



ICC-ES Evaluation Report

ESR-3818

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Revised June 2023

This report is subject to renewal May 2024.

DIVISION: 05 00 00—METALS

Section: 05 31 00—Steel Decking

Section: 05 31 13—Steel Floor Decking

Section: 05 31 23—Steel Roof Decking

Section: 05 36 00—Composite Metal Decking

REPORT HOLDER:

NEW MILLENNIUM BUILDING SYSTEMS, LLC

EVALUATION SUBJECT:

NEW MILLENNIUM STEEL DECKS:

- ROOF DECK PANELS; RD, RDV, F, B, BV, BI, BIV, BA, BIA, N, AND NA
- FORM DECK PANELS; FD, FDB, FD EXTENDED LEG, FDV, FDR, FDI, AND FDIV
- COMPOSITE DECK PANELS; CD, CDB, CD EXTENDED LEG, CDI, AND CDR

1.0 EVALUATION SCOPE

Compliance with the following codes:

2021, 2018, 2015, and 2012 *International Building Code*® (IBC)

For evaluation for compliance with codes adopted by the Los Angeles Department of Building and Safety (LADBS), see [ESR-3818 LABC supplement](#).

Property evaluated:

Structural

2.0 USES

New Millennium steel decks are used as floor and roof deck to support vertical loads, and as components of horizontal diaphragms and composite floor assemblies.

3.0 DESCRIPTION

3.1 Steel Decks:

The deck panels are cold-formed at the locations noted in Table E from steel sheets complying with ASTM A653 or ASTM A1008 and have either a galvanized, painted/painted, phosphatized/painted, or mill finish. The deck panels range from ⁹/₁₆ inch to 3 inches (14.3 mm to 76.2 mm) in depth and 24 inches to 36 inches (610 mm to 914 mm) in width. See Table A for deck panel profiles, Table C for specifications, and Table D for finishes.

3.2 Supports:

Hot-Rolled Steel Supports must comply with AISC 360. Cold-Formed Steel Supports must comply with AISI S100. Wood Supports must comply with the NDS and be structural lumber. Concrete supports must comply with ACI 318.

3.3 Connections:

3.3.1 Steel to Steel Connections: Welds, screws, button punches, power-actuated fasteners (PAF's), clinch connections, or proprietary fasteners used to attach deck panels to steel supports and at side-laps must be in accordance with AISI S100, AISI S310 and AWS D1.3, as applicable.

3.3.2 New Millennium Proprietary Side-Lap Connection using the Rolling Electric Deck Tool (RED Tool). The RED side-lap tool is a battery-operated, hydraulic clinching tool used for connecting 2 interlocking deck sheets together at the side-lap joint. Deck types currently available for use with the RED side-lap tool are BI, BIA, BIV, 1.5FDI, 1.5FDIV, and 1.5CDI.

3.3.3 Steel to Wood Connections: Nails and screws used to attach deck panels to wood supports must be in accordance with NDS and AISI S310.

3.3.4 Steel to Concrete Connections: PAF's and screws used to attach deck panels to concrete must be in accordance with AISI S100 and AISI S310.

3.4 Concrete Fill:

3.4.1 Structural Concrete: Normalweight and lightweight structural concrete must be in accordance with the IBC (i.e. ACI 318) and must have a minimum 28-day compressive strength of 3,000 psi (20.68 MPa). Lightweight concrete fill must have a maximum air-dry unit weight of 130 pcf (1762 kg/m³).

3.4.2 Lightweight Insulating Concrete: Insulating concrete aggregate must conform to ASTM C332.

4.0 DESIGN AND INSTALLATION

4.1 Vertical Load Design:

4.1.1 General: The section properties included in this report comply with AISI S100. To account for the perforated webs in the BA, BIA, and NA steel deck panels, compliance has also been shown with the SDI white paper "Perforated Metal Deck Design with Commentary" (SDI PMDDWC), dated November 18, 2011.

Table B includes figures for web crippling reactions. The minimum permissible bearing length must be the larger of ¾ inch (19.1 mm), the length required to provide sufficient edge or end distance for the support fasteners, and the length required to provide sufficient strength to prevent web crippling under the design loading.

Calculation of web crippling values with bearing lengths and/or support conditions other than those described in Footnote 4 of Tables 2-7, 9-14, and 15-19 must be in accordance with AISI S100 and SDI PMDDWC, as applicable.

4.1.2 Roof Decks (Tables 1–7): The steel roof decks must be designed and constructed in accordance with SDI RD using the properties in Tables 1-7.

See Figure 4 for hole pattern dimensional information for the acoustic steel roof decks.

4.1.3 Form Decks (Tables 8-14): The steel form decks must be designed and constructed in accordance with SDI NC using the section properties in Tables 8-14.

Structural concrete slabs used with form deck must be designed in accordance with the requirements of SDI NC and ACI 318.

4.1.4 Composite Decks (Tables 15-19): The steel composite decks must be designed and constructed in accordance with SDI C using the section properties in Tables 15-19. See Figure 2 for embossment patterns.

4.1.5 Deflection: The moments of inertia included in the tables, which are used for deflection calculations, have been determined as follows for single and multiple span conditions:

4.1.5.1 Single span:

$$I_D \text{ 1 Span} = (I_g + 2I_p)/3$$

4.1.5.2 Multiple span:

$$I_D \text{ 2+ Span} = \text{MAX}\{(I_g + 2I_p)/3 | (I_g + 2I_n)/3\}$$

4.2 Horizontal Load (Diaphragm) Design:

4.2.1 Panels without Concrete Fill: Diaphragm shear strength and stiffness of the steel deck panels and panel connections must be determined in accordance with AISI S310, using the section properties in Tables 1, 8, and 15. See Figure 1 for typical attachment patterns. Diaphragm strength and stiffness determination must consider the effects of web perforations in acoustic steel roof decks in accordance with SDI PMDDWC.

4.2.2 Panels with Concrete Fill: Diaphragm shear strength and stiffness of the steel decks considering the contribution of concrete fill must be determined in accordance with AISI S310.

Diaphragm design considering the contribution of the concrete must be in accordance with the design and construction detail requirements specified in AISI S310 and in conformance with the manufacturer's separate evaluation report if not covered in the IBC for the intended use.

4.2.3 New Millennium RED Side-Lap Connection: The nominal shear strength (P_{ns}) per side-lap connection used to calculate diaphragm capacities in accordance with AISI S310 is determined as follows:

$$P_{ns} = 186*t - 2.88 \text{ kips (for 18 Gauge – 22 Gauge)}$$

$$P_{ns} = 6.20 \text{ kips (for 16 Gauge)}$$

The nominal connection flexibility (S_s) used to calculate diaphragm stiffness in accordance with AISI S310 is determined as follows:

$$S_s = \frac{0.002}{1000 * t^{2.51}} \text{ in./kip (for 18 Gauge – 22 Gauge)}$$

$$S_s = 0.0031 \text{ in./kip (for 16 Gauge)}$$

Where; t = design base metal thickness of deck in inches. The RED side-lap connection can be configured with 2 different punch die setups - the 4:3 setup and the 3:2 setup. The 4:3 setup is used for 18 gauge through 22 gauge deck panels while the 3:2 setup is used for 16 gauge deck panels. See figure 5 for more details.

The safety and resistance factors included in AISI S310 Table B1.1-1 for screws are applicable for diaphragm systems utilizing RED side-lap connections and installed over steel supports and without structural or insulating concrete fill. The more severe factor of all diaphragm support and side-lap connection types utilized must be used to determine the available diaphragm strength. Safety and resistance factors for other conditions must be in accordance with the other applicable sections of AISI S310.

4.3 Installation:

4.3.1 General: The deck panels are manufactured, identified and installed in accordance with this report and New Millennium's published installation guidelines and instructions. Deck panels installed using the RED Tool System must be in accordance with New Millennium's installation guidelines and this report. If there is a conflict between New Millennium's published installation guidelines and instructions and this report, this report governs.

Deck panels and fasteners must be installed at locations in accordance with the plans and specifications approved by the code official. Fasteners must be installed in accordance with the applicable standards and specifications and fastener manufacturer recommendations.

4.3.2 Concrete-Filled Panel Requirements: Deck panels must be installed with the galvanized or bare steel deck panel face in contact with the concrete and the galvanized or prime painted deck panel surface on the underside. Deck panels must be clean and free of foreign materials prior to placement of concrete.

5.0 CONDITIONS OF USE

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

- 5.1** The base metal thickness for deck panels delivered to the jobsite must be at least 95 percent of the design metal thickness.
- 5.2** The minimum loads of IBC Section 1607 must be considered by the design professional based on the specific occupancy or use, as applicable.
- 5.3** Special inspection must comply with IBC Chapter 17.
- 5.4** Calculations and details demonstrating that the loads applied to the deck panels 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.
- 5.5** Concrete-filled sections must not be used to support loads that are predominantly vibratory, such as those for operation of heavy machinery, reciprocating motors or moving loads.

- 5.6 Vertical load design of deck panels, without concrete fill, must be based on section properties noted within this ICC-ES evaluation report.
- 5.7 When the steel deck panels are used as roof decks, the panels must be covered with an approved code-complying roof covering.
- 5.8 All deck panels are manufactured in the manufacturing locations in Table E under a quality program with annual inspection 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 August 2022.

7.0 IDENTIFICATION

Each bundle of decking is marked with labels with New Millennium Building Systems, Inc., the deck type, the minimum base-metal thickness (uncoated), minimum specified yield strength and the ICC-ES Report number ESR-3818.

7.1 The report holder’s contact information is the following:

NEW MILLENNIUM BUILDING SYSTEMS, LLC
3565 HIGHWAY 32 NORTH
HOPE, ARKANSAS 71801
(870) 722-4100
www.newmill.com

TABLE A—STEEL DECK PANEL PROFILES

Notes: Profiles ending with letter “V” are vented (see Figure 3); Profiles ending with letter “A” are perforated (see Figure 4); Profiles with an “I” have interlocking sidelaps. Otherwise, profiles have nestable sidelaps.

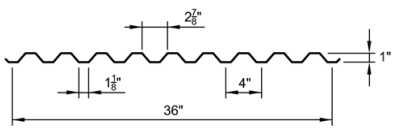
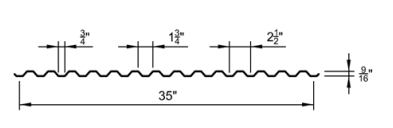
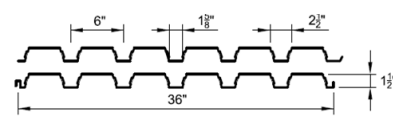
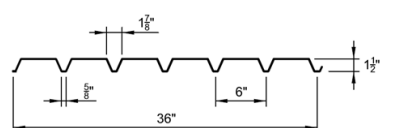
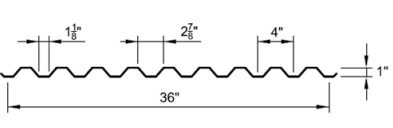
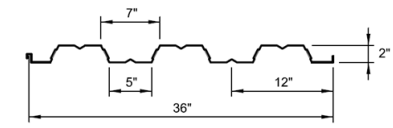
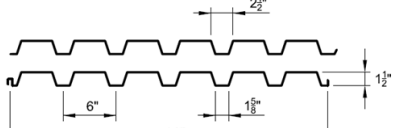
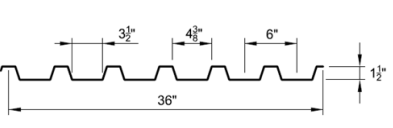
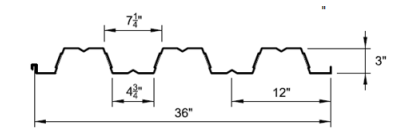
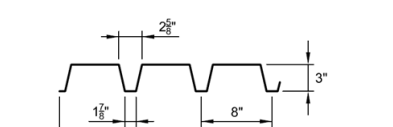
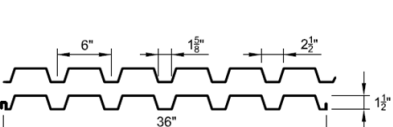
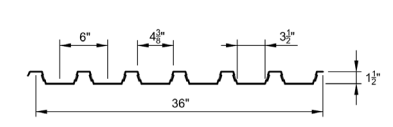
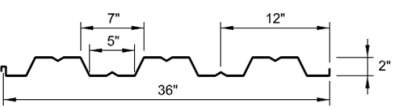

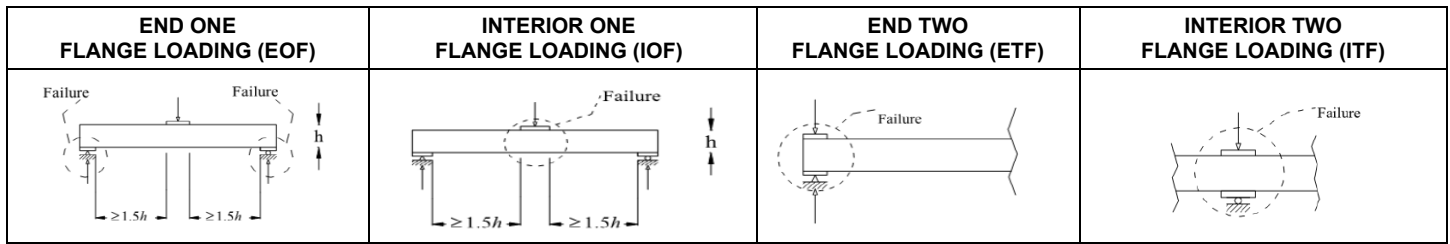
ROOF DECKS	FORM DECKS	COMPOSITE DECKS
		
1.0RD, 1.0RDV	0.6FD, 0.6FDV	1.5CD, 1.5CDI
		
F	1.0FD, 1.0FDV	2.0CD, 2.0CDB, 2.0CD Extended Leg
		
B, BV, BA, BI, BIV, BIA	1.5FD	3.0CD, 3.0CD Extended Leg
		
N, NA	1.5FDR, 1.5FDV, 1.5FDI, 1.5FDIV	1.5CDR
		
	2.0FD, 2.0FDB, 2.0FD Extended Leg	
		
	3.0FD, 3.0FD Extended Leg	

TABLE B—WEB CRIPPLING CONDITIONS (ONE FLANGE AND TWO FLANGE LOADING)



1. EOF - The distance from the edge of the bearing to the end of the member is $\leq 1.5h$, and the clear distance between the bearing edges of adjacent opposite concentrated loads or reactions is $\geq 1.5h$.
2. IOF - The distance from the edge of the bearing to the end of the member is $> 1.5h$, and the clear distance between the bearing edges of adjacent opposite concentrate loads or reactions is $\geq 1.5h$.
3. ETF - The distance from the edge of the bearing to the end of the member is $\leq 1.5h$, and the clear distance between the bearing edges of adjacent opposite concentrated loads or reactions is $< 1.5h$.
4. ITF - The distance from the edge of the bearing to the end of the member is $> 1.5h$, and the clear distance between the bearing edges of adjacent opposite concentrated loads or reaction is $< 1.5h$.

TABLE C—STEEL DECK PANEL SPECIFICATIONS

GAGE (DESIGN METAL THICKNESS) ¹	MINIMUM GRADE OF STEEL ²						
	ROOF DECKS			FORM DECKS			COMPOSITE DECKS
	No. 26 to 16 gage (0.0179 to 0.0598 inch)			No. 28 to 16 gage (0.0149 to 0.0598 inch)			No. 23 to 16 gage (0.0295 to 0.0598 inch)
DECK TYPE	RD, RDV	F	B, BA BI, BIA BV, BIV N, NA	0.6FD 0.6FDV 1.0FD 1.0FDV	1.5FD 1.5FDV 1.5FDR 1.5FDI 1.5FDIV	2.0FD, 2.0FDB 2.0FD Extended Leg 3.0FD, 3.0FD Extended Leg	1.5CD, 1.5CDI 1.5CDR, 2.0CD 2.0CDB, 2.0CD Extended Leg, 3.0CD 3.0CD Extended Leg
ASTM A653 SS ³	80	40	40	80	40	40	40
ASTM A1008 SS	80	40	40	80	40	40	40
ASTM A653 HSLAS or HSLAS-F	80	40	40	80	40	40	40
ASTM A1008 HSLAS or HSLA-F	80	45	45	80	45	45	45

¹The base metal thickness delivered to the jobsite must be at least 95 percent of the design metal thickness.

²The minimum steel grades listed are the minimum grades that will be provided by the report holder. The SDI RD, NC and C standards specify minimum grade 33 steel. Higher grade steel than the minimum in Table C is permitted to be specified for use subject to material availability, cost and manufacturing limitations specific to deck profile and gage, except minimum grades published as 80, which will be provided as grade 80. Steel deck section properties and design strengths for steel grades ranging from 33 to 80 are tabulated based on design yield strengths in Tables 2 – 7, 9 – 14 and 16 – 19. See AISI S100, Section A3 for correlation of steel grade specified minimum yield strength to design yield strength.

³ASTM A653 SS Grade 50 Class 2 is not permitted for use.

TABLE D—STEEL DECK PANEL FINISH

STEEL SPECIFICATION	ROOF DECKS	FORM DECKS	COMPOSITE DECKS
ASTM A653	Galvanized or Galvanized/Painted	Galvanized or Galvanized/Painted	Galvanized or Galvanized/Painted
ASTM A1008	Painted or Mill	Phosphatized/Painted or Mill	Phosphatized/Painted or Mill

The galvanized deck panels are formed from ASTM A653 steel, with a minimum G30 galvanized coating (total both sides). Galvanized/painted deck may have shop primer specified and applied over the galvanized top and/or bottom surface, except for decks supporting concrete, primer is not permitted on the side of the deck in contact with concrete. Phosphatized/painted deck panels have a phosphatized (uncoated) top surface and primer painted bottom surface. Painted deck panels have primer painted top and bottom surfaces. Mill finished deck panels have no coating on either top or bottom surfaces.

TABLE E—MANUFACTURING LOCATIONS

New Millennium Building Systems, LLC Butler, Indiana	New Millennium Building Systems, LLC Lake City, Florida
New Millennium Building Systems, LLC Hope, Arkansas	New Millennium Building Systems, LLC Salem, Virginia

For SI dimensions, the following conversions apply to all Tables:

1 inch = 25.4 mm; 1 lbf/ft = 14.6 N/m = 0.0146 N/mm; 1 in² = 645.16 mm²; 1 in³ = 16,387.06 mm³; 1 in⁴ = 416,231.4 mm⁴;
1 psi = 6.89 kPa; 1 ft = 304.8 mm; 1 pcf = 16.018 kg/m³; 1 psf = 0.0479 Kn/m², 1 lbf = 4.45 N.

TABLE F – DESIGN BASED METAL THICKNESS

GAUGE	DESIGN BASE METAL THICKNESS t (in)
28	0.0149
27	0.0164
26	0.0179
25	0.0209
24	0.0238
23	0.0269
22	0.0295
21	0.0329
20	0.0358
19	0.0418
18	0.0474
17	0.0538
16	0.0598

Notes:

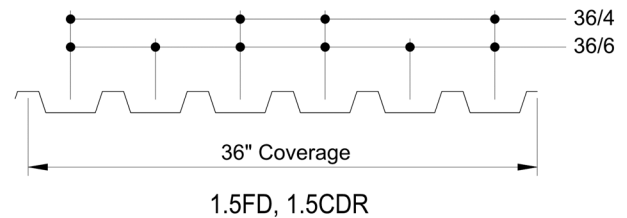
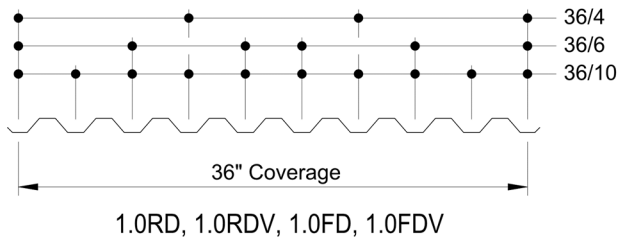
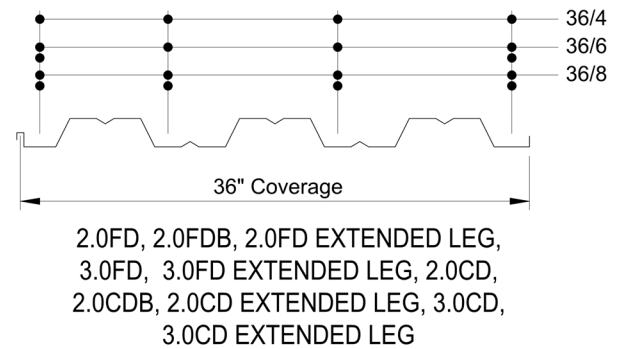
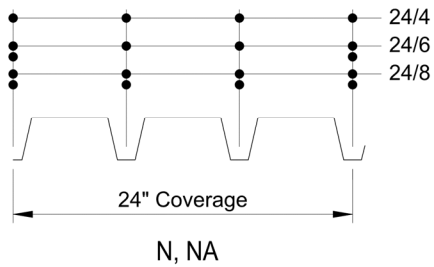
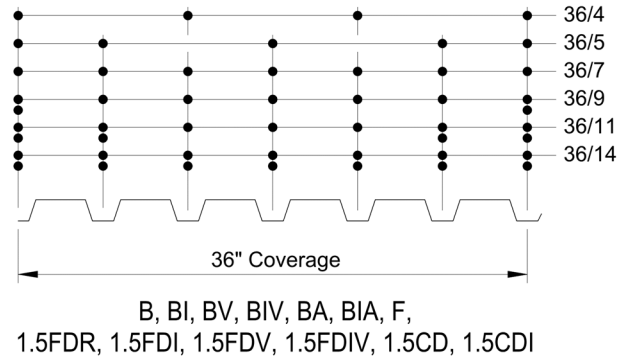
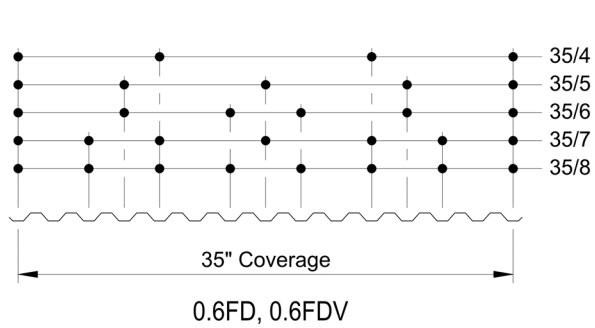
1. The base steel thickness delivered to the jobsite must be at least 95 percent of the design base metal thickness listed.

TABLE G – DEFINITION OF SYMBOLS

SYMBOL	DEFINITION
A_s	Gross area of steel cross-section
d	Panel corrugation pitch
D_d	Deck section depth measured at mid-thickness
e	One-half the bottom flat width of panel measured between points of intercept. See AISI S310 Section D2 for diagram.
f	Top flat width of panel measured between points of intercept. See AISI S310 Section D2 for diagram.
f_y	Design level yield stress, reduced from the ASTM specified yield stress when required per AISI S100-16, section A3
h	Flat dimension of web measured in plane of the web
I_D	Effective moment of inertia for calculating deflection under a uniform load per single span (1-Span) or multi-span (2+ Span) condition
I_g	Deck section gross moment of inertia
I_n	Effective moment of inertia under negative (upward) bending
I_p	Effective moment of inertia under positive (downward) bending
K	Composite deck profile and embossment pattern coefficient, based on slab width $\geq 6'-0"$ measured perpendicular to the deck sheet length
$M_{n,n}/\Omega$	ASD design bending strength under negative (upward) bending
$M_{n,p}/\Omega$	ASD design bending strength under positive (downward) bending
R	Inside bend radius
R_{be}/Ω	ASD design web crippling strength over supports at sheet ends
R_{bi}/Ω	ASD design web crippling strength over interior sheet supports
s	Developed flute width per width, $d = 2(e + w) + f$
S_n	Effective section modulus under negative (upward) bending at applied stress equal to f_y
S_p	Effective section modulus under positive (downward) bending at applied stress equal to f_y
t	Base design steel thickness
V_n/Ω	ASD design vertical shear strength
w	Web flat width of panel measured between points of intercept. See AISI S310 Section D2 for diagram.
w_{dd}	Deck panel weight
W_r	Average deck rib width
\bar{y}_d	Distance from the deck bottom flange mid-thickness to gross deck section centroid
θ	Web angle measured under a top flange from horizontal plane at panel bottom to web
$\Phi M_{n,n}$	LRFD design bending strength under negative (upward) bending
$\Phi M_{n,p}$	LRFD design bending strength under positive (downward) bending
ΦR_{be}	LRFD design web crippling strength over supports at sheet ends
ΦR_{bi}	LRFD design web crippling strength over interior sheet supports
ΦV_n	LRFD design vertical shear strength

DIAPHRAGM DESIGN

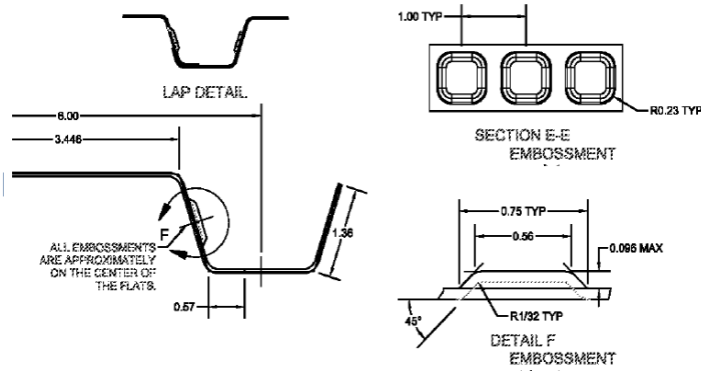
FIGURE 1 – TYPICAL FASTENER LAYOUTS



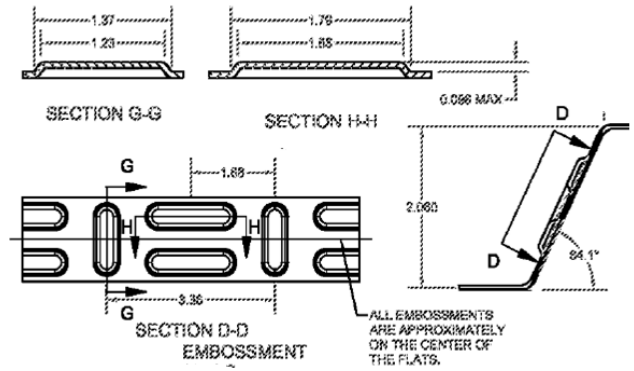
Composite Decks

FIGURE 2 – EMBOSSMENT DETAILS (Note: Embossments are not optional for Composite Decks)

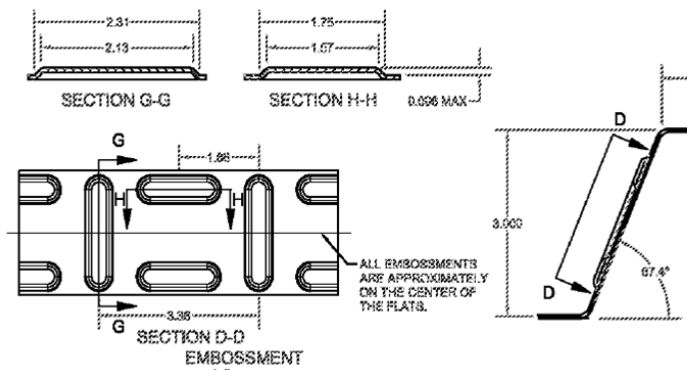
For 1 1/2" Composite Deck:



For 2" Composite Deck:



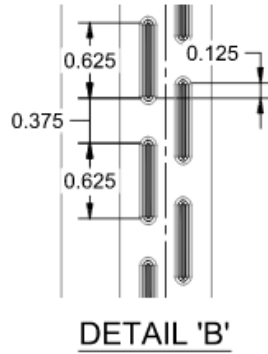
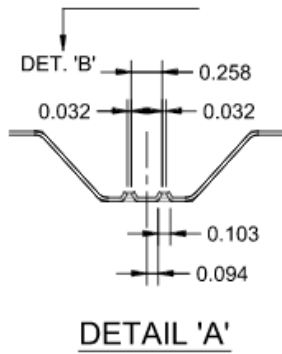
For 3" Composite Deck:



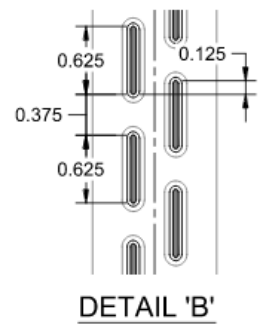
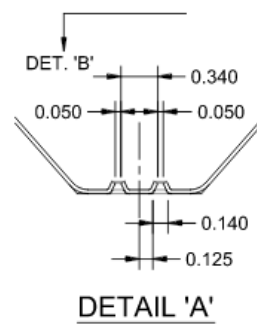
Vented Decks

FIGURE 3 – VENT DETAILS

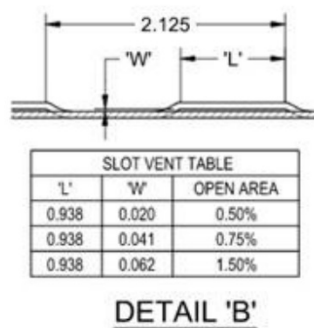
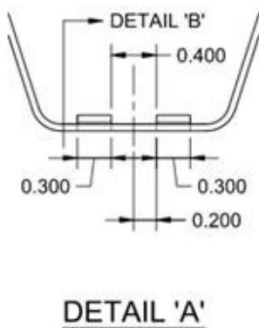
0.6FDV:



1.0RDV, 1.0FDV:



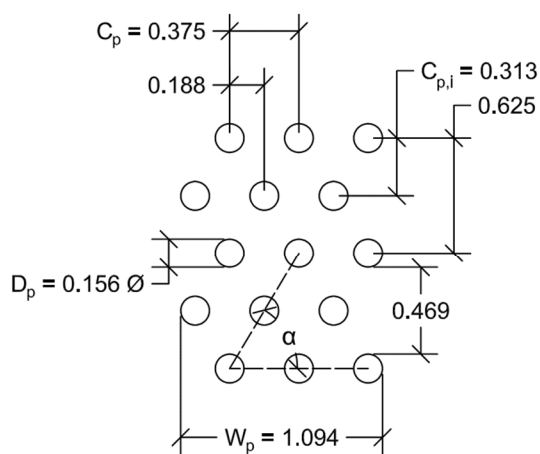
BV, BIV, 1.5FDV, 1.5FDIV:



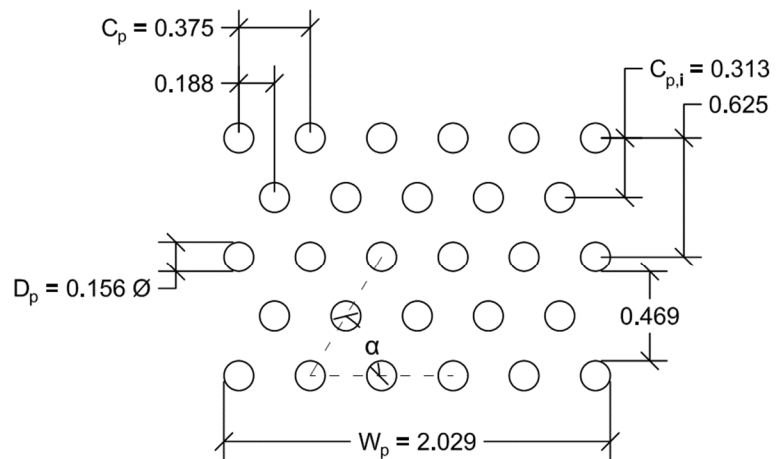
SLOT VENT TABLE		
L'	W'	OPEN AREA
0.938	0.020	0.50%
0.938	0.041	0.75%
0.938	0.062	1.50%

Acoustical Decks

FIGURE 4 – ACOUSTICAL DECK PERFORATION PATTERNS



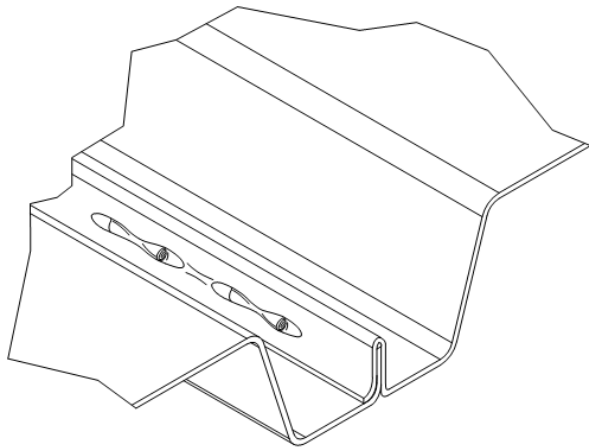
BA, TBA, BIA PERFORATION PATTERN



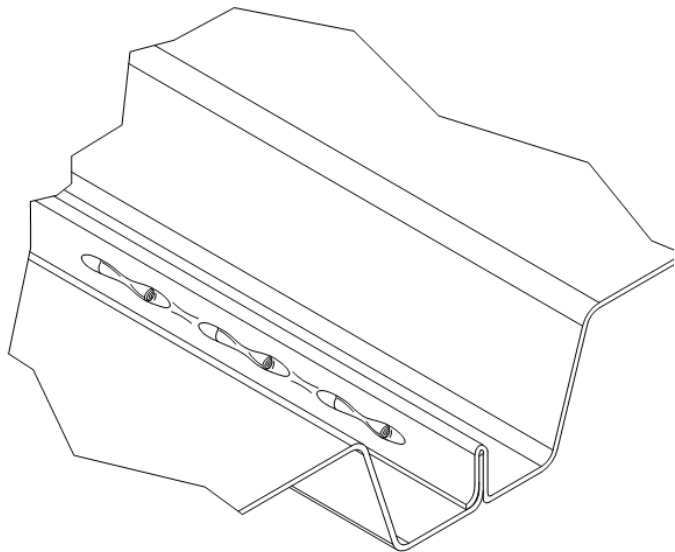
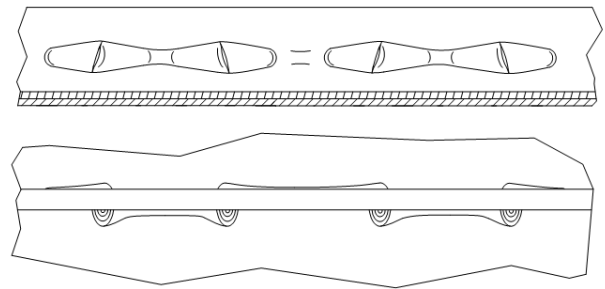
NA PERFORATION PATTERN

RED Tool Side-lap Connections

FIGURE 5



RED TOOL 3:2 SET UP



RED TOOL 4:3 SET UP

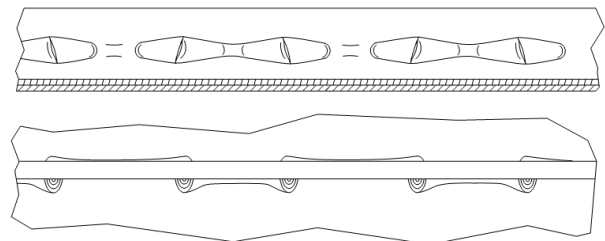


TABLE 1
ROOF DECK GENERAL PROPERTIES

Type	Gage	w _{dd} (psf)	A _s (in ² /ft)	I _g (in ⁴ /ft)	Geometry						Geometry for Warping Calc ⁴		
					D _d (in)	d (in)	W _r (in)	h (in)	Θ (deg)	R (in)	e (in)	f (in)	w (in)
1.0RD 1.0RDV	26	0.94	0.275	0.043	0.99	4	2.00	1.14	48.6	0.188	0.565	1.129	1.317
	25	1.09	0.321	0.050				1.14					
	24	1.24	0.365	0.056				1.14					
	23	1.41	0.413	0.064				1.14					
	22	1.54	0.453	0.070				1.13					
	21	1.72	0.505	0.078				1.13					
	20	1.87	0.550	0.085				1.13					
	19	2.18	0.642	0.099				1.13					
F	23	1.44	0.424	0.117	1.45	6	1.17	1.32	65.8	0.190	0.260	4.180	1.585
	22	1.58	0.465	0.128				1.32					
	21	1.77	0.519	0.143				1.32					
	20	1.92	0.564	0.155				1.32					
	19	2.24	0.659	0.181				1.31					
	18	2.54	0.747	0.205				1.31					
	17	2.88	0.848	0.233				1.30					
	16	3.21	0.942	0.259				1.30					
B BV BI BIV	23	1.49	0.437	0.160	1.45	6	2.10	1.19	72.5	0.207	0.821	3.446	1.515
	22	1.63	0.480	0.175				1.19					
	21	1.82	0.535	0.196				1.19					
	20	1.98	0.582	0.213				1.19					
	19	2.31	0.679	0.248				1.18					
	18	2.62	0.770	0.281				1.18					
	17	2.97	0.874	0.319				1.17					
	16	3.30	0.971	0.355				1.17					
BA BIA	23	1.42	0.396	0.155	1.45	6	2.10	1.19	72.5	0.207	0.821	3.446	1.515
	22	1.56	0.434	0.170				1.19					
	21	1.74	0.484	0.190				1.19					
	20	1.89	0.526	0.206				1.19					
	19	2.21	0.614	0.241				1.18					
	18	2.50	0.696	0.273				1.18					
	17	2.84	0.790	0.310				1.17					
	16	3.16	0.878	0.344				1.17					
N	23	1.87	0.548	0.819	3.06	8	2.25	2.69	83.0	0.207	0.938	5.374	3.083
	22	2.05	0.601	0.898				2.69					
	21	2.28	0.671	1.001				2.69					
	20	2.48	0.730	1.089				2.69					
	19	2.90	0.852	1.270				2.68					
	18	3.29	0.965	1.440				2.67					
	17	3.73	1.095	1.633				2.67					
	16	4.14	1.217	1.814				2.66					
NA	23	1.75	0.474	0.767	3.06	8	2.25	2.69	83.0	0.207	0.938	5.374	3.083
	22	1.92	0.520	0.841				2.69					
	21	2.14	0.580	0.938				2.69					
	20	2.33	0.630	1.020				2.69					
	19	2.72	0.736	1.190				2.68					
	18	3.08	0.834	1.349				2.67					
	17	3.49	0.946	1.530				2.67					
	16	3.88	1.052	1.700				2.66					

Notes:

1. See Table A for profile configuration and cover width of deck types listed.
2. See Table F for design thickness **t**, of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. **s** = Developed flute width per width **d** = 2 (e + w) + f. See AISI S310, Section D2, for diagram of e, f and w.

TABLE 2
ROOF DECKS - TYPES 1.0RD, 1.0RDV

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
26	33	0.042	0.042	0.042	0.042	0.074	0.080	1467	1575	1136	257	456	2205	2367	1726	393	678
	40	0.042	0.042	0.042	0.042	0.072	0.076	1726	1812	1357	311	552	2594	2724	2063	476	822
	45	0.042	0.042	0.042	0.042	0.071	0.074	1906	2001	1440	350	621	2864	3007	2188	535	924
	50	0.042	0.042	0.042	0.042	0.070	0.073	2082	2186	1518	389	690	3130	3285	2307	595	1027
	55	0.042	0.042	0.042	0.041	0.069	0.072	2256	2368	1592	428	759	3391	3559	2419	654	1130
	60	0.042	0.042	0.041	0.041	0.068	0.071	2428	2547	1663	466	828	3650	3829	2527	714	1232
25	33	0.050	0.050	0.050	0.050	0.091	0.094	1792	1857	1325	342	612	2693	2791	2013	523	910
	40	0.050	0.050	0.050	0.050	0.088	0.093	2110	2234	1606	414	742	3172	3357	2440	633	1103
	45	0.050	0.050	0.050	0.050	0.087	0.093	2331	2501	1806	466	834	3504	3759	2745	713	1241
	50	0.050	0.050	0.049	0.049	0.085	0.089	2548	2676	2007	518	927	3830	4023	3050	792	1379
	55	0.049	0.049	0.049	0.049	0.084	0.088	2761	2900	2170	569	1020	4150	4358	3298	871	1517
	60	0.049	0.049	0.049	0.049	0.083	0.087	2972	3120	2267	621	1113	4466	4689	3445	950	1655
24	33	0.056	0.056	0.056	0.056	0.107	0.108	2111	2127	1507	434	782	3173	3197	2290	664	1163
	40	0.056	0.056	0.056	0.056	0.104	0.107	2492	2563	1826	526	948	3746	3852	2776	805	1410
	45	0.056	0.056	0.056	0.056	0.102	0.107	2756	2870	2054	592	1066	4143	4314	3123	905	1586
	50	0.056	0.056	0.056	0.056	0.101	0.106	3015	3176	2283	657	1185	4531	4773	3470	1006	1762
	55	0.056	0.056	0.056	0.056	0.099	0.106	3268	3480	2511	723	1303	4912	5230	3817	1106	1939
	60	0.056	0.056	0.056	0.056	0.098	0.105	3518	3782	2739	789	1422	5288	5684	4164	1207	2115
23	33	0.064	0.064	0.064	0.064	0.121	0.121	2397	2397	1701	543	984	3603	3603	2585	831	1464
	40	0.064	0.064	0.064	0.064	0.121	0.121	2906	2905	2062	658	1193	4367	4367	3134	1007	1774
	45	0.064	0.064	0.064	0.064	0.119	0.121	3219	3264	2319	740	1342	4837	4906	3525	1133	1996
	50	0.064	0.064	0.064	0.064	0.118	0.121	3524	3613	2577	823	1491	5297	5431	3917	1259	2218
	55	0.064	0.064	0.064	0.064	0.116	0.120	3824	3961	2835	905	1640	5748	5953	4309	1385	2440
	60	0.064	0.064	0.064	0.064	0.115	0.120	4119	4306	3092	987	1789	6191	6472	4700	1511	2661
22	33	0.070	0.070	0.070	0.070	0.133	0.133	2622	2622	1863	643	1169	3941	3941	2832	984	1739
	40	0.070	0.070	0.070	0.070	0.133	0.133	3178	3178	2258	779	1417	4777	4777	3433	1192	2108
	45	0.070	0.070	0.070	0.070	0.133	0.133	3575	3575	2541	877	1594	5374	5374	3862	1341	2372
	50	0.070	0.070	0.070	0.070	0.132	0.133	3956	3973	2823	974	1772	5945	5971	4291	1490	2635
	55	0.070	0.070	0.070	0.070	0.130	0.132	4296	4362	3105	1071	1949	6458	6556	4720	1639	2899
	60	0.070	0.070	0.070	0.070	0.129	0.132	4631	4744	3388	1169	2126	6960	7130	5149	1788	3162
21	33	0.078	0.078	0.078	0.078	0.147	0.147	2914	2914	2075	785	1433	4380	4380	3154	1201	2131
	40	0.078	0.078	0.078	0.078	0.147	0.147	3532	3532	2515	951	1737	5309	5309	3823	1455	2583
	45	0.078	0.078	0.078	0.078	0.147	0.147	3974	3974	2830	1070	1954	5973	5973	4301	1637	2906
	50	0.078	0.078	0.078	0.078	0.147	0.147	4416	4416	3144	1189	2171	6637	6637	4779	1819	3229
	55	0.078	0.078	0.078	0.078	0.147	0.147	4857	4857	3459	1308	2388	7300	7300	5257	2001	3552
	60	0.078	0.078	0.078	0.078	0.147	0.147	5299	5299	3773	1427	2605	7964	7964	5735	2183	3875
20	33	0.085	0.085	0.085	0.085	0.160	0.160	3162	3162	2255	915	1676	4753	4753	3428	1401	2493
	40	0.085	0.085	0.085	0.085	0.160	0.160	3833	3833	2734	1110	2032	5761	5761	4155	1698	3022
	45	0.085	0.085	0.085	0.085	0.160	0.160	4312	4312	3076	1248	2286	6481	6481	4675	1910	3400
	50	0.085	0.085	0.085	0.085	0.160	0.160	4791	4791	3417	1387	2540	7201	7201	5194	2122	3778
	55	0.085	0.085	0.085	0.085	0.160	0.160	5270	5270	3759	1526	2793	7921	7921	5714	2335	4155
	60	0.085	0.085	0.085	0.085	0.160	0.160	5749	5749	4101	1665	3047	8641	8641	6233	2547	4533
19	33	0.099	0.099	0.099	0.099	0.186	0.186	3670	3670	2627	1214	2233	5517	5517	3993	1858	3322
	40	0.099	0.099	0.099	0.099	0.186	0.186	4449	4449	3184	1472	2707	6687	6687	4840	2252	4027
	45	0.099	0.099	0.099	0.099	0.186	0.186	5005	5005	3582	1656	3046	7523	7523	5445	2534	4530
	50	0.099	0.099	0.099	0.099	0.186	0.186	5561	5561	3981	1840	3384	8358	8358	6050	2815	5034
	55	0.099	0.099	0.099	0.099	0.186	0.186	6117	6117	4379	2024	3722	9194	9194	6655	3097	5537
	60	0.099	0.099	0.099	0.099	0.186	0.186	6673	6673	4777	2208	4061	10030	10030	7260	3378	6041

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 3
ROOF DECKS - TYPE F

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.111	0.117	0.108	0.117	0.100	0.110	1982	2177	1606	433	794	2979	3272	2441	663	1182
	40	0.109	0.117	0.105	0.117	0.099	0.110	2369	2639	1946	525	963	3561	3967	2959	803	1432
	45	0.108	0.117	0.103	0.117	0.098	0.110	2643	2969	2190	591	1083	3972	4462	3328	904	1611
	50	0.107	0.117	0.102	0.117	0.097	0.110	2914	3299	2433	656	1204	4379	4958	3698	1004	1791
	55	0.106	0.117	0.100	0.117	0.097	0.110	3183	3629	2676	722	1324	4784	5454	4068	1105	1970
	60	0.105	0.117	0.099	0.117	0.096	0.110	3450	3959	2920	788	1444	5186	5950	4438	1205	2149
22	33	0.123	0.128	0.121	0.128	0.111	0.121	2199	2384	1759	513	944	3304	3583	2673	785	1404
	40	0.121	0.128	0.118	0.128	0.110	0.121	2629	2890	2132	622	1144	3951	4343	3240	952	1702
	45	0.120	0.128	0.116	0.128	0.109	0.121	2933	3251	2398	700	1288	4408	4886	3645	1071	1915
	50	0.119	0.128	0.114	0.128	0.108	0.121	3234	3612	2665	778	1431	4860	5429	4050	1190	2128
	55	0.118	0.128	0.113	0.128	0.107	0.121	3532	3973	2931	855	1574	5309	5972	4455	1309	2341
	60	0.117	0.128	0.111	0.128	0.107	0.121	3829	4335	3198	933	1717	5755	6515	4861	1428	2554
21	33	0.139	0.143	0.138	0.143	0.126	0.134	2484	2654	1958	627	1157	3733	3988	2976	959	1721
	40	0.138	0.143	0.135	0.143	0.124	0.134	2972	3216	2374	760	1403	4466	4834	3608	1163	2086
	45	0.136	0.143	0.133	0.143	0.123	0.134	3316	3618	2670	855	1578	4983	5439	4059	1308	2347
	50	0.135	0.143	0.131	0.143	0.122	0.134	3656	4020	2967	950	1753	5496	6043	4510	1454	2608
	55	0.134	0.143	0.130	0.143	0.121	0.134	3994	4423	3264	1045	1929	6004	6647	4961	1599	2869
	60	0.133	0.143	0.128	0.143	0.121	0.134	4330	4825	3560	1140	2104	6508	7251	5412	1744	3130
20	33	0.153	0.155	0.152	0.155	0.138	0.146	2728	2883	2128	732	1354	4101	4332	3234	1120	2014
	40	0.151	0.155	0.149	0.155	0.136	0.146	3266	3494	2579	887	1641	4908	5251	3920	1358	2441
	45	0.150	0.155	0.148	0.155	0.135	0.146	3644	3931	2901	998	1846	5478	5908	4410	1528	2747
	50	0.149	0.155	0.146	0.155	0.134	0.146	4020	4367	3224	1109	2052	6042	6564	4900	1697	3052
	55	0.148	0.155	0.144	0.155	0.133	0.146	4392	4804	3546	1220	2257	6601	7221	5390	1867	3357
	60	0.147	0.155	0.143	0.155	0.133	0.146	4762	5241	3869	1331	2462	7157	7877	5880	2037	3662
19	33	0.181	0.181	0.180	0.181	0.164	0.170	3235	3354	2477	972	1805	4862	5041	3765	1488	2685
	40	0.179	0.181	0.179	0.181	0.162	0.170	3876	4065	3002	1179	2188	5826	6110	4564	1803	3254
	45	0.178	0.181	0.177	0.181	0.161	0.170	4329	4573	3378	1326	2461	6506	6874	5134	2029	3661
	50	0.177	0.181	0.176	0.181	0.160	0.170	4777	5082	3753	1473	2735	7180	7638	5705	2254	4068
	55	0.177	0.181	0.174	0.181	0.159	0.170	5222	5590	4128	1621	3008	7848	8401	6275	2480	4475
	60	0.176	0.181	0.173	0.181	0.158	0.170	5663	6098	4504	1768	3282	8511	9165	6846	2705	4881
18	33	0.205	0.205	0.205	0.205	0.188	0.192	3706	3791	2801	1224	2278	5571	5697	4258	1872	3388
	40	0.205	0.205	0.205	0.205	0.186	0.192	4447	4595	3395	1483	2761	6684	6906	5161	2270	4107
	45	0.204	0.205	0.204	0.205	0.184	0.192	4969	5169	3820	1669	3106	7469	7769	5806	2553	4620
	50	0.204	0.205	0.203	0.205	0.183	0.192	5487	5744	4244	1854	3451	8247	8633	6451	2837	5133
	55	0.203	0.205	0.202	0.205	0.182	0.192	6000	6318	4669	2040	3796	9018	9496	7096	3121	5647
	60	0.202	0.205	0.200	0.205	0.181	0.192	6509	6892	5093	2225	4141	9783	10359	7741	3404	6160
17	33	0.233	0.233	0.233	0.233	0.215	0.217	4241	4287	3169	1543	2878	6375	6443	4817	2360	4281
	40	0.233	0.233	0.233	0.233	0.213	0.217	5096	5196	3842	1870	3489	7660	7809	5839	2861	5189
	45	0.233	0.233	0.233	0.233	0.212	0.217	5700	5845	4322	2104	3925	8566	8786	6569	3219	5838
	50	0.233	0.233	0.232	0.233	0.210	0.217	6297	6495	4802	2337	4361	9465	9762	7299	3576	6487
	55	0.232	0.233	0.232	0.233	0.209	0.217	6890	7144	5282	2571	4797	10356	10738	8029	3934	7135
	60	0.232	0.233	0.231	0.233	0.208	0.217	7478	7794	5762	2805	5233	11240	11714	8759	4292	7784
16	33	0.259	0.259	0.259	0.259	0.240	0.240	4737	4748	3512	1872	3498	7120	7137	5339	2864	5204
	40	0.259	0.259	0.259	0.259	0.238	0.240	5700	5755	4257	2269	4240	8567	8650	6471	3471	6308
	45	0.259	0.259	0.259	0.259	0.237	0.240	6380	6475	4789	2552	4770	9589	9732	7280	3905	7096
	50	0.259	0.259	0.259	0.259	0.236	0.240	7053	7194	5322	2836	5300	10601	10813	8089	4339	7884
	55	0.259	0.259	0.259	0.259	0.234	0.240	7722	7914	5854	3120	5830	11606	11894	8898	4773	8673
	60	0.258	0.259	0.258	0.259	0.233	0.240	8385	8633	6386	3403	6361	12603	12976	9707	5207	9461

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 4
ROOF DECKS - TYPES B, BV, BI, BIV

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.149	0.159	0.144	0.159	0.161	0.168	3180	3310	1514	455	819	4780	4975	2301	697	1218
	40	0.146	0.159	0.139	0.158	0.154	0.162	3684	3889	1835	552	992	5537	5844	2789	845	1476
	45	0.144	0.158	0.137	0.158	0.150	0.159	4033	4290	2064	621	1116	6062	6448	3137	950	1661
	50	0.143	0.158	0.134	0.157	0.146	0.156	4375	4683	2293	690	1241	6576	7038	3486	1056	1845
	55	0.141	0.157	0.131	0.156	0.143	0.154	4712	5069	2523	759	1365	7082	7619	3834	1161	2030
	60	0.139	0.156	0.128	0.155	0.140	0.152	5043	5449	2752	828	1489	7580	8190	4183	1267	2214
22	33	0.166	0.175	0.162	0.175	0.184	0.189	3627	3734	1657	539	974	5451	5612	2519	825	1449
	40	0.163	0.175	0.157	0.175	0.176	0.183	4215	4391	2009	654	1181	6336	6599	3053	1001	1756
	45	0.161	0.175	0.154	0.174	0.171	0.180	4612	4846	2260	736	1328	6932	7284	3435	1126	1976
	50	0.160	0.174	0.152	0.173	0.167	0.177	5000	5292	2511	817	1476	7516	7954	3816	1251	2195
	55	0.158	0.174	0.150	0.173	0.163	0.174	5381	5730	2762	899	1623	8088	8612	4198	1376	2415
	60	0.157	0.173	0.147	0.172	0.160	0.171	5756	6160	3013	981	1771	8651	9259	4580	1501	2634
21	33	0.189	0.196	0.185	0.196	0.207	0.217	4089	4294	1844	659	1195	6145	6453	2803	1008	1777
	40	0.186	0.195	0.181	0.195	0.205	0.211	4899	5060	2235	799	1448	7363	7606	3398	1222	2154
	45	0.184	0.195	0.178	0.195	0.201	0.207	5411	5586	2515	899	1629	8133	8395	3823	1375	2424
	50	0.182	0.195	0.175	0.195	0.196	0.204	5863	6099	2794	998	1810	8811	9167	4247	1528	2693
	55	0.180	0.195	0.173	0.194	0.191	0.200	6305	6602	3074	1098	1991	9477	9922	4672	1680	2962
	60	0.179	0.194	0.170	0.194	0.188	0.197	6740	7096	3353	1198	2172	10130	10665	5097	1833	3231
20	33	0.208	0.213	0.205	0.213	0.227	0.238	4485	4712	2003	769	1399	6741	7083	3045	1177	2081
	40	0.205	0.213	0.201	0.213	0.224	0.235	5375	5624	2428	932	1696	8078	8454	3691	1426	2523
	45	0.203	0.213	0.198	0.213	0.223	0.231	6004	6216	2732	1049	1908	9023	9342	4152	1605	2838
	50	0.201	0.212	0.195	0.212	0.221	0.227	6628	6792	3035	1165	2120	9962	10208	4614	1783	3153
	55	0.199	0.212	0.193	0.212	0.217	0.223	7134	7355	3339	1282	2332	10723	11055	5075	1961	3469
	60	0.198	0.212	0.190	0.211	0.212	0.220	7623	7909	3642	1398	2544	11458	11887	5536	2140	3784
19	33	0.246	0.248	0.246	0.248	0.269	0.279	5307	5517	2330	1021	1867	7977	8292	3542	1562	2777
	40	0.244	0.248	0.242	0.248	0.266	0.277	6365	6645	2825	1238	2263	9566	9987	4293	1894	3366
	45	0.243	0.248	0.240	0.248	0.264	0.276	7112	7429	3178	1392	2546	10689	11166	4830	2130	3787
	50	0.241	0.248	0.237	0.248	0.262	0.275	7853	8227	3531	1547	2829	11803	12365	5367	2367	4208
	55	0.239	0.248	0.235	0.248	0.261	0.271	8589	8939	3884	1702	3112	12910	13435	5903	2604	4629
	60	0.238	0.248	0.232	0.248	0.259	0.268	9321	9626	4237	1857	3395	14009	14467	6440	2841	5050
18	33	0.281	0.281	0.281	0.281	0.307	0.315	6074	6233	2633	1285	2358	9130	9368	4003	1966	3508
	40	0.280	0.281	0.279	0.281	0.304	0.315	7291	7553	3192	1557	2858	10959	11352	4852	2383	4252
	45	0.279	0.281	0.277	0.281	0.302	0.314	8151	8466	3591	1752	3216	12251	12724	5458	2681	4783
	50	0.277	0.281	0.275	0.281	0.301	0.312	9003	9354	3990	1947	3573	13532	14059	6065	2978	5315
	55	0.276	0.281	0.273	0.281	0.299	0.311	9850	10239	4389	2141	3930	14804	15390	6671	3276	5846
	60	0.274	0.281	0.271	0.281	0.298	0.310	10690	11127	4788	2336	4288	16068	16724	7277	3574	6378
17	33	0.319	0.319	0.319	0.319	0.352	0.357	6947	7045	2977	1619	2982	10441	10588	4525	2477	4436
	40	0.319	0.319	0.319	0.319	0.349	0.357	8348	8539	3608	1963	3615	12547	12834	5485	3003	5377
	45	0.319	0.319	0.319	0.319	0.347	0.356	9337	9602	4059	2208	4066	14034	14432	6170	3378	6049
	50	0.318	0.319	0.317	0.319	0.345	0.356	10319	10652	4511	2453	4518	15509	16011	6856	3754	6721
	55	0.317	0.319	0.316	0.319	0.343	0.354	11293	11673	4962	2699	4970	16973	17545	7542	4129	7393
	60	0.316	0.319	0.314	0.319	0.341	0.353	12260	12677	5413	2944	5422	18427	19053	8227	4504	8065
16	33	0.355	0.355	0.355	0.355	0.393	0.395	7758	7800	3297	1964	3627	11660	11723	5011	3005	5395
	40	0.355	0.355	0.355	0.355	0.390	0.395	9332	9454	3996	2381	4396	14026	14210	6074	3643	6539
	45	0.355	0.355	0.355	0.355	0.388	0.395	10444	10636	4495	2678	4946	15698	15986	6833	4098	7357
	50	0.355	0.355	0.355	0.355	0.386	0.394	11548	11811	4995	2976	5495	17357	17752	7592	4553	8174
	55	0.354	0.355	0.354	0.355	0.384	0.394	12643	12973	5494	3274	6045	19003	19498	8351	5008	8992
	60	0.354	0.355	0.353	0.355	0.382	0.393	13731	14134	5994	3571	6594	20638	21243	9110	5464	9809

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 5
ROOF DECKS - TYPES BA, BIA

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.145	0.155	0.140	0.154	0.156	0.159	3073	3135	1019	436	814	4619	4712	1549	666	1211
	40	0.142	0.154	0.136	0.154	0.148	0.153	3547	3672	1235	528	986	5331	5519	1878	808	1467
	45	0.141	0.154	0.133	0.153	0.144	0.150	3875	4044	1390	594	1110	5824	6078	2113	909	1651
	50	0.139	0.153	0.131	0.152	0.140	0.147	4195	4407	1544	660	1233	6305	6624	2347	1010	1834
	55	0.137	0.152	0.128	0.151	0.137	0.145	4509	4763	1699	726	1356	6777	7158	2582	1111	2018
	60	0.135	0.151	0.125	0.150	0.134	0.142	4818	5112	1853	792	1480	7241	7684	2817	1212	2201
22	33	0.162	0.170	0.158	0.170	0.178	0.179	3514	3545	1115	517	968	5282	5328	1695	791	1440
	40	0.159	0.170	0.153	0.169	0.170	0.174	4073	4158	1352	627	1174	6122	6249	2054	959	1746
	45	0.157	0.169	0.151	0.169	0.165	0.170	4447	4581	1521	705	1321	6683	6886	2311	1079	1964
	50	0.155	0.169	0.148	0.168	0.161	0.167	4811	4995	1689	784	1467	7232	7508	2568	1199	2182
	55	0.154	0.168	0.146	0.167	0.157	0.164	5169	5400	1858	862	1614	7769	8117	2825	1319	2401
	60	0.152	0.168	0.144	0.166	0.154	0.161	5519	5798	2027	940	1761	8296	8714	3082	1439	2619
21	33	0.184	0.190	0.181	0.190	0.200	0.207	3954	4088	1240	633	1188	5942	6144	1884	969	1768
	40	0.181	0.190	0.176	0.189	0.198	0.201	4745	4807	1503	768	1440	7132	7224	2284	1175	2143
	45	0.179	0.189	0.174	0.189	0.194	0.197	5238	5297	1691	864	1621	7873	7961	2570	1321	2410
	50	0.177	0.189	0.171	0.189	0.189	0.193	5665	5775	1878	960	1801	8514	8679	2855	1468	2678
	55	0.176	0.189	0.168	0.188	0.185	0.190	6082	6242	2066	1056	1981	9141	9381	3141	1615	2946
	60	0.174	0.188	0.166	0.188	0.181	0.186	6491	6700	2254	1152	2161	9755	10070	3426	1762	3214
20	33	0.202	0.206	0.200	0.206	0.219	0.227	4330	4490	1345	741	1392	6507	6749	2045	1133	2070
	40	0.200	0.206	0.196	0.206	0.217	0.223	5198	5353	1631	898	1687	7813	8045	2479	1374	2510
	45	0.198	0.206	0.193	0.206	0.216	0.219	5813	5906	1835	1010	1898	8736	8877	2789	1545	2823
	50	0.196	0.206	0.191	0.206	0.215	0.215	6423	6444	2038	1122	2109	9654	9686	3098	1717	3137
	55	0.194	0.206	0.188	0.205	0.210	0.212	6903	6970	2242	1234	2320	10376	10476	3408	1889	3451
	60	0.193	0.205	0.186	0.205	0.205	0.208	7365	7484	2446	1347	2531	11069	11249	3718	2060	3764
19	33	0.240	0.241	0.239	0.241	0.258	0.266	5108	5261	1562	986	1858	7677	7907	2375	1509	2764
	40	0.238	0.241	0.236	0.241	0.256	0.264	6137	6332	1894	1196	2252	9224	9517	2878	1829	3350
	45	0.236	0.241	0.234	0.241	0.255	0.263	6865	7075	2130	1345	2534	10318	10634	3238	2058	3769
	50	0.234	0.241	0.231	0.241	0.253	0.262	7588	7833	2367	1495	2815	11405	11773	3598	2287	4188
	55	0.233	0.241	0.229	0.241	0.252	0.258	8307	8502	2604	1644	3097	12485	12778	3958	2516	4607
	60	0.231	0.241	0.226	0.241	0.251	0.255	9022	9145	2840	1794	3378	13559	13745	4317	2744	5025
18	33	0.273	0.273	0.273	0.273	0.295	0.301	5831	5943	1762	1244	2347	8765	8933	2679	1904	3492
	40	0.272	0.273	0.272	0.273	0.293	0.301	7013	7201	2136	1508	2845	10540	10824	3247	2307	4233
	45	0.271	0.273	0.270	0.273	0.291	0.299	7848	8069	2403	1697	3201	11796	12127	3653	2596	4762
	50	0.270	0.273	0.268	0.273	0.290	0.298	8678	8911	2670	1885	3557	13043	13393	4059	2884	5291
	55	0.268	0.273	0.266	0.273	0.289	0.296	9502	9750	2937	2074	3912	14282	14654	4464	3173	5820
	60	0.267	0.273	0.264	0.273	0.287	0.295	10322	10592	3204	2262	4268	15514	15920	4870	3461	6349
17	33	0.310	0.310	0.310	0.310	0.337	0.340	6653	6718	1988	1571	2969	9999	10096	3022	2404	4417
	40	0.310	0.310	0.310	0.310	0.334	0.340	8008	8142	2410	1905	3599	12037	12238	3663	2914	5354
	45	0.309	0.310	0.309	0.310	0.333	0.340	8968	9155	2711	2143	4049	13479	13761	4121	3278	6023
	50	0.309	0.310	0.308	0.310	0.331	0.339	9921	10155	3013	2381	4499	14911	15263	4579	3643	6692
	55	0.308	0.310	0.307	0.310	0.330	0.338	10867	11124	3314	2619	4949	16334	16719	5037	4007	7362
	60	0.307	0.310	0.306	0.310	0.329	0.336	11809	12075	3615	2857	5399	17748	18149	5495	4371	8031
16	33	0.344	0.344	0.344	0.344	0.375	0.376	7415	7438	2198	1909	3612	11145	11179	3340	2921	5373
	40	0.344	0.344	0.344	0.344	0.373	0.376	8935	9015	2664	2314	4378	13429	13550	4049	3541	6513
	45	0.344	0.344	0.344	0.344	0.372	0.376	10011	10142	2997	2604	4926	15046	15244	4555	3983	7327
	50	0.344	0.344	0.344	0.344	0.370	0.376	11079	11262	3330	2893	5473	16652	16926	5061	4426	8141
	55	0.344	0.344	0.344	0.344	0.369	0.376	12141	12367	3663	3182	6020	18249	18588	5567	4869	8955
	60	0.343	0.344	0.343	0.344	0.367	0.375	13197	13472	3996	3471	6568	19836	20249	6073	5311	9769

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

**TABLE 6
ROOF DECKS - TYPE N**

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.693	0.808	0.630	0.803	0.339	0.389	6708	7696	1842	320	630	10082	11567	2800	489	938
	40	0.676	0.802	0.605	0.794	0.327	0.369	7844	8840	1916	388	764	11790	13287	2912	593	1136
	45	0.667	0.798	0.591	0.788	0.321	0.355	8640	9558	1916	436	859	12986	14365	2912	667	1278
	50	0.661	0.794	0.582	0.782	0.315	0.342	9425	10252	1916	484	955	14166	15409	2912	741	1420
	55	0.656	0.790	0.575	0.776	0.310	0.332	10201	10928	1916	533	1050	15332	16425	2912	815	1563
	60	0.652	0.787	0.568	0.771	0.305	0.322	10969	11587	1916	581	1146	16486	17415	2912	889	1705
22	33	0.779	0.891	0.720	0.888	0.386	0.438	7623	8646	2216	381	750	11457	12995	3368	583	1116
	40	0.759	0.886	0.690	0.881	0.372	0.427	8900	10216	2439	462	909	13377	15355	3708	707	1353
	45	0.748	0.882	0.673	0.875	0.363	0.414	9794	11158	2529	520	1023	14720	16771	3844	795	1522
	50	0.738	0.878	0.658	0.869	0.357	0.400	10674	11964	2529	577	1137	16044	17982	3844	883	1691
	55	0.730	0.875	0.647	0.863	0.351	0.387	11544	12746	2529	635	1250	17351	19157	3844	972	1860
	60	0.725	0.871	0.639	0.858	0.345	0.376	12404	13507	2529	693	1364	18643	20301	3844	1060	2029
21	33	0.892	0.998	0.837	0.996	0.450	0.502	8882	9914	2756	468	921	13350	14901	4189	717	1370
	40	0.872	0.994	0.808	0.991	0.432	0.489	10353	11722	3034	568	1116	15560	17618	4612	869	1661
	45	0.858	0.991	0.787	0.987	0.422	0.482	11380	12984	3218	639	1256	17104	19514	4891	977	1868
	50	0.846	0.988	0.769	0.982	0.414	0.475	12390	14226	3392	710	1395	18623	21381	5156	1086	2076
	55	0.836	0.985	0.753	0.977	0.406	0.465	13387	15304	3512	781	1535	20121	23001	5338	1195	2283
	60	0.827	0.981	0.740	0.971	0.400	0.451	14373	16212	3512	852	1675	21602	24366	5338	1303	2491
20	33	0.987	1.088	0.936	1.088	0.507	0.557	10011	11005	3263	549	1079	15047	16540	4960	841	1605
	40	0.968	1.085	0.908	1.083	0.487	0.544	11654	13030	3592	666	1308	17516	19585	5460	1019	1946
	45	0.957	1.083	0.891	1.080	0.475	0.536	12799	14439	3810	749	1471	19237	21701	5792	1146	2189
	50	0.942	1.080	0.869	1.076	0.465	0.528	13926	15823	4016	832	1635	20930	23782	6105	1274	2432
	55	0.930	1.077	0.851	1.072	0.457	0.522	15036	17188	4212	916	1798	22599	25833	6403	1401	2675
	60	0.919	1.075	0.835	1.067	0.449	0.516	16132	18535	4400	999	1962	24246	27858	6688	1528	2918
19	33	1.186	1.270	1.144	1.270	0.605	0.664	11949	13124	4127	735	1441	17960	19725	6274	1125	2144
	40	1.165	1.270	1.113	1.270	0.597	0.658	14300	15763	4897	891	1747	21493	23692	7444	1363	2599
	45	1.152	1.270	1.093	1.270	0.591	0.649	15924	17498	5194	1002	1965	23934	26300	7896	1534	2924
	50	1.140	1.268	1.075	1.267	0.578	0.641	17303	19204	5475	1114	2184	26007	28863	8323	1704	3248
	55	1.129	1.266	1.059	1.264	0.567	0.634	18660	20874	5743	1225	2402	28047	31374	8729	1875	3573
	60	1.120	1.264	1.044	1.261	0.557	0.627	19998	22520	5998	1337	2621	30058	33847	9117	2045	3898
18	33	1.375	1.440	1.342	1.440	0.696	0.757	13751	14956	4672	930	1822	20667	22479	7101	1424	2710
	40	1.352	1.440	1.309	1.440	0.687	0.753	16456	18039	5663	1128	2208	24733	27113	8607	1725	3284
	45	1.338	1.440	1.287	1.440	0.682	0.750	18368	20213	6371	1269	2484	27608	30379	9683	1941	3695
	50	1.325	1.440	1.267	1.440	0.677	0.743	20267	22241	7041	1410	2760	30461	33428	10702	2157	4106
	55	1.313	1.440	1.249	1.440	0.673	0.735	22153	24208	7385	1551	3036	33296	36384	11224	2373	4516
	60	1.302	1.439	1.233	1.438	0.664	0.727	23871	26113	7713	1692	3312	35879	39248	11724	2588	4927
17	33	1.589	1.633	1.567	1.633	0.801	0.857	15832	16936	5291	1179	2305	23796	25454	8043	1804	3429
	40	1.567	1.633	1.534	1.633	0.791	0.857	18951	20528	6414	1429	2794	28484	30854	9749	2186	4156
	45	1.553	1.633	1.512	1.633	0.785	0.857	21155	23084	7216	1608	3143	31796	34695	10968	2459	4676
	50	1.539	1.633	1.492	1.633	0.780	0.854	23341	25556	8017	1786	3493	35082	38411	12186	2733	5195
	55	1.526	1.633	1.472	1.633	0.775	0.845	25513	27843	8819	1965	3842	38346	41848	13405	3006	5715
	60	1.514	1.633	1.454	1.633	0.770	0.838	27671	30120	9621	2143	4191	41590	45270	14623	3279	6234
16	33	1.788	1.814	1.775	1.814	0.901	0.951	17797	18783	5870	1436	2805	26750	28230	8922	2197	4172
	40	1.768	1.814	1.745	1.814	0.890	0.951	21312	22767	7115	1740	3400	32032	34219	10815	2663	5057
	45	1.754	1.814	1.724	1.814	0.883	0.951	23794	25613	8004	1958	3825	35762	38496	12166	2996	5689
	50	1.740	1.814	1.703	1.814	0.877	0.951	26255	28459	8894	2176	4250	39462	42773	13518	3329	6322
	55	1.727	1.814	1.683	1.814	0.871	0.950	28699	31271	9783	2393	4675	43135	47000	14870	3661	6954
	60	1.714	1.814	1.664	1.814	0.866	0.941	31127	33814	10672	2611	5100	46784	50823	16222	3994	7586

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 7
ROOF DECKS - TYPE NA

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/Q$ (in-lb/ft)	$M_{n,n}/Q$ (in-lb/ft)	V_n/Q (lb/ft)	R_{be}/Q (lb/ft)	$R_{n,p}/Q$ (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.651	0.756	0.593	0.751	0.311	0.345	6138	6826	1211	295	624	9226	10259	1840	451	928
	40	0.632	0.750	0.565	0.741	0.298	0.327	7140	7825	1259	357	757	10732	11761	1914	547	1125
	45	0.622	0.745	0.550	0.734	0.291	0.316	7839	8511	1259	402	851	11782	12791	1914	615	1266
	50	0.616	0.741	0.541	0.728	0.285	0.307	8527	9177	1259	447	946	12815	13793	1914	683	1407
	55	0.611	0.735	0.534	0.720	0.279	0.298	9205	9828	1259	491	1040	13834	14771	1914	752	1547
	60	0.607	0.729	0.527	0.709	0.275	0.291	9874	10465	1259	536	1135	14841	15729	1914	820	1688
22	33	0.735	0.834	0.682	0.831	0.355	0.394	7012	7781	1455	353	743	10539	11695	2212	540	1106
	40	0.713	0.829	0.649	0.823	0.340	0.378	8144	9053	1602	428	901	12240	13607	2436	655	1340
	45	0.701	0.825	0.630	0.817	0.331	0.365	8932	9843	1661	482	1014	13425	14794	2525	737	1508
	50	0.690	0.821	0.614	0.810	0.324	0.354	9707	10610	1661	535	1126	14590	15947	2525	819	1675
	55	0.681	0.817	0.602	0.804	0.318	0.345	10470	11357	1661	589	1239	15737	17070	2525	900	1843
	60	0.676	0.813	0.594	0.798	0.312	0.336	11224	12088	1661	642	1351	16869	18168	2525	982	2010
21	33	0.839	0.935	0.790	0.933	0.416	0.453	8221	8961	1809	436	913	12356	13468	2750	668	1358
	40	0.822	0.931	0.764	0.927	0.398	0.441	9531	10555	1992	529	1107	14326	15864	3028	809	1646
	45	0.808	0.928	0.743	0.923	0.388	0.433	10443	11663	2113	595	1245	15695	17530	3211	911	1852
	50	0.795	0.924	0.724	0.917	0.379	0.421	11337	12603	2227	661	1383	17039	18942	3385	1012	2058
	55	0.784	0.920	0.707	0.912	0.371	0.410	12217	13487	2306	727	1522	18362	20271	3504	1113	2263
	60	0.774	0.917	0.692	0.906	0.364	0.399	13085	14349	2306	794	1660	19666	21567	3504	1214	2469
20	33	0.929	1.020	0.884	1.020	0.471	0.505	9310	9978	2141	514	1070	13993	14997	3255	786	1592
	40	0.911	1.016	0.856	1.014	0.450	0.492	10780	11773	2357	623	1297	16203	17695	3583	953	1929
	45	0.899	1.014	0.839	1.011	0.438	0.483	11801	13015	2500	701	1459	17738	19562	3801	1072	2170
	50	0.889	1.011	0.823	1.007	0.428	0.475	12803	14234	2636	778	1621	19242	21393	4006	1191	2411
	55	0.875	1.008	0.803	1.002	0.419	0.468	13787	15410	2764	856	1783	20722	23161	4202	1310	2653
	60	0.864	1.005	0.785	0.997	0.411	0.456	14757	16394	2887	934	1945	22179	24641	4389	1429	2894
19	33	1.118	1.190	1.082	1.190	0.562	0.604	11098	11938	2706	692	1430	16680	17943	4113	1059	2127
	40	1.098	1.190	1.051	1.190	0.555	0.598	13298	14321	3210	839	1733	19987	21524	4880	1283	2579
	45	1.085	1.190	1.032	1.190	0.550	0.589	14811	15867	3405	944	1950	22261	23848	5176	1444	2901
	50	1.073	1.188	1.014	1.187	0.536	0.581	16047	17382	3589	1048	2167	24119	26125	5456	1604	3223
	55	1.062	1.186	0.998	1.183	0.524	0.573	17261	18859	3765	1153	2384	25943	28346	5722	1764	3545
	60	1.052	1.184	0.984	1.180	0.514	0.565	18454	20312	3932	1258	2600	27737	30529	5977	1925	3868
18	33	1.295	1.349	1.268	1.349	0.645	0.689	12745	13619	3060	880	1808	19156	20469	4651	1346	2690
	40	1.274	1.349	1.237	1.349	0.638	0.685	15276	16414	3709	1066	2192	22959	24671	5637	1631	3260
	45	1.261	1.349	1.217	1.349	0.633	0.682	17065	18382	4172	1200	2466	25649	27628	6342	1835	3668
	50	1.248	1.349	1.198	1.349	0.629	0.675	18842	20196	4611	1333	2740	28319	30354	7009	2039	4076
	55	1.236	1.349	1.180	1.349	0.626	0.666	20608	21948	4836	1466	3014	30973	32987	7351	2243	4483
	60	1.225	1.348	1.164	1.347	0.617	0.658	22184	23637	5051	1599	3288	33343	35526	7678	2447	4891
17	33	1.496	1.530	1.479	1.530	0.741	0.780	14640	15421	3461	1119	2289	22004	23177	5261	1713	3405
	40	1.476	1.530	1.450	1.530	0.733	0.780	17555	18692	4196	1357	2775	26385	28094	6377	2076	4128
	45	1.463	1.530	1.429	1.530	0.728	0.780	19615	21017	4720	1526	3122	29481	31589	7175	2335	4644
	50	1.450	1.530	1.410	1.530	0.723	0.777	21660	23256	5245	1696	3469	32555	34953	7972	2595	5160
	55	1.438	1.530	1.392	1.530	0.719	0.768	23691	25299	5769	1865	3815	35608	38025	8769	2854	5676
	60	1.426	1.530	1.374	1.530	0.716	0.761	25711	27333	6294	2035	4162	38643	41081	9566	3114	6191
16	33	1.681	1.700	1.672	1.700	0.831	0.865	16422	17102	3836	1368	2787	24683	25704	5830	2093	4145
	40	1.664	1.700	1.647	1.700	0.823	0.865	19702	20730	4649	1658	3378	29612	31157	7067	2536	5024
	45	1.652	1.700	1.628	1.700	0.817	0.865	22020	23321	5231	1865	3800	33096	35051	7951	2854	5652
	50	1.639	1.700	1.609	1.700	0.812	0.865	24320	25912	5812	2072	4222	36554	38946	8834	3171	6281
	55	1.627	1.700	1.591	1.700	0.808	0.864	26605	28467	6393	2280	4644	39987	42785	9717	3488	6909
	60	1.615	1.700	1.573	1.700	0.804	0.856	28876	30740	6974	2487	5067	43400	46203	10601	3805	7537

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 8
FORM DECK GENERAL PROPERTIES

Type	Gage	W _{dd} (psf)	A _s (in ² /ft)	I _g (in ⁴ /ft)	Geometry						Geometry for Warping Calc ⁴		
					D _d (in)	d (in)	W _r (in)	h (in)	Θ (deg)	R (in)	e (in)	f (in)	w (in)
0.6FD 0.6FDV	28	0.75	0.219	0.011	0.55	2.5	1.25	0.64	47.7	0.104	0.375	0.750	0.743
	27	0.82	0.242	0.012				0.64					
	26	0.90	0.264	0.013				0.64					
	25	1.05	0.308	0.015				0.64					
	24	1.19	0.350	0.018				0.64					
	23	1.35	0.396	0.020				0.64					
	22	1.48	0.434	0.022				0.64					
1.0FD 1.0FDV	26	0.94	0.275	0.043	0.99	4	2.00	1.14	48.6	0.188	0.565	1.129	1.317
	25	1.09	0.321	0.050				1.14					
	24	1.24	0.365	0.056				1.14					
	23	1.41	0.413	0.064				1.14					
	22	1.54	0.453	0.070				1.13					
	21	1.72	0.505	0.078				1.13					
	20	1.87	0.550	0.085				1.13					
1.5FD	23	1.49	0.437	0.160	1.45	6	3.90	1.19	72.5	0.207	1.723	1.643	1.515
	22	1.63	0.480	0.175				1.19					
	21	1.82	0.535	0.196				1.19					
	20	1.98	0.582	0.213				1.19					
	19	2.31	0.679	0.248				1.18					
	18	2.62	0.770	0.281				1.18					
	17	2.97	0.874	0.319				1.17					
1.5FDR 1.5FDV 1.5FDI 1.5FDIV	23	1.49	0.437	0.160	1.45	6	2.10	1.19	72.5	0.207	0.821	3.446	1.515
	22	1.63	0.480	0.175				1.19					
	21	1.82	0.535	0.196				1.19					
	20	1.98	0.582	0.213				1.19					
	19	2.31	0.679	0.248				1.18					
	18	2.62	0.770	0.281				1.18					
	17	2.97	0.874	0.319				1.17					
2.0FD 2.0FDB 2.0FD Extended Leg	23	1.43	0.420	0.316	2.06	12	6.00	2.04	64.1	0.188	2.500	5.000	2.290
	22	1.57	0.461	0.347				2.04					
	21	1.75	0.514	0.387				2.03					
	20	1.90	0.559	0.421				2.03					
	19	2.22	0.652	0.491				2.03					
	18	2.52	0.740	0.557				2.02					
	17	2.86	0.839	0.632				2.02					
3.0FD 3.0FD Extended Leg	23	1.56	0.458	0.713	3.00	12	6.00	2.98	67.4	0.188	2.375	4.750	3.250
	22	1.71	0.502	0.782				2.98					
	21	1.90	0.560	0.872				2.98					
	20	2.07	0.609	0.948				2.98					
	19	2.42	0.711	1.107				2.97					
	18	2.74	0.805	1.255				2.97					
	17	3.11	0.914	1.424				2.96					
16	3.45	1.015	1.582	2.96									

Notes:

1. See Table A for profile configuration and cover width of deck types listed.
2. See Table F for design thickness t, of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. s = Developed flute width per width d = 2 (e + w) + f. See AISI S310, Section D2, for diagram of e, f and w.

TABLE 9
FORM DECKS - TYPES 0.6FD, 0.6FDV

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
28	33	0.011	0.011	0.011	0.011	0.037	0.038	724	745	844	321	500	1087	1119	1282	491	744
	40	0.011	0.011	0.011	0.011	0.035	0.037	850	884	1023	389	606	1278	1328	1554	595	902
	45	0.011	0.011	0.011	0.011	0.035	0.036	938	975	1150	438	682	1410	1465	1749	670	1015
	50	0.011	0.011	0.011	0.011	0.034	0.036	1024	1063	1278	486	758	1538	1598	1943	744	1128
	55	0.011	0.011	0.011	0.011	0.034	0.035	1108	1150	1406	535	834	1665	1729	2137	818	1240
	60	0.011	0.011	0.011	0.011	0.033	0.034	1190	1236	1534	583	910	1789	1858	2331	893	1353
27	33	0.012	0.012	0.012	0.012	0.041	0.042	818	823	928	381	598	1230	1237	1410	583	889
	40	0.012	0.012	0.012	0.012	0.040	0.041	963	991	1124	462	725	1448	1490	1709	707	1078
	45	0.012	0.012	0.012	0.012	0.039	0.041	1064	1110	1265	520	815	1599	1668	1923	796	1213
	50	0.012	0.012	0.012	0.012	0.039	0.040	1162	1207	1405	578	906	1746	1814	2136	884	1347
	55	0.012	0.012	0.012	0.012	0.038	0.040	1258	1307	1546	636	996	1890	1964	2350	972	1482
	60	0.012	0.012	0.012	0.012	0.038	0.039	1352	1404	1687	693	1087	2032	2111	2564	1061	1617
26	33	0.013	0.013	0.013	0.013	0.045	0.045	896	896	1011	446	703	1347	1347	1537	683	1046
	40	0.013	0.013	0.013	0.013	0.045	0.045	1077	1086	1226	541	852	1619	1632	1863	828	1267
	45	0.013	0.013	0.013	0.013	0.044	0.045	1191	1217	1379	609	959	1790	1829	2096	931	1426
	50	0.013	0.013	0.013	0.013	0.043	0.045	1302	1346	1532	676	1065	1957	2024	2329	1035	1584
	55	0.013	0.013	0.013	0.013	0.043	0.045	1411	1466	1686	744	1172	2120	2203	2562	1138	1743
	60	0.013	0.013	0.013	0.013	0.042	0.044	1517	1576	1839	811	1278	2280	2369	2795	1241	1901
25	33	0.015	0.015	0.015	0.015	0.053	0.053	1041	1041	1178	589	935	1564	1564	1791	901	1391
	40	0.015	0.015	0.015	0.015	0.053	0.053	1261	1261	1428	714	1134	1896	1896	2171	1093	1687
	45	0.015	0.015	0.015	0.015	0.053	0.053	1419	1419	1607	803	1276	2133	2133	2443	1229	1897
	50	0.015	0.015	0.015	0.015	0.053	0.053	1577	1577	1786	893	1417	2370	2370	2714	1366	2108
	55	0.015	0.015	0.015	0.015	0.052	0.053	1721	1734	1964	982	1559	2586	2607	2985	1502	2319
	60	0.015	0.015	0.015	0.015	0.052	0.052	1853	1886	2143	1071	1701	2786	2835	3257	1639	2530
24	33	0.018	0.018	0.018	0.018	0.060	0.060	1179	1179	1339	743	1188	1772	1772	2036	1137	1767
	40	0.018	0.018	0.018	0.018	0.060	0.060	1429	1429	1623	901	1440	2148	2148	2468	1379	2142
	45	0.018	0.018	0.018	0.018	0.060	0.060	1608	1608	1826	1014	1620	2417	2417	2776	1551	2409
	50	0.018	0.018	0.018	0.018	0.060	0.060	1786	1786	2029	1126	1800	2685	2685	3084	1723	2677
	55	0.018	0.018	0.018	0.018	0.060	0.060	1965	1965	2232	1239	1980	2954	2954	3393	1896	2945
	60	0.018	0.018	0.018	0.018	0.060	0.060	2144	2144	2435	1352	2160	3222	3222	3701	2068	3212
23	33	0.020	0.020	0.020	0.020	0.067	0.067	1325	1325	1510	925	1487	1992	1992	2296	1416	2212
	40	0.020	0.020	0.020	0.020	0.067	0.067	1607	1607	1831	1122	1802	2415	2415	2783	1716	2681
	45	0.020	0.020	0.020	0.020	0.067	0.067	1807	1807	2060	1262	2027	2717	2717	3131	1931	3016
	50	0.020	0.020	0.020	0.020	0.067	0.067	2008	2008	2289	1402	2253	3018	3018	3479	2145	3351
	55	0.020	0.020	0.020	0.020	0.067	0.067	2209	2209	2517	1542	2478	3320	3320	3827	2360	3686
	60	0.020	0.020	0.020	0.020	0.067	0.067	2410	2410	2746	1682	2703	3622	3622	4174	2574	4021
22	33	0.022	0.022	0.022	0.022	0.073	0.073	1447	1447	1654	1091	1760	2175	2175	2513	1670	2619
	40	0.022	0.022	0.022	0.022	0.073	0.073	1754	1754	2004	1323	2134	2636	2636	3046	2024	3174
	45	0.022	0.022	0.022	0.022	0.073	0.073	1973	1973	2255	1488	2401	2966	2966	3427	2277	3571
	50	0.022	0.022	0.022	0.022	0.073	0.073	2192	2192	2505	1653	2667	3295	3295	3808	2530	3968
	55	0.022	0.022	0.022	0.022	0.073	0.073	2412	2412	2756	1819	2934	3625	3625	4189	2783	4365
	60	0.022	0.022	0.022	0.022	0.073	0.073	2631	2631	3006	1984	3201	3954	3954	4570	3036	4761
21	33	0.024	0.024	0.024	0.024	0.081	0.081	1604	1604	1840	1326	2149	2411	2411	2796	2029	3197
	40	0.024	0.024	0.024	0.024	0.081	0.081	1945	1945	2230	1608	2605	2923	2923	3390	2460	3875
	45	0.024	0.024	0.024	0.024	0.081	0.081	2188	2188	2509	1808	2931	3288	3288	3813	2767	4360
	50	0.024	0.024	0.024	0.024	0.081	0.081	2431	2431	2787	2009	3257	3654	3654	4237	3074	4844
	55	0.024	0.024	0.024	0.024	0.081	0.081	2674	2674	3066	2210	3582	4019	4019	4661	3382	5329
	60	0.024	0.024	0.024	0.024	0.081	0.081	2917	2917	3345	2411	3908	4384	4384	5084	3689	5813

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 2" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 10
FORM DECKS - TYPES 1.0FD, 1.0FDV

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
26	33	0.042	0.042	0.042	0.042	0.074	0.080	1467	1575	1136	257	456	2205	2367	1726	393	678
	40	0.042	0.042	0.042	0.042	0.072	0.076	1726	1812	1357	311	552	2594	2724	2063	476	822
	45	0.042	0.042	0.042	0.042	0.071	0.074	1906	2001	1440	350	621	2864	3007	2188	535	924
	50	0.042	0.042	0.042	0.042	0.070	0.073	2082	2186	1518	389	690	3130	3285	2307	595	1027
	55	0.042	0.042	0.042	0.041	0.069	0.072	2256	2368	1592	428	759	3391	3559	2419	654	1130
	60	0.042	0.042	0.041	0.041	0.068	0.071	2428	2547	1663	466	828	3650	3829	2527	714	1232
25	33	0.050	0.050	0.050	0.050	0.091	0.094	1792	1857	1325	342	612	2693	2791	2013	523	910
	40	0.050	0.050	0.050	0.050	0.088	0.093	2110	2234	1606	414	742	3172	3357	2440	633	1103
	45	0.050	0.050	0.050	0.050	0.087	0.093	2331	2501	1806	466	834	3504	3759	2745	713	1241
	50	0.050	0.050	0.049	0.049	0.085	0.089	2548	2676	2007	518	927	3830	4023	3050	792	1379
	55	0.049	0.049	0.049	0.049	0.084	0.088	2761	2900	2170	569	1020	4150	4358	3298	871	1517
	60	0.049	0.049	0.049	0.049	0.083	0.087	2972	3120	2267	621	1113	4466	4689	3445	950	1655
24	33	0.056	0.056	0.056	0.056	0.107	0.108	2111	2127	1507	434	782	3173	3197	2290	664	1163
	40	0.056	0.056	0.056	0.056	0.104	0.107	2492	2563	1826	526	948	3746	3852	2776	805	1410
	45	0.056	0.056	0.056	0.056	0.102	0.107	2756	2870	2054	592	1066	4143	4314	3123	905	1586
	50	0.056	0.056	0.056	0.056	0.101	0.106	3015	3176	2283	657	1185	4531	4773	3470	1006	1762
	55	0.056	0.056	0.056	0.056	0.099	0.106	3268	3480	2511	723	1303	4912	5230	3817	1106	1939
	60	0.056	0.056	0.056	0.056	0.098	0.105	3518	3782	2739	789	1422	5288	5684	4164	1207	2115
23	33	0.064	0.064	0.064	0.064	0.121	0.121	2397	2397	1701	543	984	3603	3603	2585	831	1464
	40	0.064	0.064	0.064	0.064	0.121	0.121	2906	2905	2062	658	1193	4367	4367	3134	1007	1774
	45	0.064	0.064	0.064	0.064	0.119	0.121	3219	3264	2319	740	1342	4837	4906	3525	1133	1996
	50	0.064	0.064	0.064	0.064	0.118	0.121	3524	3613	2577	823	1491	5297	5431	3917	1259	2218
	55	0.064	0.064	0.064	0.064	0.116	0.120	3824	3961	2835	905	1640	5748	5953	4309	1385	2440
	60	0.064	0.064	0.064	0.064	0.115	0.120	4119	4306	3092	987	1789	6191	6472	4700	1511	2661
22	33	0.070	0.070	0.070	0.070	0.133	0.133	2622	2622	1863	643	1169	3941	3941	2832	984	1739
	40	0.070	0.070	0.070	0.070	0.133	0.133	3178	3178	2258	779	1417	4777	4777	3433	1192	2108
	45	0.070	0.070	0.070	0.070	0.133	0.133	3575	3575	2541	877	1594	5374	5374	3862	1341	2372
	50	0.070	0.070	0.070	0.070	0.132	0.133	3956	3973	2823	974	1772	5945	5971	4291	1490	2635
	55	0.070	0.070	0.070	0.070	0.130	0.132	4296	4362	3105	1071	1949	6458	6556	4720	1639	2899
	60	0.070	0.070	0.070	0.070	0.129	0.132	4631	4744	3388	1169	2126	6960	7130	5149	1788	3162
21	33	0.078	0.078	0.078	0.078	0.147	0.147	2914	2914	2075	785	1433	4380	4380	3154	1201	2131
	40	0.078	0.078	0.078	0.078	0.147	0.147	3532	3532	2515	951	1737	5309	5309	3823	1455	2583
	45	0.078	0.078	0.078	0.078	0.147	0.147	3974	3974	2830	1070	1954	5973	5973	4301	1637	2906
	50	0.078	0.078	0.078	0.078	0.147	0.147	4416	4416	3144	1189	2171	6637	6637	4779	1819	3229
	55	0.078	0.078	0.078	0.078	0.147	0.147	4857	4857	3459	1308	2388	7300	7300	5257	2001	3552
	60	0.078	0.078	0.078	0.078	0.147	0.147	5299	5299	3773	1427	2605	7964	7964	5735	2183	3875
20	33	0.085	0.085	0.085	0.085	0.160	0.160	3162	3162	2255	915	1676	4753	4753	3428	1401	2493
	40	0.085	0.085	0.085	0.085	0.160	0.160	3833	3833	2734	1110	2032	5761	5761	4155	1698	3022
	45	0.085	0.085	0.085	0.085	0.160	0.160	4312	4312	3076	1248	2286	6481	6481	4675	1910	3400
	50	0.085	0.085	0.085	0.085	0.160	0.160	4791	4791	3417	1387	2540	7201	7201	5194	2122	3778
	55	0.085	0.085	0.085	0.085	0.160	0.160	5270	5270	3759	1526	2793	7921	7921	5714	2335	4155
	60	0.085	0.085	0.085	0.085	0.160	0.160	5749	5749	4101	1665	3047	8641	8641	6233	2547	4533
19	33	0.099	0.099	0.099	0.099	0.186	0.186	3670	3670	2627	1214	2233	5517	5517	3993	1858	3322
	40	0.099	0.099	0.099	0.099	0.186	0.186	4449	4449	3184	1472	2707	6687	6687	4840	2252	4027
	45	0.099	0.099	0.099	0.099	0.186	0.186	5005	5005	3582	1656	3046	7523	7523	5445	2534	4530
	50	0.099	0.099	0.099	0.099	0.186	0.186	5561	5561	3981	1840	3384	8358	8358	6050	2815	5034
	55	0.099	0.099	0.099	0.099	0.186	0.186	6117	6117	4379	2024	3722	9194	9194	6655	3097	5537
	60	0.099	0.099	0.099	0.099	0.186	0.186	6673	6673	4777	2208	4061	10030	10030	7260	3378	6041

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 11
FORM DECKS - TYPE 1.5FD

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_b 1 Span (in ⁴ /ft)	I_b 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{p}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.159	0.159	0.159	0.144	0.168	0.161	3310	3180	1514	455	819	4975	4780	2301	697	1218
	40	0.159	0.159	0.158	0.139	0.162	0.154	3889	3684	1835	552	992	5844	5537	2789	845	1476
	45	0.158	0.158	0.158	0.137	0.159	0.150	4290	4033	2064	621	1116	6448	6062	3137	950	1661
	50	0.158	0.158	0.157	0.134	0.156	0.146	4683	4375	2293	690	1241	7038	6576	3486	1056	1845
	55	0.157	0.157	0.156	0.131	0.154	0.143	5069	4712	2523	759	1365	7619	7082	3834	1161	2030
	60	0.156	0.156	0.155	0.128	0.152	0.140	5449	5043	2752	828	1489	8190	7580	4183	1267	2214
22	33	0.175	0.175	0.175	0.162	0.189	0.184	3734	3627	1657	539	974	5612	5451	2519	825	1449
	40	0.175	0.175	0.175	0.157	0.183	0.176	4391	4215	2009	654	1181	6599	6336	3053	1001	1756
	45	0.175	0.175	0.174	0.154	0.180	0.171	4846	4612	2260	736	1328	7284	6932	3435	1126	1976
	50	0.174	0.174	0.173	0.152	0.177	0.167	5292	5000	2511	817	1476	7954	7516	3816	1251	2195
	55	0.174	0.174	0.173	0.150	0.174	0.163	5730	5381	2762	899	1623	8612	8088	4198	1376	2415
	60	0.173	0.173	0.172	0.147	0.171	0.160	6160	5756	3013	981	1771	9259	8651	4580	1501	2634
21	33	0.196	0.196	0.196	0.185	0.217	0.207	4294	4089	1844	659	1195	6453	6145	2803	1008	1777
	40	0.195	0.195	0.195	0.181	0.211	0.205	5060	4899	2235	799	1448	7606	7363	3398	1222	2154
	45	0.195	0.195	0.195	0.178	0.207	0.201	5586	5411	2515	899	1629	8395	8133	3823	1375	2424
	50	0.195	0.195	0.195	0.175	0.204	0.196	6099	5863	2794	998	1810	9167	8811	4247	1528	2693
	55	0.195	0.195	0.194	0.173	0.200	0.191	6602	6305	3074	1098	1991	9922	9477	4672	1680	2962
	60	0.194	0.194	0.194	0.170	0.197	0.188	7096	6740	3353	1198	2172	10665	10130	5097	1833	3231
20	33	0.213	0.213	0.213	0.205	0.238	0.227	4712	4485	2003	769	1399	7083	6741	3045	1177	2081
	40	0.213	0.213	0.213	0.201	0.235	0.224	5624	5375	2428	932	1696	8454	8078	3691	1426	2523
	45	0.213	0.213	0.213	0.198	0.231	0.223	6216	6004	2732	1049	1908	9342	9023	4152	1605	2838
	50	0.212	0.212	0.212	0.195	0.227	0.221	6792	6628	3035	1165	2120	10208	9962	4614	1783	3153
	55	0.212	0.212	0.212	0.193	0.223	0.217	7355	7134	3339	1282	2332	11055	10723	5075	1961	3469
	60	0.212	0.212	0.211	0.190	0.220	0.212	7909	7623	3642	1398	2544	11887	11458	5536	2140	3784
19	33	0.248	0.248	0.248	0.246	0.279	0.269	5517	5307	2330	1021	1867	8292	7977	3542	1562	2777
	40	0.248	0.248	0.248	0.242	0.277	0.266	6645	6365	2825	1238	2263	9987	9566	4293	1894	3366
	45	0.248	0.248	0.248	0.240	0.276	0.264	7429	7112	3178	1392	2546	11166	10689	4830	2130	3787
	50	0.248	0.248	0.248	0.237	0.275	0.262	8227	7853	3531	1547	2829	12365	11803	5367	2367	4208
	55	0.248	0.248	0.248	0.235	0.271	0.261	8939	8589	3884	1702	3112	13435	12910	5903	2604	4629
	60	0.248	0.248	0.248	0.232	0.268	0.259	9626	9321	4237	1857	3395	14467	14009	6440	2841	5050
18	33	0.281	0.281	0.281	0.281	0.315	0.307	6233	6074	2633	1285	2358	9368	9130	4003	1966	3508
	40	0.281	0.281	0.281	0.279	0.315	0.304	7553	7291	3192	1557	2858	11352	10959	4852	2383	4252
	45	0.281	0.281	0.281	0.277	0.314	0.302	8466	8151	3591	1752	3216	12724	12251	5458	2681	4783
	50	0.281	0.281	0.281	0.275	0.312	0.301	9354	9003	3990	1947	3573	14059	13532	6065	2978	5315
	55	0.281	0.281	0.281	0.273	0.311	0.299	10239	9850	4389	2141	3930	15390	14804	6671	3276	5846
	60	0.281	0.281	0.281	0.271	0.310	0.298	11127	10690	4788	2336	4288	16724	16068	7277	3574	6378
17	33	0.319	0.319	0.319	0.319	0.357	0.352	7045	6947	2977	1619	2982	10588	10441	4525	2477	4436
	40	0.319	0.319	0.319	0.319	0.357	0.349	8539	8348	3608	1963	3615	12834	12547	5485	3003	5377
	45	0.319	0.319	0.319	0.319	0.356	0.347	9602	9337	4059	2208	4066	14432	14034	6170	3378	6049
	50	0.319	0.319	0.319	0.317	0.356	0.345	10652	10319	4511	2453	4518	16011	15509	6856	3754	6721
	55	0.319	0.319	0.319	0.316	0.354	0.343	11673	11293	4962	2699	4970	17545	16973	7542	4129	7393
	60	0.319	0.319	0.319	0.314	0.353	0.341	12677	12260	5413	2944	5422	19053	18427	8227	4504	8065
16	33	0.355	0.355	0.355	0.355	0.395	0.393	7800	7758	3297	1964	3627	11723	11660	5011	3005	5395
	40	0.355	0.355	0.355	0.355	0.395	0.390	9454	9332	3996	2381	4396	14210	14026	6074	3643	6539
	45	0.355	0.355	0.355	0.355	0.395	0.388	10636	10444	4495	2678	4946	15986	15698	6833	4098	7357
	50	0.355	0.355	0.355	0.355	0.394	0.386	11811	11548	4995	2976	5495	17752	17357	7592	4553	8174
	55	0.355	0.355	0.355	0.354	0.394	0.384	12973	12643	5494	3274	6045	19498	19003	8351	5008	8992
	60	0.355	0.355	0.355	0.353	0.393	0.382	14134	13731	5994	3571	6594	21243	20638	9110	5464	9809

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 12
FORM DECKS - TYPES 1.5FDR, 1.5FDV, 1.5FDI, 1.5FDIV

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_o 1 Span (in ⁴ /ft)	I_o 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.149	0.159	0.144	0.159	0.161	0.168	3180	3310	1514	455	819	4780	4975	2301	697	1218
	40	0.146	0.159	0.139	0.158	0.154	0.162	3684	3889	1835	552	992	5537	5844	2789	845	1476
	45	0.144	0.158	0.137	0.158	0.150	0.159	4033	4290	2064	621	1116	6062	6448	3137	950	1661
	50	0.143	0.158	0.134	0.157	0.146	0.156	4375	4683	2293	690	1241	6576	7038	3486	1056	1845
	55	0.141	0.157	0.131	0.156	0.143	0.154	4712	5069	2523	759	1365	7082	7619	3834	1161	2030
	60	0.139	0.156	0.128	0.155	0.140	0.152	5043	5449	2752	828	1489	7580	8190	4183	1267	2214
22	33	0.166	0.175	0.162	0.175	0.184	0.189	3627	3734	1657	539	974	5451	5612	2519	825	1449
	40	0.163	0.175	0.157	0.175	0.176	0.183	4215	4391	2009	654	1181	6336	6599	3053	1001	1756
	45	0.161	0.175	0.154	0.174	0.171	0.180	4612	4846	2260	736	1328	6932	7284	3435	1126	1976
	50	0.160	0.174	0.152	0.173	0.167	0.177	5000	5292	2511	817	1476	7516	7954	3816	1251	2195
	55	0.158	0.174	0.150	0.173	0.163	0.174	5381	5730	2762	899	1623	8088	8612	4198	1376	2415
	60	0.157	0.173	0.147	0.172	0.160	0.171	5756	6160	3013	981	1771	8651	9259	4580	1501	2634
21	33	0.189	0.196	0.185	0.196	0.207	0.217	4089	4294	1844	659	1195	6145	6453	2803	1008	1777
	40	0.186	0.195	0.181	0.195	0.205	0.211	4899	5060	2235	799	1448	7363	7606	3398	1222	2154
	45	0.184	0.195	0.178	0.195	0.201	0.207	5411	5586	2515	899	1629	8133	8395	3823	1375	2424
	50	0.182	0.195	0.175	0.195	0.196	0.204	5863	6099	2794	998	1810	8811	9167	4247	1528	2693
	55	0.180	0.195	0.173	0.194	0.191	0.200	6305	6602	3074	1098	1991	9477	9922	4672	1680	2962
	60	0.179	0.194	0.170	0.194	0.188	0.197	6740	7096	3353	1198	2172	10130	10665	5097	1833	3231
20	33	0.208	0.213	0.205	0.213	0.227	0.238	4485	4712	2003	769	1399	6741	7083	3045	1177	2081
	40	0.205	0.213	0.201	0.213	0.224	0.235	5375	5624	2428	932	1696	8078	8454	3691	1426	2523
	45	0.203	0.213	0.198	0.213	0.223	0.231	6004	6216	2732	1049	1908	9023	9342	4152	1605	2838
	50	0.201	0.212	0.195	0.212	0.221	0.227	6628	6792	3035	1165	2120	9962	10208	4614	1783	3153
	55	0.199	0.212	0.193	0.212	0.217	0.223	7134	7355	3339	1282	2332	10723	11055	5075	1961	3469
	60	0.198	0.212	0.190	0.211	0.212	0.220	7623	7909	3642	1398	2544	11458	11887	5536	2140	3784
19	33	0.246	0.248	0.246	0.248	0.269	0.279	5307	5517	2330	1021	1867	7977	8292	3542	1562	2777
	40	0.244	0.248	0.242	0.248	0.266	0.277	6365	6645	2825	1238	2263	9566	9987	4293	1894	3366
	45	0.243	0.248	0.240	0.248	0.264	0.276	7112	7429	3178	1392	2546	10689	11166	4830	2130	3787
	50	0.241	0.248	0.237	0.248	0.262	0.275	7853	8227	3531	1547	2829	11803	12365	5367	2367	4208
	55	0.239	0.248	0.235	0.248	0.261	0.271	8589	8939	3884	1702	3112	12910	13435	5903	2604	4629
	60	0.238	0.248	0.232	0.248	0.259	0.268	9321	9626	4237	1857	3395	14009	14467	6440	2841	5050
18	33	0.281	0.281	0.281	0.281	0.307	0.315	6074	6233	2633	1285	2358	9130	9368	4003	1966	3508
	40	0.280	0.281	0.279	0.281	0.304	0.315	7291	7553	3192	1557	2858	10959	11352	4852	2383	4252
	45	0.279	0.281	0.277	0.281	0.302	0.314	8151	8466	3591	1752	3216	12251	12724	5458	2681	4783
	50	0.277	0.281	0.275	0.281	0.301	0.312	9003	9354	3990	1947	3573	13532	14059	6065	2978	5315
	55	0.276	0.281	0.273	0.281	0.299	0.311	9850	10239	4389	2141	3930	14804	15390	6671	3276	5846
	60	0.274	0.281	0.271	0.281	0.298	0.310	10690	11127	4788	2336	4288	16068	16724	7277	3574	6378
17	33	0.319	0.319	0.319	0.319	0.352	0.357	6947	7045	2977	1619	2982	10441	10588	4525	2477	4436
	40	0.319	0.319	0.319	0.319	0.349	0.357	8348	8539	3608	1963	3615	12547	12834	5485	3003	5377
	45	0.319	0.319	0.319	0.319	0.347	0.356	9337	9602	4059	2208	4066	14034	14432	6170	3378	6049
	50	0.318	0.319	0.317	0.319	0.345	0.356	10319	10652	4511	2453	4518	15509	16011	6856	3754	6721
	55	0.317	0.319	0.316	0.319	0.343	0.354	11293	11673	4962	2699	4970	16973	17545	7542	4129	7393
	60	0.316	0.319	0.314	0.319	0.341	0.353	12260	12677	5413	2944	5422	18427	19053	8227	4504	8065
16	33	0.355	0.355	0.355	0.355	0.393	0.395	7758	7800	3297	1964	3627	11660	11723	5011	3005	5395
	40	0.355	0.355	0.355	0.355	0.390	0.395	9332	9454	3996	2381	4396	14026	14210	6074	3643	6539
	45	0.355	0.355	0.355	0.355	0.388	0.395	10444	10636	4495	2678	4946	15698	15986	6833	4098	7357
	50	0.355	0.355	0.355	0.355	0.386	0.394	11548	11811	4995	2976	5495	17357	17752	7592	4553	8174
	55	0.354	0.355	0.354	0.355	0.384	0.394	12643	12973	5494	3274	6045	19003	19498	8351	5008	8992
	60	0.354	0.355	0.353	0.355	0.382	0.393	13731	14134	5994	3571	6594	20638	21243	9110	5464	9809

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 13
FORM DECKS - TYPE 2.0FD, 2.0FDB, 2.0FD EXTENDED LEG

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.311	0.311	0.308	0.300	0.235	0.239	4641	4723	1113	223	429	6975	7099	1692	342	637
	40	0.307	0.307	0.303	0.294	0.224	0.229	5362	5476	1226	271	519	8059	8230	1863	414	773
	45	0.305	0.305	0.299	0.291	0.217	0.222	5857	5995	1300	304	584	8803	9011	1976	466	869
	50	0.302	0.302	0.296	0.287	0.212	0.217	6339	6501	1370	338	649	9527	9772	2083	517	966
	55	0.300	0.300	0.292	0.284	0.207	0.212	6808	6997	1437	372	714	10233	10516	2184	569	1062
	60	0.298	0.298	0.289	0.281	0.202	0.208	7268	7483	1501	406	779	10923	11247	2281	621	1159
22	33	0.343	0.343	0.342	0.334	0.269	0.273	5322	5400	1337	265	509	7998	8116	2033	405	757
	40	0.341	0.341	0.337	0.328	0.257	0.261	6153	6263	1474	321	617	9248	9413	2240	491	917
	45	0.338	0.338	0.334	0.325	0.249	0.254	6723	6857	1563	361	694	10105	10306	2376	553	1032
	50	0.336	0.336	0.331	0.321	0.243	0.248	7276	7436	1648	401	771	10936	11176	2505	614	1146
	55	0.334	0.334	0.327	0.318	0.237	0.243	7815	8001	1728	441	848	11746	12026	2627	675	1261
	60	0.332	0.332	0.324	0.315	0.232	0.238	8342	8556	1805	482	925	12538	12859	2744	737	1376
21	33	0.385	0.385	0.384	0.377	0.316	0.320	6247	6319	1490	324	622	9389	9497	2265	496	926
	40	0.383	0.383	0.382	0.373	0.302	0.306	7233	7336	1806	393	754	10871	11026	2745	601	1122
	45	0.382	0.382	0.379	0.370	0.293	0.298	7907	8034	1944	442	849	11885	12076	2956	676	1263
	50	0.380	0.380	0.376	0.366	0.286	0.291	8561	8714	2050	491	943	12867	13097	3115	751	1403
	55	0.378	0.378	0.373	0.363	0.279	0.285	9197	9377	2150	540	1037	13824	14094	3267	826	1543
	60	0.376	0.376	0.370	0.360	0.273	0.279	9818	10026	2245	589	1132	14757	15069	3413	901	1683
20	33	0.420	0.420	0.419	0.413	0.357	0.361	7061	7128	1620	379	727	10613	10713	2462	579	1082
	40	0.419	0.419	0.418	0.410	0.342	0.346	8189	8285	1963	459	882	12308	12452	2984	702	1312
	45	0.418	0.418	0.416	0.407	0.332	0.337	8958	9078	2209	516	992	13464	13645	3357	790	1475
	50	0.416	0.416	0.414	0.404	0.324	0.329	9704	9849	2427	574	1102	14585	14803	3689	878	1639
	55	0.415	0.415	0.412	0.401	0.317	0.322	10428	10601	2545	631	1212	15674	15933	3869	966	1803
	60	0.413	0.413	0.409	0.398	0.310	0.316	11135	11336	2659	688	1323	16736	17037	4041	1053	1967
19	33	0.490	0.490	0.489	0.488	0.445	0.448	8793	8846	1888	504	967	13217	13295	2869	770	1439
	40	0.490	0.490	0.489	0.485	0.428	0.431	10240	10322	2288	610	1173	15390	15514	3478	934	1744
	45	0.490	0.490	0.489	0.483	0.417	0.420	11225	11328	2574	687	1319	16871	17025	3913	1051	1962
	50	0.490	0.490	0.489	0.481	0.407	0.411	12177	12303	2860	763	1466	18302	18492	4347	1167	2180
	55	0.489	0.489	0.488	0.479	0.398	0.402	13101	13253	3146	839	1612	19691	19920	4782	1284	2398
	60	0.488	0.488	0.487	0.476	0.390	0.395	14001	14181	3432	915	1759	21043	21315	5217	1401	2616
18	33	0.555	0.556	0.554	0.555	0.518	0.517	10242	10220	2137	634	1218	15394	15361	3248	970	1812
	40	0.555	0.555	0.554	0.554	0.506	0.510	12108	12205	2590	769	1477	18199	18345	3937	1176	2197
	45	0.555	0.555	0.554	0.552	0.494	0.498	13300	13424	2914	865	1661	19990	20176	4429	1323	2471
	50	0.555	0.555	0.554	0.550	0.483	0.488	14451	14606	3238	961	1846	21719	21953	4921	1470	2746
	55	0.555	0.555	0.554	0.548	0.473	0.478	15566	15748	3562	1057	2031	23396	23669	5413	1617	3020
	60	0.555	0.555	0.554	0.547	0.463	0.469	16651	16862	3885	1153	2215	25026	25343	5906	1764	3295
17	33	0.630	0.631	0.629	0.630	0.587	0.587	11590	11596	2421	800	1536	17420	17429	3679	1224	2286
	40	0.630	0.631	0.629	0.630	0.587	0.586	14049	14028	2934	969	1862	21115	21084	4460	1483	2770
	45	0.630	0.631	0.629	0.630	0.574	0.583	15478	15704	3301	1091	2095	23263	23604	5017	1668	3117
	50	0.630	0.630	0.629	0.630	0.562	0.571	16839	17097	3668	1212	2328	25308	25696	5575	1854	3463
	55	0.630	0.630	0.629	0.628	0.551	0.560	18157	18448	4034	1333	2561	27290	27727	6132	2039	3809
	60	0.630	0.630	0.629	0.626	0.541	0.550	19438	19765	4401	1454	2794	29216	29707	6690	2225	4155
16	33	0.701	0.701	0.699	0.700	0.650	0.651	12847	12868	2686	970	1864	19309	19340	4082	1485	2773
	40	0.701	0.701	0.699	0.700	0.650	0.651	15572	15583	3255	1176	2260	23405	23421	4948	1800	3362
	45	0.701	0.701	0.699	0.700	0.650	0.650	17518	17510	3662	1323	2542	26330	26318	5566	2025	3782
	50	0.701	0.701	0.699	0.700	0.638	0.648	19105	19396	4069	1470	2825	28715	29152	6185	2250	4202
	55	0.701	0.701	0.699	0.700	0.626	0.637	20622	20967	4476	1617	3107	30994	31513	6803	2475	4622
	60	0.701	0.701	0.699	0.700	0.615	0.625	22095	22470	4883	1764	3390	33209	33772	7422	2699	5042

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 2" for end bearing and 4" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 14
FORM DECKS - TYPE 3.0FD, 3.0FD EXTENDED LEG

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.702	0.702	0.697	0.685	0.372	0.387	7350	7652	1073	233	471	11047	11501	1631	357	701
	40	0.695	0.695	0.686	0.673	0.356	0.372	8532	8913	1073	283	571	12824	13396	1631	432	849
	45	0.690	0.690	0.678	0.665	0.347	0.363	9347	9785	1073	318	642	14049	14707	1631	486	956
	50	0.685	0.685	0.671	0.658	0.335	0.355	10030	10639	1073	353	714	15076	15991	1631	540	1062
	55	0.680	0.680	0.664	0.651	0.322	0.347	10604	11421	1073	388	785	15938	17166	1631	594	1168
	60	0.676	0.676	0.657	0.645	0.311	0.335	11160	12045	1073	424	857	16774	18104	1631	648	1274
22	33	0.776	0.776	0.773	0.761	0.425	0.441	8395	8714	1374	277	559	12618	13097	2088	424	831
	40	0.770	0.770	0.764	0.750	0.407	0.424	9749	10151	1416	336	677	14653	15257	2152	514	1007
	45	0.765	0.765	0.756	0.743	0.396	0.414	10681	11144	1416	378	762	16054	16750	2152	578	1133
	50	0.760	0.760	0.749	0.735	0.387	0.405	11590	12115	1416	420	847	17419	18209	2152	643	1259
	55	0.756	0.756	0.743	0.729	0.379	0.397	12478	13067	1416	462	931	18755	19640	2152	707	1385
	60	0.751	0.751	0.736	0.722	0.368	0.390	13213	14002	1416	504	1016	19859	21045	2152	771	1511
21	33	0.870	0.870	0.869	0.859	0.497	0.514	9813	10152	1709	340	683	14749	15258	2597	520	1016
	40	0.866	0.866	0.863	0.850	0.476	0.494	11407	11834	1881	412	828	17144	17787	2859	631	1232
	45	0.862	0.862	0.857	0.843	0.464	0.482	12502	12995	1965	464	932	18790	19532	2987	709	1386
	50	0.858	0.858	0.851	0.836	0.453	0.472	13568	14128	1965	515	1035	20393	21235	2987	788	1540
	55	0.854	0.854	0.845	0.830	0.444	0.463	14609	15237	1965	567	1139	21957	22902	2987	867	1694
	60	0.850	0.850	0.839	0.823	0.435	0.454	15628	16326	1965	618	1242	23489	24538	2987	946	1848
20	33	0.947	0.947	0.946	0.940	0.560	0.577	11058	11411	2023	398	798	16621	17150	3075	609	1187
	40	0.946	0.946	0.945	0.934	0.537	0.556	12871	13319	2227	482	967	19344	20019	3385	738	1438
	45	0.944	0.944	0.941	0.928	0.524	0.543	14114	14631	2362	543	1088	21213	21991	3591	830	1618
	50	0.940	0.940	0.936	0.922	0.512	0.531	15323	15910	2490	603	1209	23030	23913	3785	923	1798
	55	0.937	0.937	0.931	0.915	0.501	0.521	16502	17161	2534	663	1330	24802	25794	3851	1015	1978
	60	0.933	0.933	0.925	0.909	0.491	0.512	17655	18388	2534	724	1450	26536	27637	3851	1107	2158
19	33	1.105	1.106	1.104	1.105	0.694	0.708	13705	13985	2758	531	1059	20599	21020	4192	812	1576
	40	1.105	1.105	1.104	1.101	0.668	0.688	16008	16476	3036	643	1284	24060	24763	4615	984	1910
	45	1.105	1.105	1.104	1.097	0.653	0.673	17584	18126	3221	724	1445	26429	27244	4895	1107	2149
	50	1.105	1.105	1.104	1.094	0.638	0.659	19113	19727	3395	804	1605	28726	29649	5160	1230	2387
	55	1.104	1.104	1.103	1.090	0.626	0.646	20601	21277	3561	884	1766	30963	31979	5412	1353	2626
	60	1.102	1.102	1.100	1.085	0.614	0.634	22055	22781	3719	965	1926	33148	34240	5653	1476	2865
18	33	1.253	1.253	1.252	1.253	0.806	0.805	15928	15908	3214	669	1333	23940	23910	4885	1024	1982
	40	1.253	1.253	1.252	1.253	0.794	0.802	19016	19213	3895	811	1615	28582	28876	5921	1242	2403
	45	1.253	1.253	1.252	1.252	0.777	0.793	20934	21371	4141	913	1817	31463	32121	6295	1397	2703
	50	1.253	1.253	1.252	1.250	0.761	0.777	22791	23277	4365	1014	2019	34255	34986	6635	1552	3003
	55	1.253	1.253	1.252	1.245	0.747	0.763	24596	25136	4578	1116	2221	36968	37779	6959	1707	3304
	60	1.253	1.253	1.252	1.241	0.734	0.750	26357	26939	4782	1217	2423	39615	40489	7269	1862	3604
17	33	1.422	1.422	1.421	1.421	0.913	0.913	18036	18047	3642	845	1678	27107	27125	5537	1294	2496
	40	1.422	1.422	1.421	1.421	0.913	0.912	21861	21835	4415	1025	2034	32857	32817	6711	1568	3026
	45	1.422	1.422	1.421	1.421	0.913	0.910	24594	24526	4967	1153	2289	36965	36862	7550	1764	3404
	50	1.422	1.422	1.421	1.421	0.905	0.908	27082	27194	5519	1281	2543	40705	40872	8389	1960	3782
	55	1.422	1.422	1.421	1.421	0.889	0.899	29284	29616	5898	1409	2797	44013	44513	8965	2156	4161
	60	1.422	1.422	1.421	1.419	0.875	0.885	31427	31791	6161	1537	3051	47235	47781	9364	2352	4539
16	33	1.580	1.580	1.579	1.579	1.012	1.013	20002	20015	4043	1027	2034	30063	30083	6146	1571	3026
	40	1.580	1.580	1.579	1.579	1.012	1.013	24245	24264	4901	1245	2466	36440	36469	7449	1905	3668
	45	1.580	1.580	1.579	1.579	1.012	1.012	27276	27259	5513	1400	2774	40995	40970	8380	2143	4126
	50	1.580	1.580	1.579	1.579	1.012	1.010	30306	30237	6126	1556	3082	45550	45446	9312	2381	4584
	55	1.580	1.580	1.579	1.579	1.012	1.009	33337	33217	6739	1712	3390	50106	49926	10243	2619	5043
	60	1.580	1.580	1.579	1.579	0.997	1.006	35833	36128	7351	1867	3698	53858	54300	11174	2857	5501

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 2 1/2" for end bearing and 5" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 15
COMPOSITE DECK GENERAL PROPERTIES

Type	Gage	w _{dd} (psf)	A _s (in ² /ft)	I _g (in ⁴ /ft)	ȳ _d (in)	K	Geometry						Geometry for Warping Calc ⁴		
							D _d (in)	d (in)	W _r (in)	h (in)	Θ (deg)	R (in)	e (in)	f (in)	w (in)
1.5CD 1.5CDI	23	1.49	0.437	0.160	0.868	1.00	1.45	6	2.10	1.19	72.5	0.207	0.821	3.446	1.515
	22	1.63	0.480	0.175						1.19					
	21	1.82	0.535	0.196						1.19					
	20	1.98	0.582	0.213						1.19					
	19	2.31	0.679	0.248						1.18					
	18	2.62	0.770	0.281						1.18					
	17	2.97	0.874	0.319						1.17					
	16	3.30	0.971	0.355						1.17					
1.5CDR	23	1.49	0.437	0.160	0.577	1.00	1.45	6	3.90	1.19	72.5	0.207	1.723	1.643	1.515
	22	1.63	0.480	0.175						1.19					
	21	1.82	0.535	0.196						1.19					
	20	1.98	0.582	0.213						1.19					
	19	2.31	0.679	0.248						1.18					
	18	2.62	0.770	0.281						1.18					
	17	2.97	0.874	0.319						1.17					
	16	3.30	0.971	0.355						1.17					
2.0CD 2.0CDB 2.0CD Extended Leg	23	1.43	0.420	0.316	1.014	1.00	2.06	12	6.00	2.04	64.1	0.188	2.500	5.000	2.290
	22	1.57	0.461	0.347						1.00					
	21	1.75	0.514	0.387						1.00					
	20	1.90	0.559	0.421						1.00					
	19	2.22	0.652	0.491						1.00					
	18	2.52	0.740	0.557						1.00					
	17	2.86	0.839	0.632						0.99					
	16	3.17	0.932	0.703						0.91					
3.0CD 3.0CD Extended Leg	23	1.56	0.458	0.713	1.470	1.00	3.00	12	6.00	2.98	67.4	0.188	2.375	4.750	3.250
	22	1.71	0.502	0.782						1.00					
	21	1.90	0.560	0.872						1.00					
	20	2.07	0.609	0.948						1.00					
	19	2.42	0.711	1.107						1.00					
	18	2.74	0.805	1.255						1.00					
	17	3.11	0.914	1.424						1.00					
	16	3.45	1.015	1.582						1.00					

Notes:

1. See Table A for profile configuration and cover width of deck types listed.
2. See Table F for design thickness t, of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. s = Developed flute width per width d = 2 (e + w) + f. See AISI S310, Section D2, for diagram of e, f and w.

TABLE 16
COMPOSITE DECKS - TYPES 1.5CD, 1.5CDI

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.149	0.159	0.144	0.159	0.161	0.168	3180	3310	1514	455	819	4780	4975	2301	697	1218
	40	0.146	0.159	0.139	0.158	0.154	0.162	3684	3889	1835	552	992	5537	5844	2789	845	1476
	45	0.144	0.158	0.137	0.158	0.150	0.159	4033	4290	2064	621	1116	6062	6448	3137	950	1661
	50	0.143	0.158	0.134	0.157	0.146	0.156	4375	4683	2293	690	1241	6576	7038	3486	1056	1845
	55	0.141	0.157	0.131	0.156	0.143	0.154	4712	5069	2523	759	1365	7082	7619	3834	1161	2030
	60	0.139	0.156	0.128	0.155	0.140	0.152	5043	5449	2752	828	1489	7580	8190	4183	1267	2214
22	33	0.166	0.175	0.162	0.175	0.184	0.189	3627	3734	1657	539	974	5451	5612	2519	825	1449
	40	0.163	0.175	0.157	0.175	0.176	0.183	4215	4391	2009	654	1181	6336	6599	3053	1001	1756
	45	0.161	0.175	0.154	0.174	0.171	0.180	4612	4846	2260	736	1328	6932	7284	3435	1126	1976
	50	0.160	0.174	0.152	0.173	0.167	0.177	5000	5292	2511	817	1476	7516	7954	3816	1251	2195
	55	0.158	0.174	0.150	0.173	0.163	0.174	5381	5730	2762	899	1623	8088	8612	4198	1376	2415
	60	0.157	0.173	0.147	0.172	0.160	0.171	5756	6160	3013	981	1771	8651	9259	4580	1501	2634
21	33	0.189	0.196	0.185	0.196	0.207	0.217	4089	4294	1844	659	1195	6145	6453	2803	1008	1777
	40	0.186	0.195	0.181	0.195	0.205	0.211	4899	5060	2235	799	1448	7363	7606	3398	1222	2154
	45	0.184	0.195	0.178	0.195	0.201	0.207	5411	5586	2515	899	1629	8133	8395	3823	1375	2424
	50	0.182	0.195	0.175	0.195	0.196	0.204	5863	6099	2794	998	1810	8811	9167	4247	1528	2693
	55	0.180	0.195	0.173	0.194	0.191	0.200	6305	6602	3074	1098	1991	9477	9922	4672	1680	2962
	60	0.179	0.194	0.170	0.194	0.188	0.197	6740	7096	3353	1198	2172	10130	10665	5097	1833	3231
20	33	0.208	0.213	0.205	0.213	0.227	0.238	4485	4712	2003	769	1399	6741	7083	3045	1177	2081
	40	0.205	0.213	0.201	0.213	0.224	0.235	5375	5624	2428	932	1696	8078	8454	3691	1426	2523
	45	0.203	0.213	0.198	0.213	0.223	0.231	6004	6216	2732	1049	1908	9023	9342	4152	1605	2838
	50	0.201	0.212	0.195	0.212	0.221	0.227	6628	6792	3035	1165	2120	9962	10208	4614	1783	3153
	55	0.199	0.212	0.193	0.212	0.217	0.223	7134	7355	3339	1282	2332	10723	11055	5075	1961	3469
	60	0.198	0.212	0.190	0.211	0.212	0.220	7623	7909	3642	1398	2544	11458	11887	5536	2140	3784
19	33	0.246	0.248	0.246	0.248	0.269	0.279	5307	5517	2330	1021	1867	7977	8292	3542	1562	2777
	40	0.244	0.248	0.242	0.248	0.266	0.277	6365	6645	2825	1238	2263	9566	9987	4293	1894	3366
	45	0.243	0.248	0.240	0.248	0.264	0.276	7112	7429	3178	1392	2546	10689	11166	4830	2130	3787
	50	0.241	0.248	0.237	0.248	0.262	0.275	7853	8227	3531	1547	2829	11803	12365	5367	2367	4208
	55	0.239	0.248	0.235	0.248	0.261	0.271	8589	8939	3884	1702	3112	12910	13435	5903	2604	4629
	60	0.238	0.248	0.232	0.248	0.259	0.268	9321	9626	4237	1857	3395	14009	14467	6440	2841	5050
18	33	0.281	0.281	0.281	0.281	0.307	0.315	6074	6233	2633	1285	2358	9130	9368	4003	1966	3508
	40	0.280	0.281	0.279	0.281	0.304	0.315	7291	7553	3192	1557	2858	10959	11352	4852	2383	4252
	45	0.279	0.281	0.277	0.281	0.302	0.314	8151	8466	3591	1752	3216	12251	12724	5458	2681	4783
	50	0.277	0.281	0.275	0.281	0.301	0.312	9003	9354	3990	1947	3573	13532	14059	6065	2978	5315
	55	0.276	0.281	0.273	0.281	0.299	0.311	9850	10239	4389	2141	3930	14804	15390	6671	3276	5846
	60	0.274	0.281	0.271	0.281	0.298	0.310	10690	11127	4788	2336	4288	16068	16724	7277	3574	6378
17	33	0.319	0.319	0.319	0.319	0.352	0.357	6947	7045	2977	1619	2982	10441	10588	4525	2477	4436
	40	0.319	0.319	0.319	0.319	0.349	0.357	8348	8539	3608	1963	3615	12547	12834	5485	3003	5377
	45	0.319	0.319	0.319	0.319	0.347	0.356	9337	9602	4059	2208	4066	14034	14432	6170	3378	6049
	50	0.318	0.319	0.317	0.319	0.345	0.356	10319	10652	4511	2453	4518	15509	16011	6856	3754	6721
	55	0.317	0.319	0.316	0.319	0.343	0.354	11293	11673	4962	2699	4970	16973	17545	7542	4129	7393
	60	0.316	0.319	0.314	0.319	0.341	0.353	12260	12677	5413	2944	5422	18427	19053	8227	4504	8065
16	33	0.355	0.355	0.355	0.355	0.393	0.395	7758	7800	3297	1964	3627	11660	11723	5011	3005	5395
	40	0.355	0.355	0.355	0.355	0.390	0.395	9332	9454	3996	2381	4396	14026	14210	6074	3643	6539
	45	0.355	0.355	0.355	0.355	0.388	0.395	10444	10636	4495	2678	4946	15698	15986	6833	4098	7357
	50	0.355	0.355	0.355	0.355	0.386	0.394	11548	11811	4995	2976	5495	17357	17752	7592	4553	8174
	55	0.354	0.355	0.354	0.355	0.384	0.394	12643	12973	5494	3274	6045	19003	19498	8351	5008	8992
	60	0.354	0.355	0.353	0.355	0.382	0.393	13731	14134	5994	3571	6594	20638	21243	9110	5464	9809

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 17
COMPOSITE DECKS - TYPE 1.5CDR

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.159	0.159	0.159	0.144	0.168	0.161	3310	3180	1514	455	819	4975	4780	2301	697	1218
	40	0.159	0.159	0.158	0.139	0.162	0.154	3889	3684	1835	552	992	5844	5537	2789	845	1476
	45	0.158	0.158	0.158	0.137	0.159	0.150	4290	4033	2064	621	1116	6448	6062	3137	950	1661
	50	0.158	0.158	0.157	0.134	0.156	0.146	4683	4375	2293	690	1241	7038	6576	3486	1056	1845
	55	0.157	0.157	0.156	0.131	0.154	0.143	5069	4712	2523	759	1365	7619	7082	3834	1161	2030
	60	0.156	0.156	0.155	0.128	0.152	0.140	5449	5043	2752	828	1489	8190	7580	4183	1267	2214
22	33	0.175	0.175	0.175	0.162	0.189	0.184	3734	3627	1657	539	974	5612	5451	2519	825	1449
	40	0.175	0.175	0.175	0.157	0.183	0.176	4391	4215	2009	654	1181	6599	6336	3053	1001	1756
	45	0.175	0.175	0.174	0.154	0.180	0.171	4846	4612	2260	736	1328	7284	6932	3435	1126	1976
	50	0.174	0.174	0.173	0.152	0.177	0.167	5292	5000	2511	817	1476	7954	7516	3816	1251	2195
	55	0.174	0.174	0.173	0.150	0.174	0.163	5730	5381	2762	899	1623	8612	8088	4198	1376	2415
	60	0.173	0.173	0.172	0.147	0.171	0.160	6160	5756	3013	981	1771	9259	8651	4580	1501	2634
21	33	0.196	0.196	0.196	0.185	0.217	0.207	4294	4089	1844	659	1195	6453	6145	2803	1008	1777
	40	0.195	0.195	0.195	0.181	0.211	0.205	5060	4899	2235	799	1448	7606	7363	3398	1222	2154
	45	0.195	0.195	0.195	0.178	0.207	0.201	5586	5411	2515	899	1629	8395	8133	3823	1375	2424
	50	0.195	0.195	0.195	0.175	0.204	0.196	6099	5863	2794	998	1810	9167	8811	4247	1528	2693
	55	0.195	0.195	0.194	0.173	0.200	0.191	6602	6305	3074	1098	1991	9922	9477	4672	1680	2962
	60	0.194	0.194	0.194	0.170	0.197	0.188	7096	6740	3353	1198	2172	10665	10130	5097	1833	3231
20	33	0.213	0.213	0.213	0.205	0.238	0.227	4712	4485	2003	769	1399	7083	6741	3045	1177	2081
	40	0.213	0.213	0.213	0.201	0.235	0.224	5624	5375	2428	932	1696	8454	8078	3691	1426	2523
	45	0.213	0.213	0.213	0.198	0.231	0.223	6216	6004	2732	1049	1908	9342	9023	4152	1605	2838
	50	0.212	0.212	0.212	0.195	0.227	0.221	6792	6628	3035	1165	2120	10208	9962	4614	1783	3153
	55	0.212	0.212	0.212	0.193	0.223	0.217	7355	7134	3339	1282	2332	11055	10723	5075	1961	3469
	60	0.212	0.212	0.211	0.190	0.220	0.212	7909	7623	3642	1398	2544	11887	11458	5536	2140	3784
19	33	0.248	0.248	0.248	0.246	0.279	0.269	5517	5307	2330	1021	1867	8292	7977	3542	1562	2777
	40	0.248	0.248	0.248	0.242	0.277	0.266	6645	6365	2825	1238	2263	9987	9566	4293	1894	3366
	45	0.248	0.248	0.248	0.240	0.276	0.264	7429	7112	3178	1392	2546	11166	10689	4830	2130	3787
	50	0.248	0.248	0.248	0.237	0.275	0.262	8227	7853	3531	1547	2829	12365	11803	5367	2367	4208
	55	0.248	0.248	0.248	0.235	0.271	0.261	8939	8589	3884	1702	3112	13435	12910	5903	2604	4629
	60	0.248	0.248	0.248	0.232	0.268	0.259	9626	9321	4237	1857	3395	14467	14009	6440	2841	5050
18	33	0.281	0.281	0.281	0.281	0.315	0.307	6233	6074	2633	1285	2358	9368	9130	4003	1966	3508
	40	0.281	0.281	0.281	0.279	0.315	0.304	7553	7291	3192	1557	2858	11352	10959	4852	2383	4252
	45	0.281	0.281	0.281	0.277	0.314	0.302	8466	8151	3591	1752	3216	12724	12251	5458	2681	4783
	50	0.281	0.281	0.281	0.275	0.312	0.301	9354	9003	3990	1947	3573	14059	13532	6065	2978	5315
	55	0.281	0.281	0.281	0.273	0.311	0.299	10239	9850	4389	2141	3930	15390	14804	6671	3276	5846
	60	0.281	0.281	0.281	0.271	0.310	0.298	11127	10690	4788	2336	4288	16724	16068	7277	3574	6378
17	33	0.319	0.319	0.319	0.319	0.357	0.352	7045	6947	2977	1619	2982	10588	10441	4525	2477	4436
	40	0.319	0.319	0.319	0.319	0.357	0.349	8539	8348	3608	1963	3615	12834	12547	5485	3003	5377
	45	0.319	0.319	0.319	0.319	0.356	0.347	9602	9337	4059	2208	4066	14432	14034	6170	3378	6049
	50	0.319	0.319	0.319	0.317	0.356	0.345	10652	10319	4511	2453	4518	16011	15509	6856	3754	6721
	55	0.319	0.319	0.319	0.316	0.354	0.343	11673	11293	4962	2699	4970	17545	16973	7542	4129	7393
	60	0.319	0.319	0.319	0.314	0.353	0.341	12677	12260	5413	2944	5422	19053	18427	8227	4504	8065
16	33	0.355	0.355	0.355	0.355	0.395	0.393	7800	7758	3297	1964	3627	11723	11660	5011	3005	5395
	40	0.355	0.355	0.355	0.355	0.395	0.390	9454	9332	3996	2381	4396	14210	14026	6074	3643	6539
	45	0.355	0.355	0.355	0.355	0.395	0.388	10636	10444	4495	2678	4946	15986	15698	6833	4098	7357
	50	0.355	0.355	0.355	0.355	0.394	0.386	11811	11548	4995	2976	5495	17752	17357	7592	4553	8174
	55	0.355	0.355	0.355	0.354	0.394	0.384	12973	12643	5494	3274	6045	19498	19003	8351	5008	8992
	60	0.355	0.355	0.355	0.353	0.393	0.382	14134	13731	5994	3571	6594	21243	20638	9110	5464	9809

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 18
COMPOSITE DECKS - TYPE 2.0CD, 2.0CDB, 2.0CD EXTENDED LEG

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_D 1 Span (in ⁴ /ft)	I_D 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.311	0.311	0.308	0.300	0.235	0.239	4641	4723	1113	223	429	6975	7099	1692	342	637
	40	0.307	0.307	0.303	0.294	0.224	0.229	5362	5476	1226	271	519	8059	8230	1863	414	773
	45	0.305	0.305	0.299	0.291	0.217	0.222	5857	5995	1300	304	584	8803	9011	1976	466	869
	50	0.302	0.302	0.296	0.287	0.212	0.217	6339	6501	1370	338	649	9527	9772	2083	517	966
	55	0.300	0.300	0.292	0.284	0.207	0.212	6808	6997	1437	372	714	10233	10516	2184	569	1062
	60	0.298	0.298	0.289	0.281	0.202	0.208	7268	7483	1501	406	779	10923	11247	2281	621	1159
22	33	0.343	0.343	0.342	0.334	0.269	0.273	5322	5400	1337	265	509	7998	8116	2033	405	757
	40	0.341	0.341	0.337	0.328	0.257	0.261	6153	6263	1474	321	617	9248	9413	2240	491	917
	45	0.338	0.338	0.334	0.325	0.249	0.254	6723	6857	1563	361	694	10105	10306	2376	553	1032
	50	0.336	0.336	0.331	0.321	0.243	0.248	7276	7436	1648	401	771	10936	11176	2505	614	1146
	55	0.334	0.334	0.327	0.318	0.237	0.243	7815	8001	1728	441	848	11746	12026	2627	675	1261
	60	0.332	0.332	0.324	0.315	0.232	0.238	8342	8556	1805	482	925	12538	12859	2744	737	1376
21	33	0.385	0.385	0.384	0.377	0.316	0.320	6247	6319	1490	324	622	9389	9497	2265	496	926
	40	0.383	0.383	0.382	0.373	0.302	0.306	7233	7336	1806	393	754	10871	11026	2745	601	1122
	45	0.382	0.382	0.379	0.370	0.293	0.298	7907	8034	1944	442	849	11885	12076	2956	676	1263
	50	0.380	0.380	0.376	0.366	0.286	0.291	8561	8714	2050	491	943	12867	13097	3115	751	1403
	55	0.378	0.378	0.373	0.363	0.279	0.285	9197	9377	2150	540	1037	13824	14094	3267	826	1543
	60	0.376	0.376	0.370	0.360	0.273	0.279	9818	10026	2245	589	1132	14757	15069	3413	901	1683
20	33	0.420	0.420	0.419	0.413	0.357	0.361	7061	7128	1620	379	727	10613	10713	2462	579	1082
	40	0.419	0.419	0.418	0.410	0.342	0.346	8189	8285	1963	459	882	12308	12452	2984	702	1312
	45	0.418	0.418	0.416	0.407	0.332	0.337	8958	9078	2209	516	992	13464	13645	3357	790	1475
	50	0.416	0.416	0.414	0.404	0.324	0.329	9704	9849	2427	574	1102	14585	14803	3689	878	1639
	55	0.415	0.415	0.412	0.401	0.317	0.322	10428	10601	2545	631	1212	15674	15933	3869	966	1803
	60	0.413	0.413	0.409	0.398	0.310	0.316	11135	11336	2659	688	1323	16736	17037	4041	1053	1967
19	33	0.490	0.490	0.489	0.488	0.445	0.448	8793	8846	1888	504	967	13217	13295	2869	770	1439
	40	0.490	0.490	0.489	0.485	0.428	0.431	10240	10322	2288	610	1173	15390	15514	3478	934	1744
	45	0.490	0.490	0.489	0.483	0.417	0.420	11225	11328	2574	687	1319	16871	17025	3913	1051	1962
	50	0.490	0.490	0.489	0.481	0.407	0.411	12177	12303	2860	763	1466	18302	18492	4347	1167	2180
	55	0.489	0.489	0.488	0.479	0.398	0.402	13101	13253	3146	839	1612	19691	19920	4782	1284	2398
	60	0.488	0.488	0.487	0.476	0.390	0.395	14001	14181	3432	915	1759	21043	21315	5217	1401	2616
18	33	0.555	0.556	0.554	0.555	0.518	0.517	10242	10220	2137	634	1218	15394	15361	3248	970	1812
	40	0.555	0.555	0.554	0.554	0.506	0.510	12108	12205	2590	769	1477	18199	18345	3937	1176	2197
	45	0.555	0.555	0.554	0.552	0.494	0.498	13300	13424	2914	865	1661	19990	20176	4429	1323	2471
	50	0.555	0.555	0.554	0.550	0.483	0.488	14451	14606	3238	961	1846	21719	21953	4921	1470	2746
	55	0.555	0.555	0.554	0.548	0.473	0.478	15566	15748	3562	1057	2031	23396	23669	5413	1617	3020
	60	0.555	0.555	0.554	0.547	0.463	0.469	16651	16862	3885	1153	2215	25026	25343	5906	1764	3295
17	33	0.630	0.631	0.629	0.630	0.587	0.587	11590	11596	2421	800	1536	17420	17429	3679	1224	2286
	40	0.630	0.631	0.629	0.630	0.587	0.586	14049	14028	2934	969	1862	21115	21084	4460	1483	2770
	45	0.630	0.631	0.629	0.630	0.574	0.583	15478	15704	3301	1091	2095	23263	23604	5017	1668	3117
	50	0.630	0.630	0.629	0.630	0.562	0.571	16839	17097	3668	1212	2328	25308	25696	5575	1854	3463
	55	0.630	0.630	0.629	0.628	0.551	0.560	18157	18448	4034	1333	2561	27290	27727	6132	2039	3809
	60	0.630	0.630	0.629	0.626	0.541	0.550	19438	19765	4401	1454	2794	29216	29707	6690	2225	4155
16	33	0.701	0.701	0.699	0.700	0.650	0.651	12847	12868	2686	970	1864	19309	19340	4082	1485	2773
	40	0.701	0.701	0.699	0.700	0.650	0.651	15572	15583	3255	1176	2260	23405	23421	4948	1800	3362
	45	0.701	0.701	0.699	0.700	0.650	0.650	17518	17510	3662	1323	2542	26330	26318	5566	2025	3782
	50	0.701	0.701	0.699	0.700	0.638	0.648	19105	19396	4069	1470	2825	28715	29152	6185	2250	4202
	55	0.701	0.701	0.699	0.700	0.626	0.637	20622	20967	4476	1617	3107	30994	31513	6803	2475	4622
	60	0.701	0.701	0.699	0.700	0.615	0.625	22095	22470	4883	1764	3390	33209	33772	7422	2699	5042

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 2" for end bearing and 4" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

TABLE 19
COMPOSITE DECKS - TYPE 3.0CD, 3.0CD EXTENDED LEG

Gage	Design f_y (ksi)	Effective Section Properties						ASD Design Strengths (No Fill)					LRFD Design Strengths (No Fill)				
		I_o 1 Span (in ⁴ /ft)	I_o 2+ Span (in ⁴ /ft)	I_p (in ⁴ /ft)	I_n (in ⁴ /ft)	S_p (in ³ /ft)	S_n (in ³ /ft)	$M_{n,p}/\Omega$ (in-lb/ft)	$M_{n,n}/\Omega$ (in-lb/ft)	V_n/Ω (lb/ft)	R_{be}/Ω (lb/ft)	R_{bi}/Ω (lb/ft)	$\Phi M_{n,p}$ (in-lb/ft)	$\Phi M_{n,n}$ (in-lb/ft)	ΦV_n (lb/ft)	ΦR_{be} (lb/ft)	ΦR_{bi} (lb/ft)
23	33	0.702	0.702	0.697	0.685	0.372	0.387	7350	7652	1073	233	471	11047	11501	1631	357	701
	40	0.695	0.695	0.686	0.673	0.356	0.372	8532	8913	1073	283	571	12824	13396	1631	432	849
	45	0.690	0.690	0.678	0.665	0.347	0.363	9347	9785	1073	318	642	14049	14707	1631	486	956
	50	0.685	0.685	0.671	0.658	0.335	0.355	10030	10639	1073	353	714	15076	15991	1631	540	1062
	55	0.680	0.680	0.664	0.651	0.322	0.347	10604	11421	1073	388	785	15938	17166	1631	594	1168
	60	0.676	0.676	0.657	0.645	0.311	0.335	11160	12045	1073	424	857	16774	18104	1631	648	1274
22	33	0.776	0.776	0.773	0.761	0.425	0.441	8395	8714	1374	277	559	12618	13097	2088	424	831
	40	0.770	0.770	0.764	0.750	0.407	0.424	9749	10151	1416	336	677	14653	15257	2152	514	1007
	45	0.765	0.765	0.756	0.743	0.396	0.414	10681	11144	1416	378	762	16054	16750	2152	578	1133
	50	0.760	0.760	0.749	0.735	0.387	0.405	11590	12115	1416	420	847	17419	18209	2152	643	1259
	55	0.756	0.756	0.743	0.729	0.379	0.397	12478	13067	1416	462	931	18755	19640	2152	707	1385
	60	0.751	0.751	0.736	0.722	0.368	0.390	13213	14002	1416	504	1016	19859	21045	2152	771	1511
21	33	0.870	0.870	0.869	0.859	0.497	0.514	9813	10152	1709	340	683	14749	15258	2597	520	1016
	40	0.866	0.866	0.863	0.850	0.476	0.494	11407	11834	1881	412	828	17144	17787	2859	631	1232
	45	0.862	0.862	0.857	0.843	0.464	0.482	12502	12995	1965	464	932	18790	19532	2987	709	1386
	50	0.858	0.858	0.851	0.836	0.453	0.472	13568	14128	1965	515	1035	20393	21235	2987	788	1540
	55	0.854	0.854	0.845	0.830	0.444	0.463	14609	15237	1965	567	1139	21957	22902	2987	867	1694
	60	0.850	0.850	0.839	0.823	0.435	0.454	15628	16326	1965	618	1242	23489	24538	2987	946	1848
20	33	0.947	0.947	0.946	0.940	0.560	0.577	11058	11411	2023	398	798	16621	17150	3075	609	1187
	40	0.946	0.946	0.945	0.934	0.537	0.556	12871	13319	2227	482	967	19344	20019	3385	738	1438
	45	0.944	0.944	0.941	0.928	0.524	0.543	14114	14631	2362	543	1088	21213	21991	3591	830	1618
	50	0.940	0.940	0.936	0.922	0.512	0.531	15323	15910	2490	603	1209	23030	23913	3785	923	1798
	55	0.937	0.937	0.931	0.915	0.501	0.521	16502	17161	2534	663	1330	24802	25794	3851	1015	1978
	60	0.933	0.933	0.925	0.909	0.491	0.512	17655	18388	2534	724	1450	26536	27637	3851	1107	2158
19	33	1.105	1.106	1.104	1.105	0.694	0.708	13705	13985	2758	531	1059	20599	21020	4192	812	1576
	40	1.105	1.105	1.104	1.101	0.668	0.688	16008	16476	3036	643	1284	24060	24763	4615	984	1910
	45	1.105	1.105	1.104	1.097	0.653	0.673	17584	18126	3221	724	1445	26429	27244	4895	1107	2149
	50	1.105	1.105	1.104	1.094	0.638	0.659	19113	19727	3395	804	1605	28726	29649	5160	1230	2387
	55	1.104	1.104	1.103	1.090	0.626	0.646	20601	21277	3561	884	1766	30963	31979	5412	1353	2626
	60	1.102	1.102	1.100	1.085	0.614	0.634	22055	22781	3719	965	1926	33148	34240	5653	1476	2865
18	33	1.253	1.253	1.252	1.253	0.806	0.805	15928	15908	3214	669	1333	23940	23910	4885	1024	1982
	40	1.253	1.253	1.252	1.253	0.794	0.802	19016	19213	3895	811	1615	28582	28876	5921	1242	2403
	45	1.253	1.253	1.252	1.252	0.777	0.793	20934	21371	4141	913	1817	31463	32121	6295	1397	2703
	50	1.253	1.253	1.252	1.250	0.761	0.777	22791	23277	4365	1014	2019	34255	34986	6635	1552	3003
	55	1.253	1.253	1.252	1.245	0.747	0.763	24596	25136	4578	1116	2221	36968	37779	6959	1707	3304
	60	1.253	1.253	1.252	1.241	0.734	0.750	26357	26939	4782	1217	2423	39615	40489	7269	1862	3604
17	33	1.422	1.422	1.421	1.421	0.913	0.913	18036	18047	3642	845	1678	27107	27125	5537	1294	2496
	40	1.422	1.422	1.421	1.421	0.913	0.912	21861	21835	4415	1025	2034	32857	32817	6711	1568	3026
	45	1.422	1.422	1.421	1.421	0.913	0.910	24594	24526	4967	1153	2289	36965	36862	7550	1764	3404
	50	1.422	1.422	1.421	1.421	0.905	0.908	27082	27194	5519	1281	2543	40705	40872	8389	1960	3782
	55	1.422	1.422	1.421	1.421	0.889	0.899	29284	29616	5898	1409	2797	44013	44513	8965	2156	4161
	60	1.422	1.422	1.421	1.419	0.875	0.885	31427	31791	6161	1537	3051	47235	47781	9364	2352	4539
16	33	1.580	1.580	1.579	1.579	1.012	1.013	20002	20015	4043	1027	2034	30063	30083	6146	1571	3026
	40	1.580	1.580	1.579	1.579	1.012	1.013	24245	24264	4901	1245	2466	36440	36469	7449	1905	3668
	45	1.580	1.580	1.579	1.579	1.012	1.012	27276	27259	5513	1400	2774	40995	40970	8380	2143	4126
	50	1.580	1.580	1.579	1.579	1.012	1.010	30306	30237	6126	1556	3082	45550	45446	9312	2381	4584
	55	1.580	1.580	1.579	1.579	1.012	1.009	33337	33217	6739	1712	3390	50106	49926	10243	2619	5043
	60	1.580	1.580	1.579	1.579	0.997	1.006	35833	36128	7351	1867	3698	53858	54300	11174	2857	5501

Notes:

1. See Table A for deck profile configuration and cover width.
2. See Table F for design thickness t , of deck gages listed.
3. See Table G for definition of variable symbols shown in this table.
4. Web crippling design strengths, R_{be} and R_{bi} , are based on minimum bearing lengths of 2 1/2" for end bearing and 5" for interior bearing, and assume one-flange loading with deck panels fastened to supports.

DIVISION: 05 00 00—METALS**Section: 05 31 00—Steel Decking****Section: 05 31 13—Steel Floor Decking****Section: 05 31 23—Steel Roof Decking****Section: 05 36 00—Composite Metal Decking****REPORT HOLDER:**

NEW MILLENNIUM BUILDING SYSTEMS, LLC

EVALUATION SUBJECT:**NEW MILLENNIUM STEEL DECKS:**

- ROOF DECK PANELS; RD, RDV, F, B, BV, BI, BIV, BA, BIA, N, AND NA
- FORM DECK PANELS; FD, FDB, FD EXTENDED LEG, FDV, FDR, FDI, AND FDIV
- COMPOSITE DECK PANELS; CD, CDB, CD EXTENDED LEG, CDI, AND CDR

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the steel deck panels, described in ICC-ES evaluation report [ESR-3818](#), have also been evaluated for compliance with the code noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code edition:

- 2023 *City of Los Angeles Building Code* (LABC)

2.0 CONCLUSIONS

The steel deck panels, described in Sections 2.0 through 7.0 of the ICC-ES evaluation report [ESR-3818](#), comply with the LABC Chapter 22, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The steel deck panels described in this evaluation report supplement must comply with all of the following conditions:

- The design, installation, conditions of use and identification of the steel deck panels are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the ICC-ES evaluation report [ESR-3818](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- When exposed to weather, the steel deck panels shall be galvanized.

This supplement expires concurrently with the evaluation report, reissued May 2023, revised June 2023.

DIVISION: 05 00 00—METALS

Section: 05 31 00—Steel Decking

Section: 05 31 13—Steel Floor Decking

Section: 05 31 23—Steel Roof Decking

Section: 05 36 00—Composite Metal Decking

REPORT HOLDER:

NEW MILLENNIUM BUILDING SYSTEMS, LLC

EVALUATION SUBJECT:**NEW MILLENNIUM STEEL DECKS:**

- ROOF DECK PANELS; RD, RDV, F, B, BV, BI, BIV, BA, BIA, N, AND NA
- FORM DECK PANELS; FD, FDB, FD EXTENDED LEG, FDV, FDR, FDI, AND FDIV
- COMPOSITE DECK PANELS; CD, CDB, CD EXTENDED LEG, CDI, AND CDR

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the steel deck panels, described in ICC-ES evaluation report ESR-3818, have also been evaluated for compliance with the code noted below.

Applicable code edition:

- 2022 California Building Code (CBC)

For evaluation of applicable Chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of the State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS**2.1 CBC:**

The New Millennium roof deck panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-3818, comply with CBC Chapter 22, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of the CBC Chapters 16 and 17, as applicable.

2.1.1 OSHPD: The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA: The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

This supplement expires concurrently with the evaluation report, reissued May 2023, revised June 2023.

DIVISION: 05 00 00—METALS**Section: 05 31 00—Steel Decking****Section: 05 31 13—Steel Floor Decking****Section: 05 31 23—Steel Roof Decking****Section: 05 36 00—Composite Metal Decking****REPORT HOLDER:**

NEW MILLENNIUM BUILDING SYSTEMS, LLC

EVALUATION SUBJECT:**New Millennium Steel Decks:**

- ROOF DECK PANELS; RD, RDV, F, B, BV, BI, BIV, BA, BIA, N, AND NA
- FORM DECK PANELS; FD, FDB, FD EXTENDED LEG, FDV, FDR, FDI, AND FDIV
- COMPOSITE DECK PANELS; CD, CDB, CD EXTENDED LEG, CDI, AND CDR

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the steel deck panels, described in ICC-ES evaluation report ESR-3818, has also been evaluated for compliance with the code noted below.

Applicable code edition:

- 2020 *Florida Building Code—Building*

2.0 CONCLUSIONS

The steel deck panels, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-2657, comply with the *Florida Building Code—Building*. The design requirements shall be in accordance with the *Florida Building Code—Building*. The installation requirements noted in ICC-ES evaluation report ESR-3818 for the 2018 *International Building Code*® meet the requirements of the *Florida Building Code—Building*.

Use of the steel deck panels has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* except that protection of metals must be in accordance with *Florida Building Code—Building* Section 2222.6.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued May 2023, revised June 2023.

DIVISION: 05 00 00—METALS**Section: 05 31 00—Steel Decking****Section: 05 31 13—Steel Floor Decking****Section: 05 31 23—Steel Roof Decking****Section: 05 36 00—Composite Metal Decking****REPORT HOLDER:**

NEW MILLENNIUM BUILDING SYSTEMS, LLC

EVALUATION SUBJECT:**New Millennium Steel Decks:**

- ROOF DECK PANELS; RD, RDV, F, B, BV, BI, BIV, BA, BIA, N, AND NA
- FORM DECK PANELS; FD, FDB, FD EXTENDED LEG, FDV, FDR, FDI, AND FDIV
- COMPOSITE DECK PANELS; CD, CDB, CD EXTENDED LEG, CDI, AND CDR

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the steel deck panels, described in ICC-ES evaluation report ESR-3818, has also been evaluated for compliance with the code noted below.

Applicable code editions:

- 2022 Oregon Structural Specialty Code (OSSC)

2.0 CONCLUSIONS

The steel deck panels, described in Sections 2.0 through 7.0 of the ICC-ES evaluation report ESR-3376, comply with the OSSC Chapter 22, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The steel deck panel described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-3818.
- The design, installation, conditions of use and identification of the *steel deck panels* are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the ICC-ES evaluation report ESR-3818.
- The design, installation and inspection are in accordance with additional requirements of OSSC Chapters 16, 17, and 22, as applicable.

This supplement expires concurrently with the evaluation report, reissued May 2023, revised June 2023.