc spot weld, commonly known as "puddle weld," is started by striking an arc on the deck surface causing a hole to form in the deck. The weld operation then continues by depositing electrode material on the underlying structural steel and allowing the molten puddle to engage the penetrated deck. For convenience of welding operation and to safeguard from sheet metal burning out, weld washers are used.

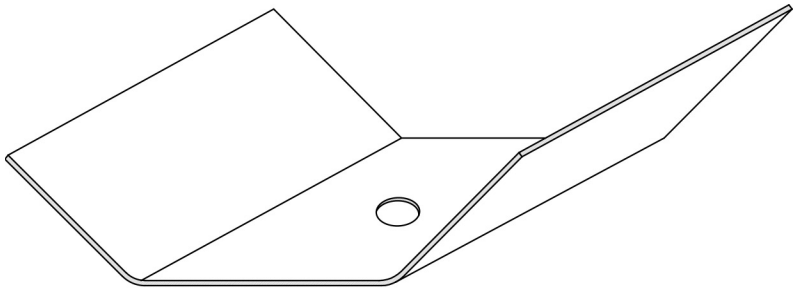

figure 7 WELD WASHER

They are small elements of steel sheet with a punched hole at their center and may be curved to fit into the valleys of deck panels. These washers are laid in position on the deck, an arc is struck on the sheet inside the hole, and the operation continues until the hole is filled. The washer acts

as a heat sink and retards burn-away of the sheet. The strength of arc spot weld based on visible weld diameter is tabulated in this Manual:

Self-drilling screw fasteners are an alternate to arc spot welding and used for both structural and side-lap connections. Common side-lap screw sizes are #10 and #12. Larger sizes, #14 and ¼-inch diameter, are generally used for connecting metal deck to structural steel. Tensile and shear strength of commonly used screws are also tabulated in this Manual

Power-activated fasteners may also be used instead of welding or screws and their strengths are published by the respective manufacturers.

DISCLAIMER

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TECHNICAL DATA

MATRIX OF TABLES RELATING PRODUCT WITH TECHNICAL DATA

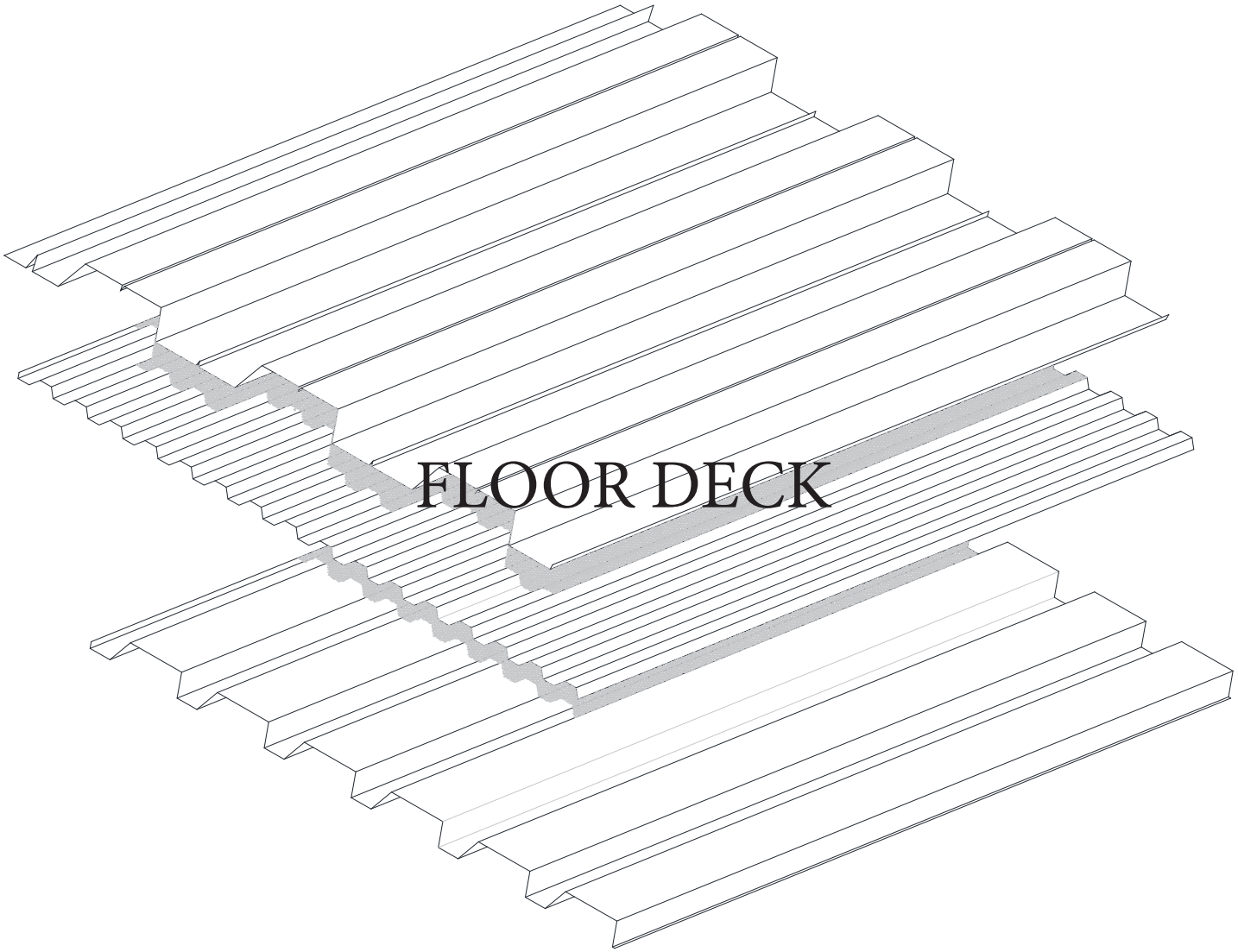
Technical Data	FLOOR DECK HERMES PRODUCT				
	1 1/2 X 6 Metal Deck	1 1/2 X 6 INV Medal Deck	2 X 12 Metal Deck	3 X 12 Metal Deck	9/16 Metal Deck
Bare Deck Section Properties & Web Crippling Strength	Table 1	Table 2	Table 3	Table 4	Table 5
Unshored Construction Span -Normal Weight Concrete	Table 6	Table 7	Table 8	Table 9	Table 10
-Light Weight Concrete	Table 11	Table 12	Table 13	Table 14	Table 15
Composite Section Properties	Table 16	Table 17	Table 18	Table 19	
Composite Deck Superimposed Load -Normal Weight Concrete	Table 20	Table 21	Table 22	Table 23	
-Light Weight Concrete	Table 24	Table 25	Table 26	Table 27	

ROOF DECK

Hermes Product	Srength Criteria				Deflection Criteria		
	ASD		LRFD		L/120	L/180	L/240
	DOWN	UP	DOWN	UP			
1 1/2X6	Table 28	Table 29	Table 30	Table 31	Table 32	Table 33	Table 34

ACCESSORIES

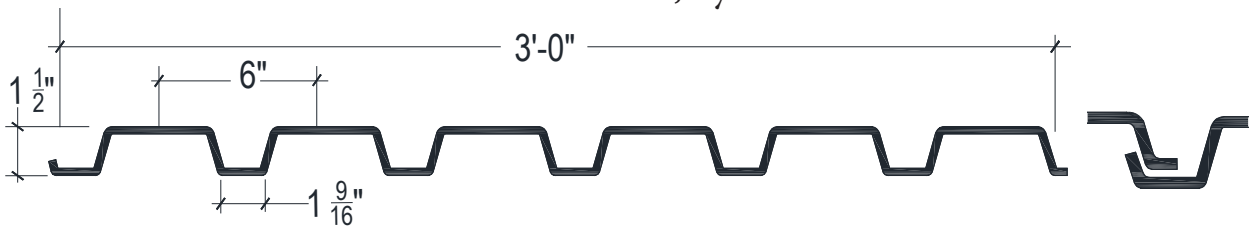
Are Spot Weld Strength		Table 35
Screw Strength	Tensile and Shear	Table 36
	Connection Shear	Table 37
	Pull-Out	Table 38
	Pull-Over	Table 39
Pour Stop Gauge Section	Table 40	



FLOOR DECK

Table 1

Bare Deck 1½ X 6, Fy = 40 ksi



Overlap

Section Properties

Ω= 1.67

Gauge	Thickness (in)	Area (in^2)	Weight (lb/ft)	Ip (in^4)	Sp (in^3)	In (in^4)	Sn (in^3)	Mp/Ω (in-lb)	Mn/Ω (in/lb)	V (lb)
22	0.0295	0.4720	1.606	0.1424	0.1693	0.1732	0.1753	4055	4199	1669
20	0.0358	0.5728	1.949	0.1850	0.2098	0.2104	0.2244	5025	5375	2003
18	0.0474	0.7584	2.673	0.2675	0.2855	0.2791	0.2963	8388	7097	2617
16	0.0598	0.9568	3.256	0.3528	0.3666	0.3528	0.3722	8781	8915	3203

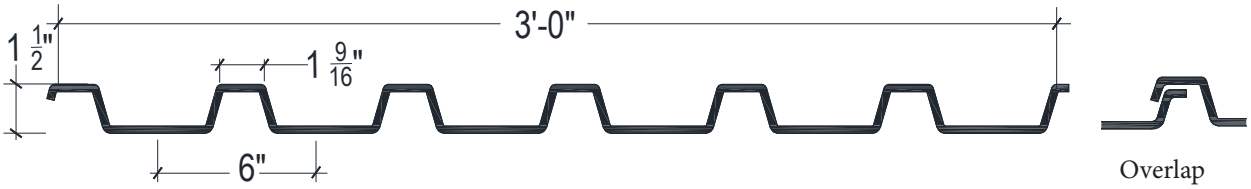
Web Crippling Strength (lb)

Gauge	One Flange Loading		Two-Flange Loading	
	Exterior	Interior	Exterior	Interior
	Ω=1.70	Ω=1.75	Ω=1.80	Ω=1.75
22	649	1077	623	1331
20	926	1565	955	1958
18	1575	2715	1776	3446
16	2374	4147	2844	5308

Notes:
1. All Section properties are calculated in accordance with ANSI/SDI C-2017 and for a typical one-foot wide deck
2. Ip = Moment of inertia for positive bending
   In = Moment of inertia for negative bending
   Sp = Section modulus for positive bending
   Sn = Section modulus for negative bending
   Mp/Ω = Allowable bending moment for positive bending
   Mn/Ω = Allowable bending moment for negative bending
   V = Allowable shear
3. Web crippling strength is calculated using an exterior bearing length of 1.5 in and interior bearing length of 3 in

Table 2

Bare Deck 1½ X 6 INV, Fy = 40 ksi



Section Properties

Ω= 1.67

Gauge	Thickness (in)	Area (in^2)	Weight (lb/ft)	Ip (in^4)	Sp (in^3)	In (in^4)	Sn (in^3)	Mp/Ω (in-lb)	Mn/Ω (in/lb)	V (lb)
22	0.0295	0.4720	1.606	0.1424	0.1693	0.1732	0.1753	4055	4199	1669
20	0.0358	0.5728	1.949	0.1850	0.2098	0.2104	0.2244	5025	5375	2003
18	0.0474	0.7584	2.673	0.2675	0.2855	0.2791	0.2963	8388	7097	2617
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Web Crippling Strength (lb)

Gauge	One Flange Loading		Two-Flange Loading	
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	Ω=1.70	Ω=1.75	Ω=1.80	Ω=1.75
22	649	1077	623	1331
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18	1575	2715	1776	3446
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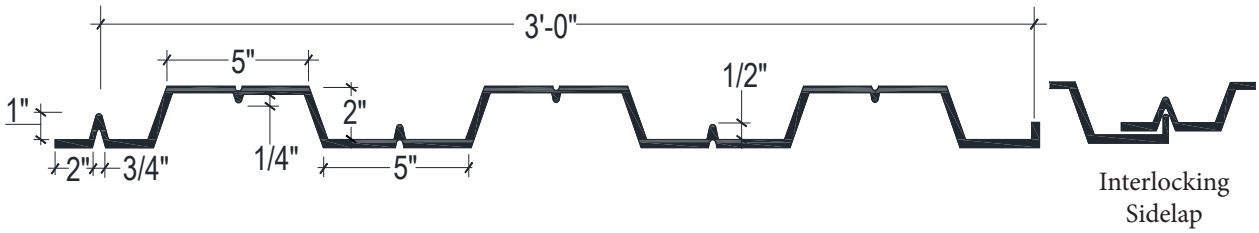
Notes:
1. All Section properties are calculated in accordance with ANSI/SDI C-2017 and for a typical one-foot wide deck
2. Ip = Moment of inertia for positive bending
   In = Moment of inertia for negative bending
   Sp = Section modulus for positive bending
   Sn = Section modulus for negative bending
   Mp/Ω = Allowable bending moment for positive bending
   Mn/Ω = Allowable bending moment for negative bending
   V = Allowable shear
3. Web crippling strength is calculated using an exterior bearing length of 1.5 in and interior bearing length of 3 in.

Table 3
Bare Deck 2 X 12, Fy = 40 ksi



Section Properties

Ω= 1.67

Gauge	Thickness (in)	Area (in^2)	Weight (lb/ft)	Ip (in^4)	Sp (in^3)	In (in^4)	Sn (in^3)	Mp/Ω (in-lb)	Mn/Ω (in/lb)	V (lb)
22	0.0295	0.4425	1.506	0.2960	0.2453	0.2878	0.2497	5875	5981	1241
20	0.0358	0.5370	1.827	0.3765	0.3246	0.3671	0.3295	7775	7892	1496
18	0.0474	0.7110	2.419	0.5000	0.4736	0.4949	0.4664	11344	11171	1973
16	0.0598	0.8970	3.052	0.6315	0.5982	0.6248	0.5872	14328	14065	2437

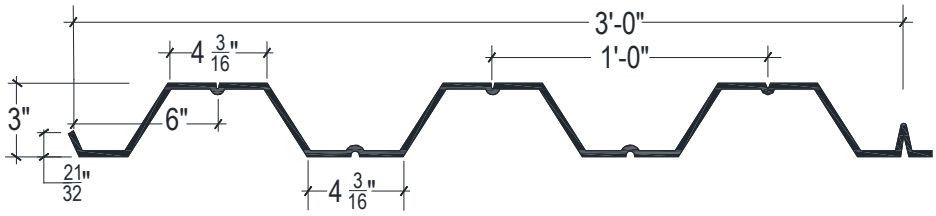
Web Crippling Strength (lb)

Gauge	One Flange Loading		Two-Flange Loading	
	Exterior	Interior	Exterior	Interior
	Ω=1.70	Ω=1.75	Ω=1.80	Ω=1.75
22	319	555	289	672
20	456	804	446	988
18	775	1389	835	1738
16	1169	2113	1341	2674

Notes:
1. All Section properties are calucalated in accordance with ANSI/SDI C-2017 and for a typical one-foot wide deck
2. Ip = Moment of inertia for positive bending
   In = Moment of inertia for negative bending
   Sp = Section modulus for positive bending
   Sn = Section modulus for negative bending
   Mp/Ω = Allowable bending moment for positive bending
   Mn/Ω = Allowable bending moment for negative bending
   V = Allowable shear
3. Web crippling strength is calculated using an exterior bearing length of 2 in. and interior bearing length of 4 in.

Table 4

Bare Deck 3 X 12, Fy = 40 ksi



Interlocking
Sidelap

Section Properties

Ω= 1.67

Gauge	Thickness (in)	Area (in^2)	Weight (lb/ft)	Ip (in^4)	Sp (in^3)	In (in^4)	Sn (in^3)	Mp/Ω (in-lb)	Mn/Ω (in/lb)	V (lb)
22	0.0295	0.5015	1.706	0.7283	0.3994	0.7351	0.4363	9566	10450	1510
20	0.0358	0.6086	2.071	0.9214	0.5246	0.9318	0.5734	12565	13734	2224
18	0.0474	0.8058	2.742	1.2213	0.7534	1.2673	0.7845	18046	18790	3312
16	0.0598	1.0166	3.459	1.5426	0.9536	1.5995	0.9904	22841	23722	4110

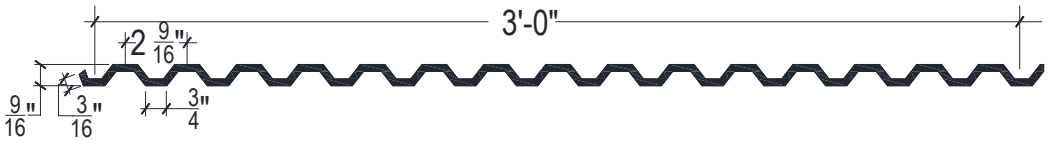
Web Crippling Strength (lb)

Gauge	One Flange Loading		Two-Flange Loading	
	Exterior	Interior	Exterior	Interior
	Ω=1.70	Ω=1.75	Ω=1.80	Ω=1.75
22	319	555	289	672
20	456	804	446	988
18	775	1389	835	1738
16	1169	2113	1341	2674

Notes:
1. All Section properties are calculated in accordance with ANSI/SDI C-2017 and for a typical one-foot wide deck
2. Ip = Moment of inertia for positive bending
   In = Moment of inertia for negative bending
   Sp = Section modulus for positive bending
   Sn = Section modulus for negative bending
   Mp/Ω = Allowable bending moment for positive bending
   Mn/Ω = Allowable bending moment for negative bending
   V = Allowable shear
3. Web crippling strength is calculated using an exterior bearing length of 2.5 in. and interior bearing length of 5 in.

Table 5

Bare Deck 9/16, Fy = 40 ksi



Enlarged
Overlap
Sidelap

Section Properties

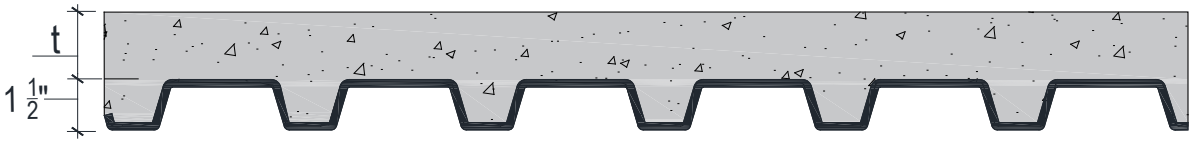
Ω= 1.67

Gauge	Design Thickness (in)	Weight (lb/ft)	Ip (in^4)	In (in^4)	Sp (in^3)	Sn (in^3)
26	0.0179	0.92	0.013	0.0130	0.043	0.043
24	0.0238	1.21	0.017	0.0170	0.057	0.057
22	0.0295	1.50	0.021	0.0210	0.07	0.070

Notes:
1. All Section Properties are calculated in accordance with ANSI/SDI C-2017 and for a one-foot wide deck
2. Ip = Moment of inertia for positive bending
   In = Moment of inertia for negative bending
   Sp = Section modulus for positive bending
   Sn = Section moudulus for negitive bending

Table 6

1½ X 6 Deck Unshored Construction Span



Concrete Filled Deck, Fy = 40 ksi
Normal Weight Concrete (145 lb/cft)

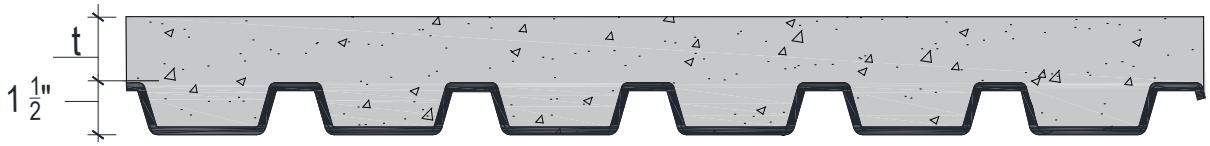
Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
3.50" (t =2") 34 psf	22	5'-7"	6'-7"	6'-8"	5'-7"	5'-9"	5'-11"
	20	6'-6"	7'-8"	7'-9"	6'-4"	6'-6"	6'-8"
	18	8'-0"	9'-4"	9'-6"	7'-4"	7'-5"	7'-8"
	16	9'-4"	10'-5"	10'-9"	8'-4"	8'-4"	8'-7"
4.00" (t =2.50") 40 psf	22	5'-4"	6'-3"	6'-4 "	5'-4"	5'-6"	5'-9"
	20	6'-2"	7'-3"	7'-4"	6'-1"	6'-3"	6'-6"
	18	7'-7"	8'-10"	8'-11"	7'-1"	7'-2"	7'-5"
	16	8'-10"	9'-10"	10'-2"	8'-0"	8'-0"	8'-4"
4.50" (t =3") 46 psf	22	5'-1"	6'-0"	6'-1"	5'-1"	5'-4"	5'-6"
	20	5'-11"	6'-11"	7'-0"	5'-11"	6'-1"	6'-3"
	18	7'-2"	8'-5"	8'-6"	6'-10"	6'-11"	7'-2"
		8'-5"	9'-5"	9'-9"	7'-9"	7'-9"	8'-0"
5.00" (t =3.50") 52 psf	22	4'-11"	5'-9"	5'-10"	4'-11"	5'-2"	5'-4"
	20	5'-8"	6'-7"	6'-8"	5'-8"	5'-10"	6'-1"
	18	6'-11"	8'-1"	8'-2"	6'-8"	6'-9"	7'-0"
	16	8'-1"	9'-0"	9'-3"	7'-6"	7'-6"	7'-9"
4.50" (t =4.00") 58 psf	22	4'-8"	5'-6"	5'-7"	4'-8"	5'-0"	5'-2"
	20	5'-5"	6'-4"	6'-5"	5'-5"	5'-8"	5'-11"
	18	6'-7"	7'-9"	7'-10"	6'-6"	6'-6"	6'-9"
	16	7'-9"	8'-8"	8'-11"	7'-4"	7'-4"	7'-7"
6.00" (t = 2.50") 64 psf	22	4'-7"	5'-4"	5'-5"	4'-7"	4'-11"	5'-1"
	20	5'-3"	6'-2"	6'-2"	5'-3"	5'-6"	5'-9"
	18	6'-5"	7'-5"	7'-6"	6'-3"	6'-4"	6'-7"
	16	7'-5"	8'-4"	8'-7"	7'-1"	7'-1"	7'-4"

Notes:

1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tabels are calculated using Section Properties as shown in Table 1 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 7

1½ X 6 INV Deck Unshored Construction Span



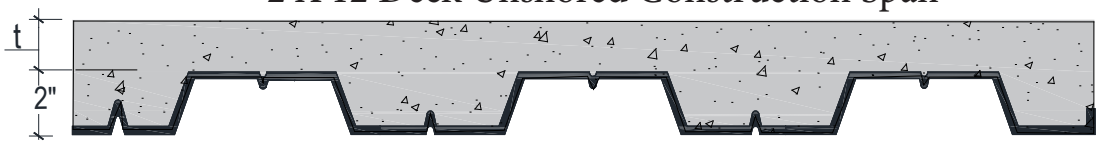
Concrete Filled Deck, Fy = 40 ksi
Normal Weight Concrete (145 lb/cft)

Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
3.50" (t=2") 34 psf	22	5'-6"	6'-5"	6'-6"	5'-6"	5'-6"	5'-8"
	20	6'-6"	7'-6"	7'-8"	6'-4"	6'-1"	6'-3"
	18	7'-10"	8'-9"	9'-0"	7'-3"	7'-1"	7'-4"
	16	9'-0"	9'-10"	10'-2"	8'-1"	8'-0"	8'-3"
4.00" (t=2.50") 40 psf	22	5'-3"	6'-2"	6'-3"	5'-3"	5'-3"	5'-6"
	20	6'-2"	7'-2"	7'-4"	6'-2"	5'-11"	6'-1"
	18	7'-5"	8'-4"	8'-7"	7'-0"	6'-10"	7'-1"
	16	8'-7"	9'-5"	9'-8"	7'-10"	7'-9"	8'-0"
4.50" (t=3") 46 psf	22	5'-0"	5'-11"	6'-0"	5'-0"	5'-1"	5'-3 "
	20	5'-11"	6'-10"	7'-0"	5'-11"	5'-8"	5'-11"
	18	7'-1"	7'-11"	8'-3"	6'-10"	6'-8"	6'-10"
	16	8'-2"	9'-0"	9'-3"	7'-7"	7'-6"	7'-9"
5.00" (t=3.50") 52 psf	22	4'-10"	5'-8"	5'-9"	4'-10"	5'-0"	5'-2"
	20	5'-8"	6'-7"	6'-9"	5'-8"	5'-6"	5'-9"
	18	6'-10"	7'-7"	7'-10"	6'-7"	6'-5"	6'-8"
	16	7'-10"	8'-7"	8'-11"	7'-5"	7'-3"	7'-6"
4.50" (t=4.00") 58 psf	22	4'-8"	5'-6"	5'-7"	4'-8"	4'-10"	5'-0"
	20	5'-6"	6'-4"	6'-6"	5'-6"	5'-4"	5'-7"
	18	6'-7"	7'-4"	7'-7"	6'-5"	6'-3"	6'-6"
	16	7'-7"	8'-3"	8'-7"	7'-2"	7'-1"	7'-4"
6.00" (t=2.50") 70 psf	22	4'-6"	5'-4"	5'-4"	4'-6"	4'-8"	4'-10"
	20	5'-4"	6'-1"	6'-3"	5'-4"	5'-3"	5'-5"
	18	6'-4"	7'-1"	7'-4"	6'-3"	6'-1"	6'-4"
	16	7'-3"	8'-0"	8'-3"	7'-0"	6'-11"	7'-2"

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tabels are calculated using Section Properties as shown in Table 2 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 8

2 X 12 Deck Unshored Construction Span



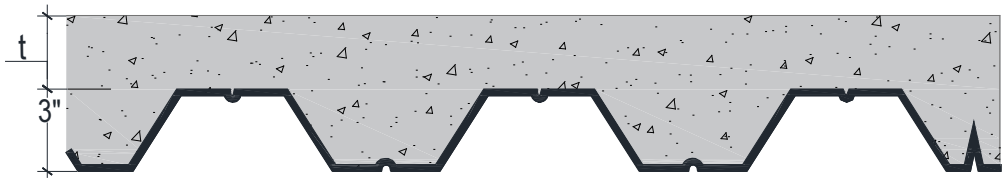
Concrete Filled Deck, Fy = 40 ksi
Normal Weight Concrete (145 lb/cft)

Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
4.00" (t = 2″) 34 psf	22	6′-11”	7′-8”	8′-2”	6′-8”	5′-0”	5′-9”
	20	8′-4”	9′-4”	9′-8”	7′-7”	7′-3”	7′-9”
	18	10′-4”	11′-1”	11′-5”	9′-2”	8′-11”	9′-3”
	16	11′-2	12′-5”	12′-10”	10′-3”	10′-1”	10′-5”
4.50″ (t = 2.50″) 40 psf	22	6′-7”	6′-11”	7′-9”	6′-5”	4′-8”	5′-4”
	20	7′-11”	8′-10”	9′-2”	7′-4”	6′-10”	7′-6”
	18	9′-10”	10′-6”	10′-11”	8′-11”	8′-8”	8′-11”
	16	10′-7”	11′-9”	12′-2”	9′-11”	9′-9”	10′-0”
5.00″ (t = 3″) 46 psf	22	6′-2”	6′-4”	7′-2”	6′-2”	4′-5”	5′-0”
	20	7′-7”	8′-6”	8′-9”	7′-2”	6′-5”	7′-3”
	18	9′-6”	10′-1”	10′-5”	8′-7”	8′-5”	8′-8”
	16	10′-2”	11′-3”	11′-8”	9′-8”	9′-5”	9′-9”
5.50″ (t = 3.50″) 52 psf	22	5′-6”	5′-10”	6′-7”	5′-6”	4′-2”	4′-9”
	20	7′-3”	8′-1”	8′-5”	6′-11”	6′-0”	6′-10”
	18	9′-1”	9′-8”	10′-0”	8′-4”	8′-2”	8′-5”
	16	9′-10”	10′-10”	11′-2”	9′-4”	9′-2”	9′-5”
6.00″ (t = 4.00″) 58 psf	22	5′-0”	5′-5”	6′-2”	5′-0”	3′-11”	4′-6”
	20	7′-0”	7′-9”	8′-1”	6′-9”	5′-8”	6′-6”
	18	8′-9”	9′-3”	9′-7”	8′-2”	7′-11”	8′-2”
	16	9′-6”	10′-5”	10′-9”	9′-1”	8′-11”	9′-2”
6.50″ (t = 2.50″) 70 psf	22	4′-6”	5′-0”	5′-8”	4′-6”	3′-9”	4′-3”
	20	6′-9”	7′-3”	7′-9”	6′-7”	5′-5”	6′-2”
	18	8′-6”	8′-11”	9′-3”	7′-11”	7′-8”	7′-11”
	16	9′-2”	10′-0”	10′-4”	8′-11”	8′-8”	8′-11”

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tabels are calculated using Section Properties as shown in Table 3 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 9

3 X 12 Deck Unshored Construction Span



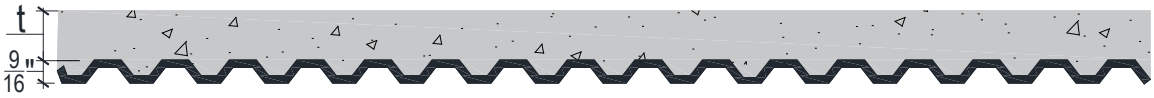
Concrete Filled Deck, Fy = 40 ksi
Normal Weight Concrete (145 lb/cft)

Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
5.00" (t=2") 34 psf	22	7′-2"	7′-7"	8′-8"	7′-0"	5′-2"	5′-10"
	20	10′-9"	10′-11"	12′-2"	9′-4"	7′-5"	8′-6"
	18	12′-9"	13′-9"	14′-2"	11′-2"	11′-4"	11′-8"
	16	13′-5"	15′-4"	15′-10"	12′-7"	12′-8"	13′-1"
5.50" (t=2.50") 40 psf	22	6′-3"	6′-11"	7′-10"	6′-3"	4′-10"	5′-6"
	20	10′-2"	10′-0"	11′-4"	9′-1"	7′-0"	8′-0"
	18	12′-4"	13′-1"	13′-7"	10′-10"	10′-11"	11′-4"
	16	13′-0"	14′-8"	15′-2"	12′-2"	12′-4"	12′-8"
6.00" (t=3") 46 psf	22	5′-7"	6′-5"	7′-0"	5′-7"	4′-7"	5′-2"
	20	9′-9"	9′-2"	10′-6"	8′-10"	6′-7"	7′-6"
	18	12′-0"	12′-7"	13′-0"	10′-7"	10′-8"	11′-0"
	16	12′-8"	14′-1"	14′-7"	11′-10"	11′-11"	12′-4"
6.50" (t=3.50") 52 psf	22	5′-0"	5′-11"	6′-4"	5′-0"	4′-4"	4′-11"
	20	9′-4"	8′-6"	9′-8"	8′-6"	6′-3"	7′-1"
	18	11′-7"	12′-1"	12′-6"	10′-3"	10′-4"	10′-8"
	16	12′-4"	13′-7"	14′-0"	11′-6"	11′-7"	12′-0"
7.00" (t=4.00") 58 psf	22	4′-7"	5′-6"	5′-9"	4′-7"	4′-1"	4′-8"
	20	9′-0"	7′-11"	9′-0"	8′-0"	5′-11"	6′-9"
	18	11′-2"	11′-8"	12′-1"	10′-0"	10′-0"	10′-5"
	16	12′-1"	13′-1"	13′-6"	11′-3"	11′-4"	11′-8"
7.50" (t=4.50") 70 psf	22	4′-3"	5′-2"	5′-3"	4′-3"	3′-11"	4′-5"
	20	8′-5"	7′-5"	8′-5"	7′-8"	5′-8"	6′-5"
	18	10′-9"	11′-4"	11′-8"	9′-9"	9′-6"	10′-2"
	16	11′-10"	12′-8"	13′-1"	10′-11"	11′-0"	11′-5"

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tabels are calculated using Section Properties as shown in Table 4 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, ppendix A or ANSI/SDI NC-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 10

9/16 Deck Unshored Construction Span



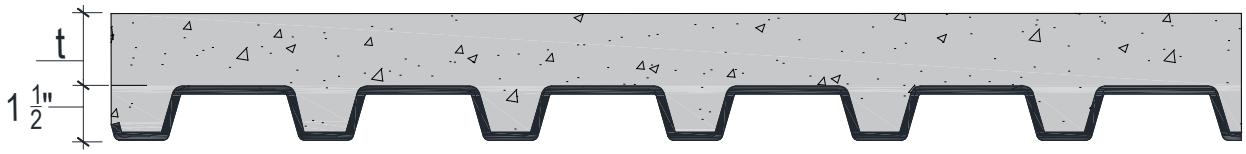
Concrete Filled Deck, Fy = 40 ksi
Normal Weight Concrete (145 lb/cft)

Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
2.00" (t=1.50") 23 psf	26	2'-9"	3'-4"	3'-5"	2'-9"	3'-4"	3'-5"
	24	3'-6"	4'-3"	4'-4"	3'-6"	4'-3"	4'-4"
	22	4'-2"	5'-0"	5'-1"	4'-2"	4'-9"	4'-11"
2.50" (t=2.00") 29 psf	26	2'-8"	3'-3"	3'-3"	2'-8"	3'-3"	3'-3"
	24	3'-5"	4'-1"	4'-1"	3'-5"	4'-1"	4'-1"
	22	3'-11"	4'-9"	4'-10"	3'-11"	4'-7"	4'-9"
3.00" (t=2.50") 35 psf	26	2'-7"	3'-1"	3'-2"	2'-7"	3'-1"	3'-2"
	24	3'-3"	3'-11"	3'-11"	3'-3"	3'-11"	3'-11"
	22	3'-8"	4'-6"	4'-7"	3'-8"	4'-5"	4'-6"
3.50" (t=3.00") 41 psf	26	2'-6"	3'-0"	3'-0"	2'-6"	3'-0"	3'-0"
	24	3'-2"	3'-9"	3'-9"	3'-2"	3'-9"	3'-9"
	22	3'-6"	4'-4"	4'-5"	3'-6"	4'-3"	4'-5"
4.00" (t=3.50") 47 psf	26	2'-5"	2'-11"	2'-11"	2'-5"	2'-11"	2'-11"
	24	3'-0"	3'-7"	3'-8"	3'-0"	3'-7"	3'-8"
	22	3'-4"	4'-2"	4'-3"	3'-4"	4'-1"	4'-3"
4.50" (t=4.00") 53 psf	26	2'-4"	2'-10"	2'-10"	2'-4"	2'-10"	2'-10"
	24	2'-11"	3'-6"	3'-6"	2'-11"	3'-6"	3'-6"
	22	3'-3"	4'-1"	4'-1"	3'-3"	4'-1"	4'-1"

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load Tables are calculated using Section Properties as shown in Table 5 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017,
   Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 11

1½ X 6 Deck Unshored Construction Span



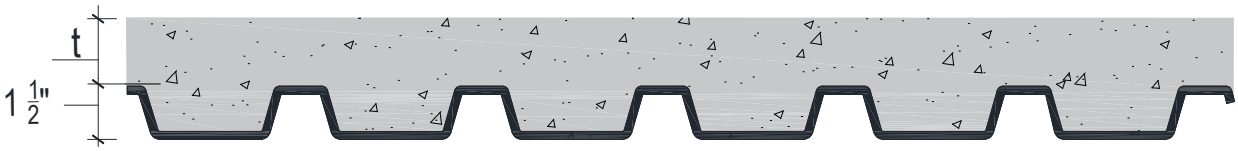
Concrete Filled Deck, Fy = 40 ksi
Light Weight Concrete (115 lb/cft)

Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
3.50" (t = 2″) 34 psf	22	5′-11”	7′-0”	7′-1”	5′-11”	6′-0”	6′-2”
	20	6′-11”	8′-2”	8′-3”	6′-7”	6′-9”	7′-0”
	18	8′-6”	9′-11”	10′-2”	7′-8”	7′-9”	8′-0”
	16	10′-0”	11′-1”	11′-5”	8′-8”	8′-8”	8′-11”
4.00″ (t = 2.50″) 40 psf	22	5′-8”	6′-8”	6′-9”	5′-8”	5′-10”	6′-0”
	20	6′-7”	7′-9”	7′-10”	6′-5”	6′-7”	6′-9”
	18	8′-1”	9′-6”	9′-7”	7′-5”	7′-6”	7′-9”
	16	9′-6”	10′-7”	10′-11”	8′-4”	8′-5”	8′-8”
4.50″ (t = 3″) 46 psf	22	5′-5”	6′-5”	6′-6”	5′-5”	5′-8”	5′-10”
	20	6′-4”	7′-5”	7′-6”	6′-2”	6′-4”	6′-7”
	18	7′-9”	9′-1”	9′-2”	7′-2”	7′-4”	7′-7”
	16	9′-1”	10′-1”	10′-5”	8′-2”	8′-2”	8′-5”
5.00″ (t = 3.50″) 52 psf	22	5′-4”	6′-3”	6′-4”	5′-4”	5′-7”	5′-9”
	20	6′-2”	7′-3”	7′-4”	6′-1”	6′-3”	6′-6”
	18	7′-7”	8′-10”	9′-0”	7′-1”	7′-2”	7′-5”
	16	8′-11”	9′-11”	10′-3”	8′-0”	8′-1”	8′-4”
4.50″ (t = 4.00″) 58 psf	22	5′-3”	6′-2”	6′-3”	5′-3”	5′-6”	5′-8”
	20	6′-1”	7′-1”	7′-2”	6′-0”	6′-2”	6′-5”
	18	7′-5”	8′-8”	8′-9”	7′-0”	7′-1”	7′-4”
	16	8′-8”	9′-8”	10′-0”	7′-11”	7′-11”	8′-3”
6.00″ (t = 2.50″) 64 psf	22	5′-0”	5′-10”	5′-11”	5′-0”	5′-3”	5′-5”
	20	5′-9”	6′-9”	6′-10”	5′-9”	5′-11”	6′-2”
	18	7′-0”	8′-3”	8′-4”	6′-9”	6′-10”	7′-1”
	16	8′-3”	9′-2”	9′-6”	7′-8”	7′-8”	7′-11”

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tabels are calculated using Section Properties as shown in Table 1 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 12

1½ X 6 Deck INV Unshored Construction Span



Concrete Filled Deck, Fy = 40 ksi
Light Weight Concrete (115 lb/cft)

Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
3.50" (t = 2") 34 psf	22	5′-10"	6′-11"	7′-0"	5′-10"	5′-9"	5′-11"
	20	6′-11"	8′-1"	8′-3"	6′-7"	6′-4"	6′-7"
	18	8′-4"	9′-4"	9′-8"	7′-7"	7′-5"	7′-8"
	16	9′-8"	10′-6"	10′-11"	8′-6"	8′-4"	8′-8"
4.00" (t = 2.50") 40 psf	22	5′-7"	6′-7"	6′-8"	5′-7"	5′-7"	5′-9"
	20	6′-8"	7′-8"	7′-11"	6′-5"	6′-2"	6′-5"
	18	8′-0"	8′-11"	9′-3"	7′-4"	7′-2"	7′-5"
	16	9′-3"	10′-1"	10′-5"	8′-3"	8′-2"	8′-5"
4.50" (t = 3") 46 psf	22	5′-5"	6′-4"	6′-5"	5′-5"	5′-5"	5′-7"
	20	6′-4"	7′-5"	7′-7"	6′-3"	6′-0"	6′-2"
	18	7′-8"	8′-7"	8′-10"	7′-2"	7′-0"	7′-3"
	16	8′-10"	9′-8"	10′-0"	8′-0"	7′-11"	8′-2"
5.00" (t = 3.50") 52 psf	22	5′-3"	6′-3"	6′-4"	5′-3"	5′-4"	5′-6"
	20	6′-3"	7′-3"	7′-5"	6′-2"	5′-11"	6′-2"
	18	7′-6"	8′-5"	8′-8"	7′-1"	6′-11"	7′-2"
	16	8′-8"	9′-3"	9′-10"	7′-11"	7′-10"	8′-1"
4.50" (t = 4.00") 58 psf	22	5′-2"	6′-1"	6′-2"	5′-2"	5′-3"	5′-5"
	20	6′-2"	7′-1"	7′-3"	6′-1"	5′-10"	6′-1"
	18	7′-4"	8′-3"	8′-6"	7′-0"	6′-10"	7′-1"
	16	8′-6"	9′-4"	9′-7"	7′-10"	7′-8"	8′-0"
6.00" (t = 2.50") 64 psf	22	5′-0"	5′-10"	5′-11"	5′-0"	5′-1"	5′-3"
	20	5′-10"	6′-9"	6′-11"	5′-10"	5′-8"	5′-10"
	18	7′-0"	7′-10"	8′-1"	6′-9"	6′-7"	6′-9"
	16	8′-1"	8′-10"	9′-2"	7′-6"	7′-5"	7′-6"

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tabels are calculated using Section Properties as shown in Table 2 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 13

2 X 12 Deck Unshored Construction Span

Concrete Filled Deck, Fy = 40 ksi
Light Weight Concrete (115 lb/cft)

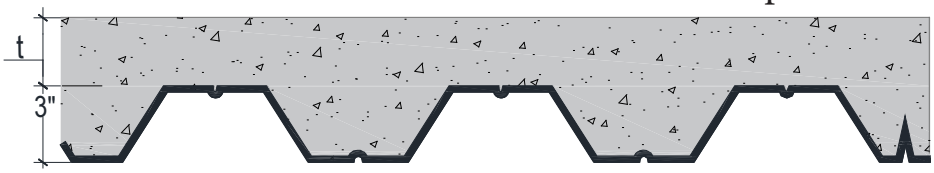
Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
4.00" (t = 2") 34 psf	22	7'-5"	8'-8"	8'-9"	6'-11"	5'-6"	6'-3"
	20	8'-11"	10'-0"	10'-4"	8'-0"	7'-11"	8'-2"
	18	11'-1"	11'-10"	12'-3"	9'-7"	9'-4"	9'-8"
	16	11'-9"	13'-3"	13'-8"	10'-9"	10'-6"	10'-10"
4.50" (t = 2.50") 40 psf	22	7'-1"	8'-0"	8'-5"	6'-9"	5'-2"	5'-11"
	20	8'-6"	9'-7"	9'-11"	7'-9"	7'-6"	7'-11"
	18	10'-7"	11'-4"	11'-9"	9'-4"	9'-1"	9'-5"
	16	11'-4"	12'-8"	13'-1"	10'-5"	10'-2"	10'-7"
5.00" (t = 3") 46 psf	22	6'-9"	7'-5"	8'-0"	6'-7"	4'-11"	5'-7"
	20	8'-2"	9'-2"	9'-6"	7'-6"	7'-1"	7'-8"
	18	10'-2"	10'-11"	11'-3"	9'-1"	8'-10"	9'-2"
	16	10'-11"	12'-2"	12'-7"	10'-2"	9'-11"	10'-3"
5.20" (t = 3.50") 52 psf	22	6'-8"	7'-1"	7'-11"	6'-6"	4'-9"	5'-5"
	20	8'-0"	9'-0"	9'-3"	7'-5"	6'-11"	7'-7"
	18	10'-0"	10'-8"	11'-0"	8'-11"	8'-9"	9'-0"
	16	10'-9"	11'-11"	12'-4"	10'-0"	9'-10"	10'-1"
5.50" (t = 4.00") 58 psf	22	6'-6"	6'-10"	7'-9"	6'-5"	4'-8"	5'-4"
	20	7'-10"	8'-10"	9'-1"	7'-4"	6'-9"	7'-6"
	18	9'-10"	10'-6"	10'-10"	8'-10"	8'-7"	8'-11"
	16	10'-7"	11'-9"	12'-1"	9'-11"	9'-8"	10'-0"
6.25" (t = 2.50") 64 psf	22	5'-11"	6'-2"	7'-0"	5'-11"	4'-4"	4'-11"
	20	7'-5"	8'-4"	8'-7"	7'-1"	6'-3"	7'-1"
	18	9'-4"	9'-11"	10'-3"	8'-6"	8'-4"	8'-7"
	16	10'-1"	11'-1"	11'-6"	9'-7"	9'-4"	9'-7"

Notes:

1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load Tables are calculated using Section Properties as shown in Table 3 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 14

3 X 12 Deck Unshored Construction Span



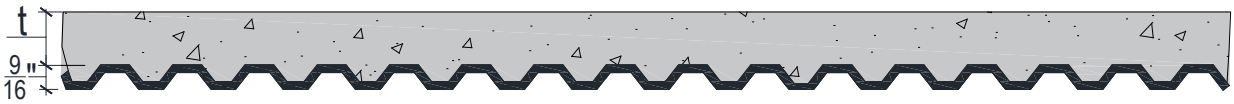
Concrete Filled Deck, Fy = 40 ksi
Light Weight Concrete (115 lb/cft)

Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
5.00" (t=2") 37 psf	22	8'-11"	8'-10"	10'-0"	7'-9"	5'-8"	6'-6"
	20	11'-8"	12'-8"	13'-1"	9'-10"	8'-3"	9'-4"
	18	13'-5"	14'-9"	15'-3"	11'-9"	11'-11"	12'-3"
	16	14'-2"	16'-6"	17'-1"	13'-2"	13'-4"	13'-9"
5.50" (t= 2.50") 42 psf	22	7'-10"	8'-1"	9'-3"	7'-4"	5'-5"	6'-2"
	20	11'-1"	11'-8"	12'-6"	9'-7"	7'-9"	8'-10"
	18	13'-0"	14'-2"	14'-8"	11'-5"	11'-7"	11'-11"
	16	13'-9"	15'-10"	16'-4"	12'-10"	12'-11"	13'-5"
6.00" (t=3.00") 47 psf	22	7'-0"	7'-6"	8'-6"	7'-0"	5'-1"	5'-10"
	20	10'-8"	10'-10"	12'-1"	9'-4"	7'-5"	8'-5"
	18	12'-8"	13'-8"	14'-1"	11'-2"	11'-3"	11'-8"
	16	13'-5"	15'-3"	15'-9"	12'-6"	12'-8"	13'-1"
6.25" (t=3.25") 49 psf	22	6'-8"	7'-3"	8-3"	6'-8"	5'-0"	5'-8"
	20	10'-5"	10'-5"	11'-10"	9'-3"	7'-2"	8'-2"
	18	12'-6"	13'-5"	13'-10"	11'-0"	11'-1"	11'-6"
	16	13'-3"	15'-0"	15'-6"	12'-4"	12'-6"	12'-11"
6.50" (t=3.50") 52 psf	22	6'-4"	7'-0"	7'-11"	6'-4"	4'-10"	5'-6"
	20	10'-3"	10'-1"	11'-5"	9'-1"	7'-0"	8'-0"
	18	12'-4"	13'-2"	13'-7"	10'-11"	11'-0"	11'-4"
	16	13'-1"	14'-9"	15'-3"	12'-2"	12'-4"	12'-9"
7.25" (t=4.50") 59 psf	22	5'-6"	6'-4"	6'-11"	5'-6"	4'-6"	5'-2"
	20	9'-8"	9'-1"	10'-4"	8'-10"	6'-7"	7'-6"
	18	12'-0"	12'-6"	12'-11"	10'-6"	10'-7"	10'-11"
	16	12'-8"	14'-0"	14'-6"	11'-9"	11'-11"	12'-3"

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load Tables are calculated using Section Properties as shown in Table 4 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 15

9/16 Deck Unshored Construction Span



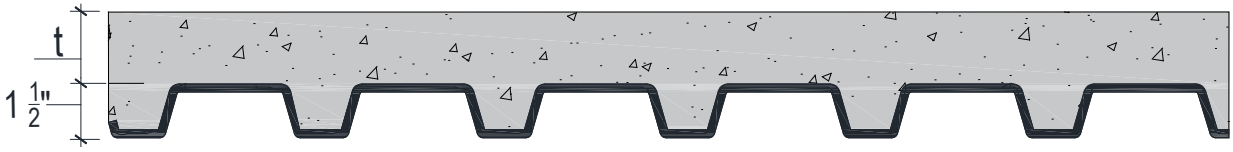
Concrete Filled Deck, Fy = 40 ksi
Light Weight Concrete (145 lb/cft)

Slab Thickness & Weight	Metal Gauge	20 psf Construction Load			50 psf Construction Load		
		1- Span	2-Span	3-Span	1- Span	2-Span	3-Span
2.00" (t=1.50") 19 psf	26	2'-11"	3'-6"	3'-6"	2'-11"	3'-6"	3'-6"
	24	3'-8"	4'-5"	4'-6"	3'-8"	4'-5"	4'-6"
	22	4'-4"	5'-3"	5'-3"	4'-4"	4'-11"	5'-1"
2.50" (t = 2.00") 23 psf	26	2'-9"	3'-4"	3'-5"	2'-9"	3'-4"	3'-5"
	24	3'-6"	4'-3"	4'-3"	3'-6"	4'-3"	4'-3"
	22	4'-2"	5'-0"	5'-1"	4'-2"	4'-9"	4'-11"
3.00" (t = 2.50") 28 psf	26	2'-8"	3'-3"	3'-3"	2'-8"	3'-3"	3'-3"
	24	3'-5"	4'-1"	4'-2"	3'-5"	4'-1"	4'-2"
	22	4'-0"	4'-9"	4'-10"	4'-0"	4'-7"	4'-9"
3.50" (t = 3.00") 33 psf	26	2'-7"	3'-2"	3'-2"	2'-7"	3'-2"	3'-2"
	24	3'-4"	3'-11"	4'-0"	3'-4"	3'-11"	4'-0"
	22	3'-9"	4'-7"	4'-8"	3'-9"	4'-5"	4'-7"
4.00" (t = 3.50") 38 psf	26	2'-7"	3'-1"	3'-1"	2'-7"	3'-1"	3'-1"
	24	3'-2"	3'-10"	3'-10"	3'-2"	3'-10"	3'-10"
	22	3'-7"	4'-5"	4'-6"	3'-7"	4'-4"	4'-6"
4.50" (t=4.00") 42 psf	26	2'-6"	3'-0"	3'-0"	2'-6"	3'-0"	3'-0"
	24	3'-1"	3'-8"	3'-9"	3'-1"	3'-8"	3'-9"
	22	3'-6"	4'-4"	4'-4"	3'-6"	4'-3"	4'-4"

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load Tables are calculated using Section Properties as shown in Table 5 with steel yield strength of 40 ksi.
3. Span length assumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. All construction load spans are calculated using loads and load combinations in accordance with ANSI/ C-2017, Section 2.4.A. or ANSI/SDI NC-2017, Section 2.4.A.
5. Bending Moment formulae used for flexural stress limitations are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.
6. Deflection formulae for deflection limitation are in accordance with ANSI/SDI C-2017, Appendix A or ANSI/SDI NC-2017, Appendix A.

Table 16

1½ X 6 Composite Deck Section Properties



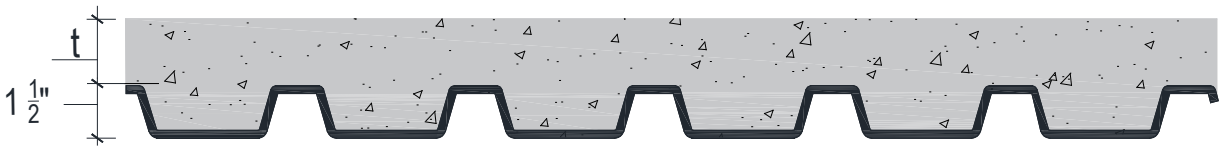
Fy = 40 ksi, fc= 3,000 psi

Slab Thickness & Weight	Metal Gauge	Normal Weight Concrete (145 lb/cft)			Light Weight Concrete (115 lb/cft)		
		Id (in^4/ft)	Φ My (in-k/ft)	Φ Vn (lb/ft)	Id (in^4/ft)	Φ My (in-k/ft)	Φ Vn (lb/ft)
4.00" (t = 2.50") 33 psf	22	3.99	32.99	2588	3.20	31.32	1941
	20	4.39	39.18	2588	3.54	37.03	1941
	18	5.07	50.12	2588	4.11	47.02	1941
	16	5.72	61.24	2588	4.65	57.08	1941
4.50" (t = 3.00") 37 psf	22	5.65	39.81	3019	4.49	37.96	2264
	20	6.10	47.37	3019	4.95	44.98	2264
	18	7.10	60.77	3019	5.71	57.32	2264
	16	7.98	74.46	3019	6.44	69.79	2264
5.00" (t = 3.50") 42 psf	22	7.73	46.82	3492	6.08	44.82	2619
	20	8.42	55.80	3492	6.68	53.21	2619
	18	9.61	71.76	3492	7.68	67.99	2619
	16	10.76	88.13	3492	8.64	83.02	2619
5.50" (t = 4.00") 64 psf	22	10.27	53.96	4005	8.01	51.82	3004
	20	11.15	64.40	4005	8.77	61.62	3004
	18	12.64	83.00	4005	10.04	78.96	3004
	16	14.11	102.13	4005	11.27	96.63	3004
6.00" (t = 4.00") 70 psf	22	13.32	61.20	4550	10.30	58.94	3420
	20	14.40	73.13	4550	11.24	70.18	3420
	18	16.25	94.42	4550	12.83	90.13	3420
	16	18.07	116.38	4550	14.36	110.53	3420

Notes:
1. All section properties are calculated in accordance with ANSI/SDI C-2017.
2. Slab Thickness: Overall depth of deck-slab, inclusive of deck.
3. $I_{d=}$ Design moment of inertia, in^4/ft of deck width.
   ΦMy= Factored yield moment capacity
   ΦVn= Factored shear capacity

Table 17

1½ X 6 INV Composite Deck Section Properties



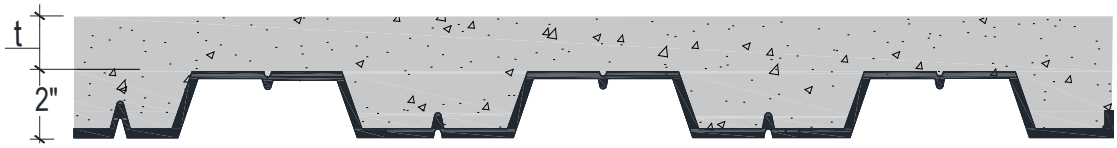
Fy = 40 ksi, fc= 3,000 psi

Slab Thickness & Weight	Metal Gauge	Normal Weight Concrete (145 lb/cft)			Light Weight Concrete (115 lb/cft)		
		Id (in^4/ft)	Φ My (in-k/ft)	Φ Vn (lb/ft)	Id (in^4/ft)	Φ My (in-k/ft)	Φ Vn (lb/ft)
4.00" (t = 2.50") 40 psf	22	5.19	38.26	2588	4.08	36.61	1941
	20	5.65	45.59	2588	4.48	43.45	1941
	18	6.45	58.62	2588	5.15	55.54	1941
	16	7.22	71.98	2588	5.78	67.73	1941
4.50" (t = 3.00") 34 psf	22	7.15	45.29	3019	5.59	43.47	2264
	20	7.77	54.03	3019	6.12	51.69	2264
	18	8.82	69.63	3019	7.01	66.23	2264
	16	9.85	85.67	3019	7.86	81.08	2264
5.00" (t = 3.50") 40 psf	22	9.57	52.45	3492	7.42	50.49	2619
	20	10.36	62.66	3492	8.11	60.12	2619
	18	11.71	80.89	3492	9.26	77.22	2619
	16	13.04	99.70	3492	10.37	94.73	2619
5.50" (t = 4.00") 46 psf	22	12.47	59.71	4005	9.61	57.63	3004
	20	13.46	71.41	4005	10.47	68.71	3004
	18	15.16	92.34	4005	11.93	88.42	3004
	16	16.83	113.99	4005	13.33	108.67	3004
6.00" (t = 4.00") 52 psf	22	15.92	67.05	4550	12.18	64.86	3420
	20	17.13	80.26	4550	13.24	77.41	3420
	18	19.21	103.94	4550	15.04	99.78	3420
	16	21.26	128.47	4550	16.77	122.83	3420

Notes:
1. All section properties are calculated in accordance with ANSI/SDI C-2017.
2. Slab Thickness: Overall depth of deck-slab, inclusive of deck.
3. $I_{d=}$ Design moment of inertia, in^4/ft of deck width.
   ΦMy= Factored yield moment capacity
   ΦVn= Factored shear capacity

Table 18

2 X 12 Composite Deck Section Properties



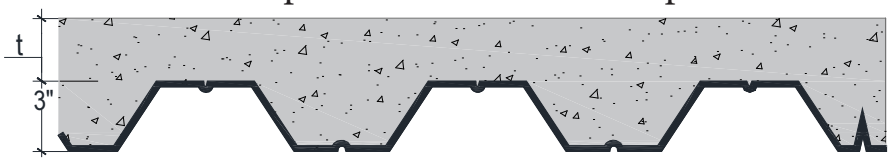
Fy = 40 ksi, fc= 3,000 psi

Slab Thickness & Weight	Metal Gauge	Normal Weight Concrete (145 lb/cft)			Light Weight Concrete (115 lb/cft)		
		Id (in^4/ft)	Φ My (in-k/ft)	Φ Vn (lb/ft)	Id (in^4/ft)	Φ My (in-k/ft)	Φ Vn (lb/ft)
4.50" (t = 2.50″) 34 psf	22	5.69	35.44	4368	4.51	33.86	3698
	20	6.23	42.30	4716	4.99	40.27	4021
	18	7.15	54.35	5361	5.78	51.43	4021
	16	8.05	66.69	5361	6.54	62.77	4021
5.00″ (t = 3.00″) 40 psf	22	7.66	41.73	4769	6.03	39.99	3999
	20	8.35	49.84	5116	6.64	47.59	4346
	18	9.53	64.16	5764	7.66	60.90	4621
	16	10.7	48.85	6162	8.64	74.45	4621
5.50″ (t = 3.50″) 46 psf	22	10.07	48.21	5190	7.86	46.32	4315
	20	10.94	57.62	5537	8.63	55.17	4662
	18	12.43	74.29	6185	9.92	70.74	5253
	16	13.90	91.45	6816	11.16	86.63	5253
6.00″ (t = 4.00″) 52 psf	22	12.97	54.82	5632	10.05	52.80	4646
	20	14.04	65.57	5979	10.99	62.95	4993
	18	15.87	84.68	6627	12.59	80.86	5641
	16	17.69	104.39	7258	14.13	99.20	5915
6.50″ (t = 4.00″) 58 psf	22	16.41	61.53	6094	12.62	59.39	4992
	20	17.70	73.65	6441	13.76	70.87	5339
	18	19.92	95.25	7089	15.70	91.19	5988
	16	22.12	117.58	7720	17.58	112.05	6609
7.00″ (t=5.00″) 70 psf	22	20.42	68.33	6576	15.59	66.08	5354
	20	21.96	81.84	6924	16.96	78.92	5701
	18	24.60	105.97	7572	19.28	101.70	6350
	16	27.23	130.97	8203	21.54	125.13	6981

Notes:
1. All section properties are calculated in accordance with ANSI/SDI C-2017.
2. Slab Thickness: Overall depth of deck-slab, inclusive of deck.
3. $I_{d=}$ Design moment of inertia, in^4/ft of deck width.
   ΦMy= Factored yield moment capacity
   ΦVn= Factored shear capacity

Table 19

3 X 12 Composite Deck Section Properties



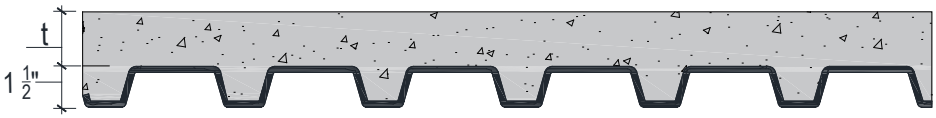
Fy = 40 ksi, fc= 3,000 psi

Slab Thickness & Weight	Metal Gauge	Normal Weight Concrete (145 lb/cft)			Light Weight Concrete (115 lb/cft)		
		Id (in^4/ft)	Φ My (in-k/ft)	Φ Vn (lb/ft)	Id (in^4/ft)	Φ My (in-k/ft)	Φ Vn (lb/ft)
5.50" (t = 2.50") 46 psf	22	9.67	44.47	5181	7.66	42.52	4386
	20	10.59	53.17	6126	8.47	50.68	4773
	18	12.16	68.56	6364	9.85	65.01	4773
	16	13.7	84.23	6364	11.18	79.5	4773
6.00" (t = 3.00") 52 psf	22	12.22	51.16	5573	9.63	48.99	4680
	20	13.34	61.16	6518	10.63	58.38	5361
	18	15.27	78.88	7148	12.32	74.89	5361
	16	17.17	96.97	7148	13.95	91.61	5361
6.50" (t = 3.50") 58 psf	22	15.26	58.09	5982	11.96	55.73	4987
	20	16.62	69.46	6927	13.16	66.41	5932
	18	18.95	89.64	7966	15.21	85.25	5974
	16	21.25	110.29	7966	17.19	104.37	5974
7.00" (t = 4.00") 70 psf	22	18.85	65.21	6408	14.68	62.67	5306
	20	20.46	78.00	7354	16.12	74.72	6251
	18	23.24	100.75	8818	18.56	96.00	6614
	16	25.99	124.08	8818	20.93	117.65	6614
7.50" (t = 4.00") 75 psf	22	23.01	72.49	6652	17.82	69.79	5639
	20	24.90	86.74	7797	19.51	83.25	6584
	18	28.18	112.14	9286	22.39	107.07	7279
	16	31.43	138.25	9705	25.2	131.36	7279

Notes:
1. All section properties are calculated in accordance with ANSI/SDI C-2017.
2. Slab Thickness: Overall depth of deck-slab, inclusive of deck.
3. $I_{d=}$ Design moment of inertia, in^4/ft of deck width.
   ΦMy= Factored yield moment capacity
   ΦVn= Factored shear capacity

Table 20

1½ X 6 Composite Deck Superimposed Load (ASD), psf



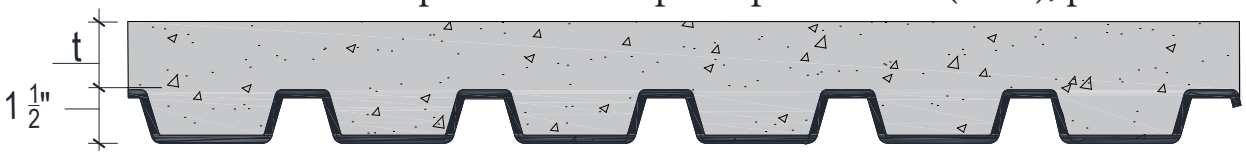
Fy = 40 ksi, fc= 3,000 psi
Normal Weight Concrete (145 lb/cft)

Slab Thickness & Weight	Metal Gauge	Span										
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″	8′-0″	9′-0″	10′-0″	11′-0″	12′-0″
4.00″ (t=2.50″) 39 psf	22	400	400	353	296	251	215	186	140	108	84	66
	20	400	400	400	357	304	261	226	172	134	106	84
	18	400	400	400	400	397	342	297	260	202	160	129
	16	400	400	400	400	400	400	369	286	226	182	148
4.50″ (t=3.00″) 45 psf	22	400	400	400	359	305	261	225	171	132	103	81
	20	400	400	400	400	369	317	275	210	164	129	103
	18	400	400	400	400	400	400	362	317	247	196	158
	16	400	400	400	400	400	400	400	349	276	223	182
5.00″ (t=3.50″) 51 psf	22	400	400	400	400	360	309	267	203	157	123	97
	20	400	400	400	400	400	375	325	249	194	154	123
	18	400	400	400	400	400	400	400	376	293	233	188
	16	400	400	400	400	400	400	400	400	329	265	217
5.50″ (t=4.00″) 57 psf	22	400	400	400	400	400	357	309	235	182	143	113
	20	400	400	400	400	400	400	377	289	226	179	144
	18	400	400	400	400	400	400	400	400	340	271	219
	16	400	400	400	400	400	400	400	400	383	309	253
6.00″ (t=4.00″) 63 psf	22	400	400	400	400	400	400	351	268	208	163	130
	20	400	400	400	400	400	400	400	329	257	205	164
	18	400	400	400	400	400	400	400	400	340	271	219
	16	400	400	400	400	400	400	400	400	400	354	289

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tables are calculated in accordance with ANSI/C-2017.
3. Span length asssumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. Slab thickness: overall depth of deck-slab inclusive of deck.

Table 21

1½ X 6 INV Composite Deck Superimposed Load (ASD), psf



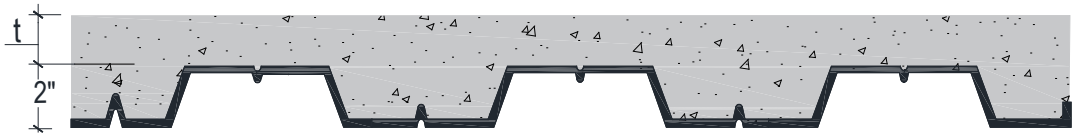
Fy = 40 ksi, fc= 3,000 psi
Normal Weight Concrete (145 lb/cft)

Slab Thickness & Weight	Metal Gauge	Span										
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″	8′-0″	9′-0″	10′-0″	11′-0″	12′-0″
4.00″ (t=2.50″) 39 psf	22	400	400	400	344	292	250	216	164	126	99	78
	20	400	400	400	400	355	305	264	202	157	124	99
	18	400	400	400	400	400	400	349	269	211	169	137
	16	400	400	400	400	400	400	354	272	214	171	139
4.50″ (t=3.00″) 45 psf	22	400	400	400	400	348	298	257	195	151	118	94
	20	400	400	400	400	400	363	314	240	188	149	119
	18	400	400	400	400	400	400	400	321	253	202	164
	16	400	400	400	400	400	400	400	326	257	206	167
5.00″ (t=3.50″) 51 psf	22	400	400	400	400	400	346	299	228	177	139	110
	20	400	400	400	400	400	400	366	280	219	174	139
	18	400	400	400	400	400	400	400	374	295	237	192
	16	400	400	400	400	400	400	400	381	301	241	196
5.50″ (t=4.00″) 57 psf	22	400	400	400	400	400	396	342	261	202	159	126
	20	400	400	400	400	400	400	400	321	251	199	160
	18	400	400	400	400	400	400	400	400	338	271	221
	16	400	400	400	400	400	400	400	400	345	277	226
6.00″ (t=4.00″) 63 psf	22	400	400	400	400	400	400	386	294	228	180	143
	20	400	400	400	400	400	400	400	362	283	225	181
	18	400	400	400	400	400	400	400	400	382	307	250
	16	400	400	400	400	400	400	400	400	391	314	256

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tables are calculated in accordance with ANSI/C-2017.
3. Span length asssumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. Slab thickness: overall depth of deck-slab inclusive of deck.

Table 22

2 X 12 Composite Deck Superimposed Load (ASD), psf



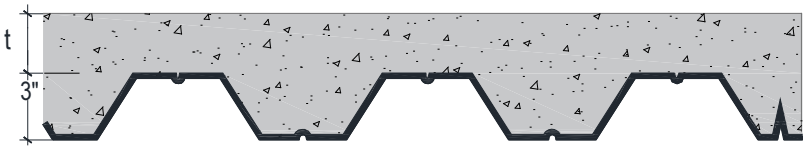
Fy = 40 ksi, fc= 3,000 psi
Normal Weight Concrete (145 lb/cft)

Slab Thickness & Weight	Metal Gauge	Span										
		5′-6″	6′-0″	6′-6″	7′-0″	7′-6″	8′-0″	8′-6″	9′-0″	10′-0″	11′-0″	12′-0″
4.50" (t=2.50″) 45 psf	22	400	376	316	268	229	197	171	149	114	88	69
	20	400	400	383	326	280	242	210	184	143	112	86
	18	400	400	400	400	369	320	280	246	193	153	124
	16	400	400	400	400	400	400	351	309	244	196	159
5.00″ (t = 3.00″) 51 psf	22	400	400	373	317	271	233	202	176	136	105	83
	20	400	400	400	386	331	286	249	218	169	133	106
	18	400	400	400	400	400	379	332	292	229	183	147
	16	400	400	400	400	400	400	400	367	290	233	190
5.50″ (t = 3.50″) 57 psf	22	400	400	400	367	314	271	235	205	158	123	97
	20	400	400	400	400	384	332	290	254	197	156	124
	18	400	400	400	400	400	400	386	339	267	213	172
	16	400	400	400	400	400	400	400	400	338	272	222
6.00″ (t = 4.00″) 57 psf	22	400	400	400	400	359	310	269	235	181	142	111
	20	400	400	400	400	400	380	331	290	226	179	142
	18	400	400	400	400	400	400	400	388	306	244	198
	16	400	400	400	400	400	400	400	400	388	312	255
6.50″ (t=4.00″) 63 psf	22	400	400	400	400	400	349	303	265	205	160	126
	20	400	400	400	400	400	400	373	327	255	202	161
	18	400	400	400	400	400	400	400	400	345	276	224
	16	400	400	400	400	400	400	400	400	400	353	288
7.00″ (t=4.50″) 75 psf	22	400	400	400	400	400	389	338	295	228	179	141
	20	400	400	400	400	400	400	400	365	285	226	181
	18	400	400	400	400	400	400	400	400	385	309	250
	16	400	400	400	400	400	400	400	400	400	395	323

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tables are calculated in accordance with ANSI/C-2017.
3. Span length asssumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. Slab thickness: overall depth of deck-slab inclusive of deck.

Table 23

3 X 12 Composite Deck Superimposed Load (ASD), psf



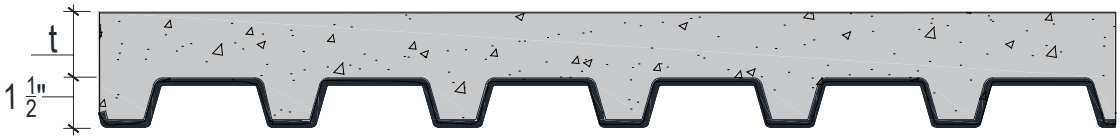
Fy = 40 ksi, fc= 3,000 psi
Normal Weight Concrete (145 lb/cft)

Slab Thickness & Weight	Metal Gauge	Span										
		7′-0″	7′-6″	8′-0″	8′-6″	9′-0″	9′-6″	10′-0″	10′-6″	11′-0″	12′-0″	13′-0″
5.50" (t=2.50″) 51 psf	22	340	291	251	218	191	167	147	130	115	90	71
	20	400	356	308	268	235	207	183	163	145	116	93
	18	400	400	400	357	314	278	247	221	198	160	131
	16	400	400	400	400	395	351	313	280	252	205	169
6.00″ (t=3.00″) 57 psf	22	392	336	290	252	220	193	170	151	133	105	83
	20	400	400	355	310	272	240	212	188	168	134	108
	18	400	400	400	400	363	321	286	255	229	185	152
	16	400	400	400	400	400	400	361	324	291	238	196
6.50″ (t=3.50″) 63 psf	22	400	383	331	288	252	221	195	172	153	121	96
	20	400	400	400	353	310	273	242	215	192	154	124
	18	400	400	400	400	400	367	326	292	261	212	174
	16	400	400	400	400	400	400	400	370	333	272	225
7.00″ (t=4.50″) 69 psf	22	400	400	373	324	284	249	220	195	173	137	109
	20	400	400	400	398	349	308	273	243	217	174	141
	18	400	400	400	400	400	400	368	329	295	240	197
	16	400	400	400	400	400	400	400	400	376	307	254
7.50″ (t=4.50″) 75 psf	22	400	400	400	362	317	278	246	218	193	153	122
	20	400	400	400	400	390	344	305	272	242	195	158
	18	400	400	400	400	400	400	400	368	330	268	220
	16	400	400	400	400	400	400	400	400	400	344	285
8.00″ (t=5.00″) 81 psf	22	400	400	400	400	350	308	272	241	214	170	136
	20	400	400	400	400	400	381	338	301	269	216	175
	18	400	400	400	400	400	400	400	400	365	297	244
	16	400	400	400	400	400	400	400	400	400	381	316

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tables are calculated in accordance with ANSI/C-2017.
3. Span length asssumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. Slab thickness: overall depth of deck-slab inclusive of deck.

Table 24

1½ X 6 Composite Deck Superimposed Load (ASD), psf



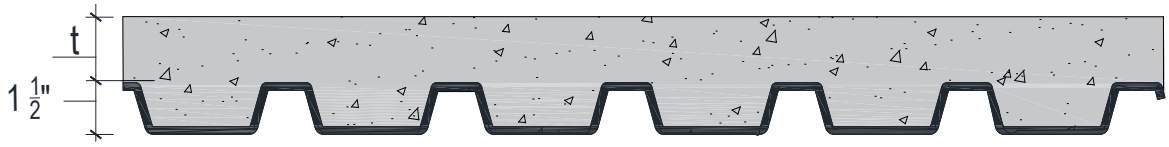
Fy = 40 ksi, fc= 3,000 psi
Light Weight Concrete (115 lb/cft)

Slab Thickness & Weight	Metal Gauge	Span										
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″	8′-0″	9′-0″	10′-0″	11′-0″	12′-0″
4.00" (t = 2.50″) 39 psf	22	400	400	359	303	258	222	192	147	115	91	73
	20	400	400	400	364	311	268	233	179	141	112	91
	18	400	400	400	400	400	349	304	235	186	150	123
	16	400	400	400	400	400	400	376	293	233	188	155
4.50″ (t = 3.00″) 45 psf	22	400	400	400	366	312	269	233	179	140	111	89
	20	400	400	400	400	377	325	282	217	171	137	111
	18	400	400	400	400	400	400	369	286	227	183	150
	16	400	400	400	400	400	400	400	357	284	230	189
5.00″ (t = 3.50″) 51 psf	22	400	400	400	400	369	318	276	212	166	132	106
	20	400	400	400	400	400	384	334	258	203	163	132
	18	400	400	400	400	400	400	400	340	270	218	178
	16	400	400	400	400	400	400	400	400	338	274	226
5.50″ (t = 4.00″) 57 psf	22	400	400	400	400	400	367	318	245	192	153	123
	20	400	400	400	400	400	400	386	298	235	189	153
	18	400	400	400	400	400	400	400	394	313	253	207
	16	400	400	400	400	400	400	400	400	393	319	263
6.00″ (t = 4.00″) 63 psf	22	400	400	400	400	400	400	362	278	218	174	140
	20	400	400	400	400	400	400	400	339	268	215	175
	18	400	400	400	400	400	400	400	400	357	288	236
	16	400	400	400	400	400	400	400	400	400	364	300

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tables are calculated in accordance with ANSI/C-2017.
3. Span length asssumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. Slab thickness: overall depth of deck-slab inclusive of deck.

Table 25

1½ X 6 INV Composite Deck Superimposed Load (ASD), psf



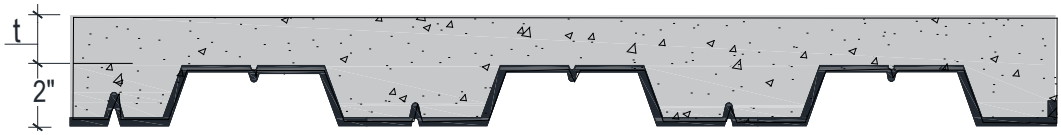
Fy = 40 ksi, fc= 3,000 psi
Light Weight Concrete (115 lb/cft)

Slab Thickness & Weight	Metal Gauge	Span										
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″	8′-0″	9′-0″	10′-0″	11′-0″	12′-0″
4.00″ (t = 2.50″) 39 psf	22	400	400	398	336	286	246	213	163	127	101	80
	20	400	400	400	400	344	296	257	198	156	124	100
	18	400	400	400	400	400	386	336	260	206	166	135
	16	400	400	400	400	400	400	400	323	257	208	171
4.50″ (t = 3.00″) 45 psf	22	400	400	400	399	340	293	254	194	152	120	97
	20	400	400	400	400	400	354	307	237	186	149	120
	18	400	400	400	400	400	400	400	311	247	199	162
	16	400	400	400	400	400	400	400	388	309	250	205
5.00″ (t = 3.50″) 51 psf	22	400	400	400	400	397	342	296	227	178	142	114
	20	400	400	400	400	400	400	359	277	218	175	142
	18	400	400	400	400	400	400	400	365	289	234	191
	16	400	400	400	400	400	400	400	400	362	294	242
5.50″ (t = 4.00″) 57 psf	22	400	400	400	400	400	391	339	260	204	162	131
	20	400	400	400	400	400	400	400	317	250	201	163
	18	400	400	400	400	400	400	400	400	332	268	220
	16	400	400	400	400	400	400	400	400	400	338	278
6.00″ (t = 4.00″) 63 psf	22	400	400	400	400	400	400	400	295	231	184	149
	20	400	400	400	400	400	400	400	359	284	228	185
	18	400	400	400	400	400	400	400	400	377	305	250
	16	400	400	400	400	400	400	400	400	400	384	316

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tables are calculated in accordance with ANSI/C-2017.
3. Span length asssumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. Slab thickness: overall depth of deck-slab inclusive of deck.

Table 26

2 x 12 Composite Deck Superimposed Load (ASD), psf



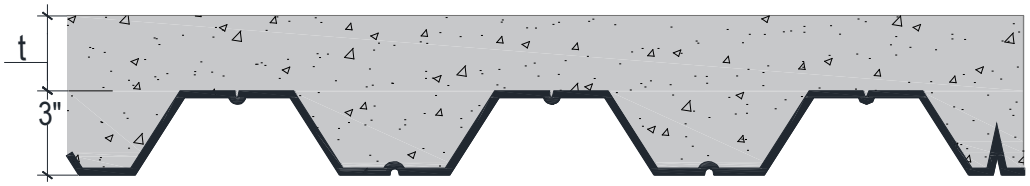
Fy = 40 ksi, fc= 3,000 psi
Light Weight Concrete (115 lb/cft)

Slab Thickness & Weight	Metal Gauge	Span										
		5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	10'-0"	11'-0"	12'-0"
4.50" (t=2.50") 45 psf	22	400	366	308	262	225	194	169	148	115	90	72
	20	400	400	400	375	323	281	245	181	142	112	90
	18	400	400	400	400	400	367	322	238	188	151	123
	16	400	400	400	400	400	382	336	297	235	190	155
5.00" (t=3.00") 51 psf	22	400	400	365	311	267	231	201	176	137	108	86
	20	400	400	400	375	323	281	245	216	169	135	98
	18	400	400	400	400	400	367	322	284	224	180	147
	16	400	400	400	400	400	400	400	354	281	227	186
5.50" (t=3.50") 57 psf	22	400	400	400	361	310	269	234	205	160	126	101
	20	400	400	400	400	376	326	285	251	197	157	127
	18	400	400	400	400	400	400	375	331	262	211	172
	16	400	400	400	400	400	400	400	400	328	265	218
6.00" (t=4.00") 63 psf	22	400	400	400	400	355	308	268	236	184	146	117
	20	400	400	400	400	400	374	327	288	226	181	146
	18	400	400	400	400	400	400	400	380	301	242	198
	16	400	400	400	400	400	400	400	400	377	306	251
6.50" (t=4.00") 69 psf	22	400	400	400	400	400	347	303	266	208	165	132
	20	400	400	400	400	400	400	369	325	256	204	165
	18	400	400	400	400	400	400	400	400	340	274	224
	16	400	400	400	400	400	400	400	400	400	346	284
7.00" (t=4.50") 75 psf	22	400	400	400	400	400	387	338	297	233	185	148
	20	400	400	400	400	400	400	400	325	256	204	165
	18	400	400	400	400	400	400	400	400	381	307	252
	16	400	400	400	400	400	400	400	400	400	388	319

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tables are calculated in accordance with ANSI/C-2017.
3. Span length asssumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. Slab thickness: overall depth of deck-slab inclusive of deck.

Table 27

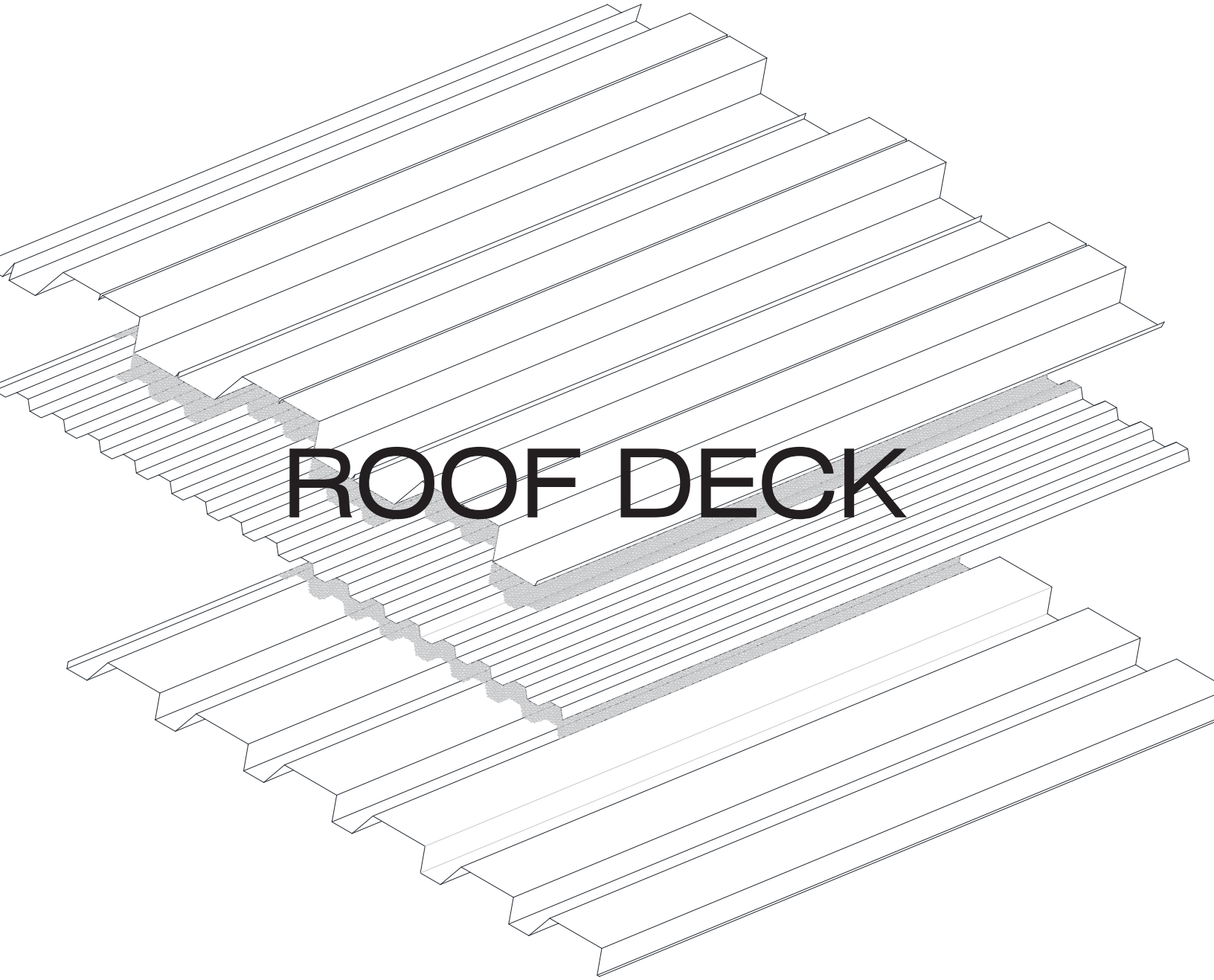
3 X 12 Composite Deck Superimposed Load (ASD), psf



Fy = 40 ksi, fc= 3,000 psi
Light Weight Concrete (115 lb/cft)

Slab Thickness & Weight	Metal Gauge	Span										
		7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"
5.50" (t = 2.50") 51 psf	22	332	286	248	216	189	167	148	131	117	94	76
	20	400	346	301	263	231	205	182	162	145	117	96
	18	400	400	394	346	305	271	242	216	195	159	131
	16	400	400	400	400	380	338	302	271	245	201	167
6.00" (t = 3.00") 57 psf	22	384	330	286	250	219	193	171	152	136	109	88
	20	400	399	347	304	267	237	210	188	168	136	111
	18	400	400	400	399	352	313	279	250	225	184	152
	16	400	400	400	400	400	390	349	313	282	232	193
6.50" (t = 3.50") 63 psf	22	400	377	327	285	251	221	196	175	156	125	101
	20	400	400	396	347	306	271	241	215	193	156	128
	18	400	400	400	400	400	358	319	286	258	211	174
	16	400	400	400	400	400	400	399	358	323	266	221
7.00" (t = 4.50") 69 psf	22	400	400	368	322	283	250	221	197	176	142	115
	20	400	400	400	391	345	305	272	243	218	176	144
	18	400	400	400	400	400	400	360	323	291	238	197
	16	400	400	400	400	400	400	400	400	365	301	250
7.50" (t = 4.50") 75 psf	22	400	400	400	360	316	279	248	221	198	159	129
	20	400	400	400	400	386	342	304	272	244	198	163
	18	400	400	400	400	400	400	400	362	326	267	221
	16	400	400	400	400	400	400	400	400	400	337	281
8.00" (t = 5.00") 81 psf	22	400	400	400	398	350	309	275	245	219	176	143
	20	400	400	400	400	400	378	337	301	270	220	180
	18	400	400	400	400	400	400	400	400	361	296	245
	16	400	400	400	400	400	400	400	400	400	374	312

Notes:
1. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).
2. Load tables are calculated in accordance with ANSI/C-2017.
3. Span length asssumes clear spans. Center-to-center spacing of supports can be used for design as a conservative assumption.
4. Slab thickness: overall depth of deck-slab inclusive of deck.



ROOF DECK

Table 28

1½ X 6 WR ASD Superimposed Uniform Downward Load (psf)

Number of Span	Metal Gauge	Span					
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″
Single	22	108	89	74	63	54	47
	20	133	110	92	78	67	58
	18	181	149	125	106	91	79
	16	230	190	159	135	116	101
Double	22	113	93	78	66	57	49
	20	141	116	97	82	71	61
	18	186	153	128	109	93	81
	16	236	194	163	138	119	103
Triple	22	142	117	98	83	71	62
	20	176	145	122	103	89	77
	18	233	192	161	137	117	102
	16	296	244	204	174	149	130

Number of Span	Metal Gauge	Span					
		8′-0″	8′-6″	9′-0″	9′-6″	10′-0″	10′-6″
Single	22	41	36	32	29	26	23
	20	51	45	40	36	32	29
	18	69	61	54	48	43	39
	16	88	78	69	61	55	50
Double	22	43	38	34	30	27	24
	20	54	47	42	37	34	30
	18	71	63	56	50	44	40
	16	90	79	70	63	56	51
Triple	22	54	48	43	38	34	31
	20	68	60	53	47	43	38
	18	89	79	70	63	56	51
	16	113	100	89	79	71	64

Support Condition	Metal Gauge	Span					
		1′-6″	2′-0″	2′-6″	3′-0″	3′-6″	4′-0″
Cantilever	22	317	177	113	78	57	43
	20	394	221	141	97	71	54
	18	520	292	186	128	93	71
	16	661	370	236	163	119	90

Notes:

1. Load tables conform to ANSI/SDI RD-2017.
2. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).

Table 29

1½X 6 WR ASD Superimposed Uniform Upward Load (psf)

Number of Span	Metal Gauge	Span					
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″
Single	22	116	96	81	69	60	53
	20	145	120	101	86	75	65
	18	191	158	133	114	99	86
	16	242	201	169	145	125	110
Double	22	111	92	77	66	57	50
	20	137	114	96	82	71	62
	18	186	154	130	111	96	84
	16	237	197	166	142	123	107
Triple	22	138	114	96	82	71	62
	20	171	142	120	102	88	77
	18	232	192	162	138	120	104
	16	296	245	206	176	152	133

Number of Span	Metal Gauge	Span					
		8′-0″	8′-6″	9′-0″	9′-6″	10′-0″	10′-6″
Single	22	46	41	37	33	30	28
	20	58	51	46	41	38	34
	18	76	68	61	55	50	45
	16	97	86	77	70	63	58
Double	22	44	39	35	32	29	26
	20	55	49	44	40	36	33
	18	74	66	59	53	48	44
	16	95	84	75	68	62	56
Triple	22	55	49	44	39	36	33
	20	68	61	54	49	44	40
	18	92	82	73	66	60	55
	16	117	104	93	84	76	70

Support Condition	Metal Gauge	Span					
		1′-6″	2′-0″	2′-6″	3′-0″	3′-6″	4′-0″
Cantilever	22	305	172	111	77	57	44
	20	378	214	137	96	71	55
	18	512	289	186	130	96	74
	16	653	369	237	166	123	95

Notes:

1. Load tables conform to ANSI/SDI RD-2017.
2. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).

Table 30

1½ WR LRFD Superimposed Uniform Downward Load (psf)

Number of Span	Metal Gauge	Span					
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″
Single	22	162	134	112	95	82	71
	20	201	166	139	118	101	88
	18	272	225	188	160	137	119
	16	347	286	240	204	175	152
Double	22	170	140	118	100	86	75
	20	212	175	146	124	107	93
	18	280	231	193	164	141	123
	16	355	293	246	209	179	156
Triple	22	213	176	148	126	108	94
	20	266	219	184	156	134	117
	18	351	289	243	206	177	154
	16	445	367	308	262	225	196

Number of Span	Metal Gauge	Span					
		8′-0″	8′-6″	9′-0″	9′-6″	10′-0″	10′-6″
Single	22	62	55	49	44	39	35
	20	77	68	60	54	48	44
	18	105	92	82	73	66	59
	16	133	118	104	93	84	76
Double	22	65	58	51	46	41	37
	20	81	72	64	57	51	46
	18	107	95	84	75	68	61
	16	136	120	107	96	86	78
Triple	22	82	73	65	58	52	47
	20	102	90	80	72	65	58
	18	135	119	106	95	85	77
	16	171	151	135	120	108	98

Support Condition	Metal Gauge	Span					
		1′-6″	2′-0″	2′-6″	3′-0″	3′-6″	4′-0″
Cantilever	22	477	267	170	118	86	65
	20	593	332	212	146	107	81
	18	783	439	280	193	141	107
	16	994	557	355	246	179	136

Notes:
1. Load tables conform to ANSI/SDI RD-2017.
2. Minimum bearing lengths required are 1.50 inches (exterior) abd 3.00 inches (interior)

Table 31

1½ X 6 WR LRFD Superimposed Uniform Upward Load (psf)

Number of Span	Metal Gauge	Span					
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″
Single	22	174	144	122	104	90	78
	20	217	180	151	129	112	98
	18	286	237	200	171	148	129
	16	363	301	253	217	187	164
Double	22	166	138	116	99	86	75
	20	206	171	144	123	106	93
	18	279	231	194	166	144	126
	16	355	294	248	212	183	160
Triple	22	207	180	144	123	107	93
	20	257	224	179	153	132	115
	18	348	295	242	207	179	156
	16	443	375	309	264	228	199

Number of Span	Metal Gauge	Span					
		8′-0″	8′-6″	9′-0″	9′-6″	10′-0″	10′-6″
Single	22	69	62	55	50	45	41
	20	86	77	69	62	56	51
	18	114	101	90	82	74	67
	16	144	128	115	103	94	85
Double	22	66	59	53	47	43	39
	20	82	73	65	59	53	49
	18	111	98	88	79	72	66
	16	141	126	112	101	92	84
Triple	22	82	73	65	59	53	48
	20	102	90	81	73	66	60
	18	138	122	109	99	89	81
	16	176	156	140	126	114	104

Support Condition	Metal Gauge	Span					
		1′-6″	2′-0″	2′-6″	3′-0″	3′-6″	4′-0″
Cantilever	22	458	258	166	116	86	66
	20	568	320	206	144	106	82
	18	768	434	279	194	144	111
	16	980	553	355	248	183	141

Notes:

1. Load tables conform to ANSI/SDI RD-2017.
2. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).

Table 32

1½ X 6 WR Uniform Service Load That Causses L/120 Deflection (psf)

Number of Span	Metal Gauge	Span					
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″
Single	22	157	118	90	71	56	46
	20	198	148	114	89	71	57
	18	274	205	157	123	98	79
	16	356	267	205	160	128	103
Double	22	381	286	220	173	138	112
	20	479	359	276	217	173	141
	18	663	497	382	300	240	195
	16	863	647	498	391	312	253
Triple	22	298	223	172	135	108	87
	20	375	281	216	169	135	110
	18	518	389	299	234	187	152
	16	675	506	389	305	244	198

Number of Span	Metal Gauge	Span					
		8′-0″	8′-6″	9′-0″	9′-6″	10′-0″	10′-6″
Single	22	37	31	26	22	18	16
	20	47	39	32	27	23	20
	18	65	54	45	38	32	27
	16	85	70	58	49	42	36
Double	22	92	76	64	54	46	40
	20	115	96	80	68	58	50
	18	160	133	112	94	81	69
	16	208	173	145	123	105	90
Triple	22	72	59	50	42	36	31
	20	90	75	63	53	45	39
	18	125	103	87	73	62	54
	16	162	135	113	96	81	70

Notes:
1. Load tables conform to ANSI/SDI RD-2017.
2. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).

Table 33

1½ X 6 WR Uniform Service Load That Causes L/180 Deflection (psf)

Number of Span	Metal Gauge	Span					
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″
Single	22	104	78	60	47	37	30
	20	131	98	75	59	47	37
	18	182	136	104	81	65	52
	16	237	177	135	106	84	68
Double	22	254	190	146	115	91	74
	20	319	239	184	144	115	93
	18	441	331	254	199	159	129
	16	574	431	331	260	207	168
Triple	22	198	148	114	89	71	58
	20	249	187	143	112	89	72
	18	345	258	198	155	124	100
	16	449	336	258	202	161	131

Number of Span	Metal Gauge	Span					
		8′-0″	8′-6″	9′-0″	9′-6″	10′-0″	10′-6″
Single	22	24	20	17	14	12	10
	20	31	25	21	17	15	12
	18	42	35	29	24	20	17
	16	55	46	38	32	27	23
Double	22	61	50	42	36	30	26
	20	76	63	53	45	38	33
	18	106	88	73	62	53	45
	16	138	114	96	81	69	59
Triple	22	47	39	33	28	23	20
	20	59	49	41	35	29	25
	18	82	68	57	48	41	35
	16	107	89	74	63	53	45

Notes:
1. Load tables conform to ANSI/SDI RD-2017.
2. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).

Table 34

1½ X 6 WR Uniform Service Load That Causes L/240 Deflection (psf)

Number of Span	Metal Gauge	Span					
		5′-0″	5′-6″	6′-0″	6′-6″	7′-0″	7′-6″
Single	22	78	58	44	35	27	22
	20	98	73	56	43	34	28
	18	136	101	77	60	48	38
	16	177	132	101	79	62	50
Double	22	190	142	109	86	68	55
	20	239	179	137	107	86	69
	18	330	247	190	149	119	96
	16	430	322	247	194	155	125
Triple	22	148	111	85	67	53	43
	20	186	139	107	84	67	54
	18	258	193	148	116	92	75
	16	336	251	193	151	120	97

Number of Span	Metal Gauge	Span					
		8′-0″	8′-6″	9′-0″	9′-6″	10′-0″	10′-6″
Single	22	18	15	12	10	8	7
	20	22	18	15	13	10	9
	18	31	26	21	18	15	12
	16	41	33	28	23	19	16
Double	22	45	37	31	26	22	19
	20	57	47	39	33	28	24
	18	79	65	54	46	39	33
	16	102	85	71	60	51	43
Triple	22	35	29	24	20	17	15
	20	44	36	30	25	22	18
	18	61	50	42	35	30	26
	16	79	66	55	46	39	33

Notes:
1. Load tables conform to ANSI/SDI RD-2017.
2. Minimum bearing lengths required are 1.50 inches (exterior) and 3.00 inches (interior).

ACCESSORIES

Table 35

Arc Spot Weld Strength

Uplift (lb)

Case	Gauge	Design Thickness	Visible Weld Diameter (in)							
			ASD Ω=2.50				LRFD Φ=0.60			
			½	⅝	¾	1	½	⅝	¾	1
1	22	0.0295	347	439	531	716	520	659	797	1074
	20	0.0358	415	527	639	863	623	791	959	1294
	18	0.0474	536	684	833	1129	804	1027	1249	1693
	16	0.0598	658	845	1032	1406	987	1267	1548	2108
2	22	0.0295	650	835	1019	1388	976	1252	1529	2082
	20	0.0358	767	991	1214	1500	1150	1486	1822	2250
	18	0.0474	814	1257	1500	1500	1221	1885	2250	2250
	16	0.0598	549	1256	1500	1500	823	1884	2250	2250
3	22	0.0295	243	307	372	501	364	461	558	752
	20	0.0358	291	369	447	604	436	554	671	906
	18	0.0474	375	479	583	790	563	719	874	1185
	16	0.0598	461	591	722	984	691	887	1083	1476

Shear (lb)

Case	Gauge	Visible Weld Diameter (in)							
		ASD Ω=2.55 (2.20)				LRFD Φ=0.60 (0.70)			
		½	⅝	¾		½	⅝	¾	1
1	22	718	909	961	1009	1099	1391	1470	1544
	20	860	1092	1324	1436	1316	1671	2025	2197
	18	(1215)	1417	1724	2337	(1871)	2168	2638	3576
	16	(1088)	(1989)	2137	2910	(1676)		3269	4453
2 / 3	22	673	864	955	1003	1030	1322	1461	1535
	20	794	1026	1257	1427	1215	1569	1924	2184
	18	(694)	(1401)	1608	2221	(1068)	(2157)	2460	3398
	16	(468)	(1070)	(1919)	2725	(720)	(1648)	(2955)	4170

1. Assumes deck Fy= 40 ksi and Fu= 50 ksi.
2. Assumes welding electrode Fxx=60 ksi.
3. Is developed in accordance with Section E of AISI S 100

Table 36

Screw Tensile and Shear Strength (lb)

Screw Size	Major Diameter (in)	Head or Washer Diameter (in)	Tensile Strength			Shear Strength		
			Tested Average	ASD (Ω=3.00)	LRFD (Φ=0.50)	Tested Average	ASD (Ω=3.00)	LRFD (Φ=0.50)
#10	0.190	0.400 or 0.415	2560	853	1280	1536	512	768
#12	0.216	0.400 or 0.430	3620	1207	1810	2172	724	1086
#14	0.240	0.480 or 0.520	4432	1477	2216	2659	886	1330
¼"	0.250	0.480 or 0.520	4810	1603	2405	2886	962	1443

Table 37

Screw Connection Shear

Metal Deck	Gauge	16	18	20	22
	Thickness (in)	0.0598	0.0474	0.0358	0.0295
	Fu (ksi)	50	50	50	50
ASD (Ω=3.00) Screw Size	#10	511	405	306	252
	#12	581	461	348	287
	#14	646	512	387	319
	¼"	673	533	403	332
LRFD (Φ=0.50) Screw Size	#10	767	608	459	378
	#12	872	691	522	430
	#14	969	768	580	478
	¼"	1009	800	604	498

Notes:
1. Individual screw manufacturers may have design data that differs from what is shown in Table 29. Refer to the individual manufacturers' research and evaluation reports for design criteria specific to an individual screw.
2. Information is developed in accordance with J of AISI S100.
3. Table 37 is applicable to structural screws with support steel thickness greater than 2.5 times deck thickness

Table 38

Screw Pull Out Strength (lb)

Metal Deck	Gauge	16	18	20	22
	Thickness (in)	0.0598	0.0474	0.0358	0.0295
	Fu (ksi)	50	50	50	50
ASD (Ω=3.00) Screw Size	#10	161	128	96	79
	#12	183	145	110	90
	#14	203	161	122	100
	¼"	212	168	127	104
LRFD (Φ=0.50) Screw Size	#10	241	191	145	119
	#12	274	218	164	135
	#14	305	242	183	150
	¼"	318	252	190	157

Table 39

Screw Pull Over Strength (lb)

Metal Deck		Gauge	16	18	20	22	24	26
		Thickness	0.0598	0.0474	0.0358	0.0295	0.0238	0.0179
		Fu (ksi)	50	50	50	50	62	62
ASD (Ω=3.00)	Screw Washer or Head Diameter (in)	0.400	598	474	358	295	295	222
		0.415	620	492	371	306	306	230
		0.430	643	510	385	317	317	239
		0.480	718	569	430	354	354	266
		0.500	748	593	448	369	369	277
LRFD (Φ=0.50)	Screw Washer or Head Diameter (in)	0.400	897	711	537	443	443	333
		0.415	931	738	557	459	459	345
		0.430	964	764	577	476	476	358
		0.480	1076	853	644	531	531	400
		0.500	1121	889	671	553	553	416

Notes:
1. Individual screw manufacturers may have design data that differs from what is shown here. Refer to the individual manufacturers' research and evaluation reports for design criteria specific to an individual screw.
2. Information is developed in accordance with J of AISI S100.
3. Table 39 is based upon the calculated capacity of the screw in bearing, tilting, or combined bearing and tilting. Refer to the individual manufacturers' research and evaluation reports for design criteria specific to an individual screw.

Table 40

Pour Stop Gauge Selection

Total Slab Thickness (in) (Deck + Concrete)		4.00	4.50	5.00	5.50	6.00	6.50	7.00
Overhang (in)	0	20	20	20	20	20	18	18
	1	20	20	20	18	18	16	16
	2	20	20	18	18	16	16	14
	3	20	18	18	16	16	14	14
	4	18	18	16	16	14	14	12
	5	18	16	16	14	14	12	12
	6	16	16	14	14	12	12	12
	7	14	14	14	12	12	12	12
	8	14	12	12	12	12	12	10
	9	12	12	12	12	12	10	10
	10	12	12	10	10	10	10	10
	11	10	10	10	10	10		
	12	10	10