



# COLD ROLLED STEEL, LLC



# Decking

Version 2023-5

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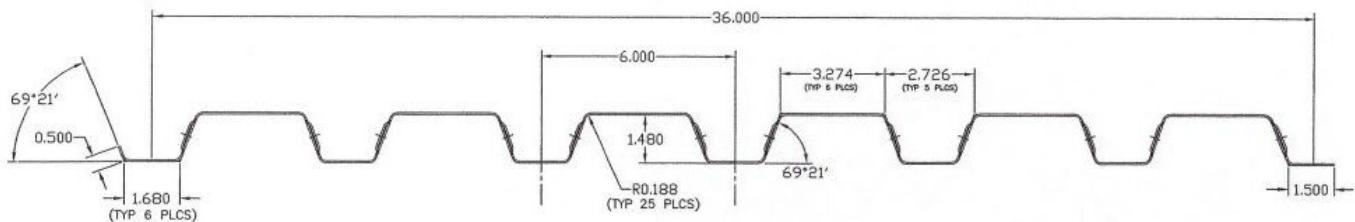
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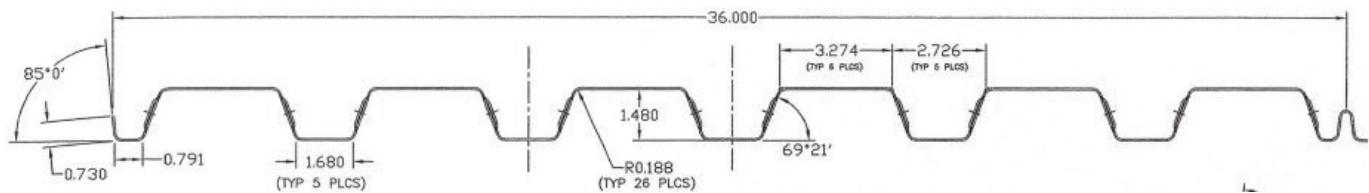
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## Panel Profiles

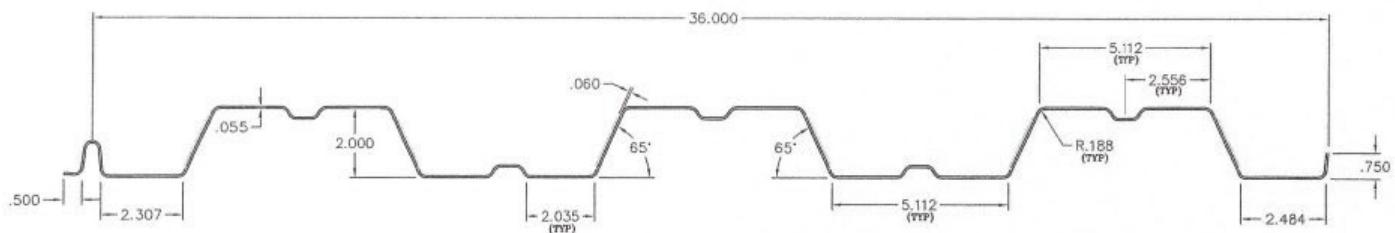
### B-Deck Nestable (1.5 WR) \*



### B-Deck Interlocking (1.5 WR) \*

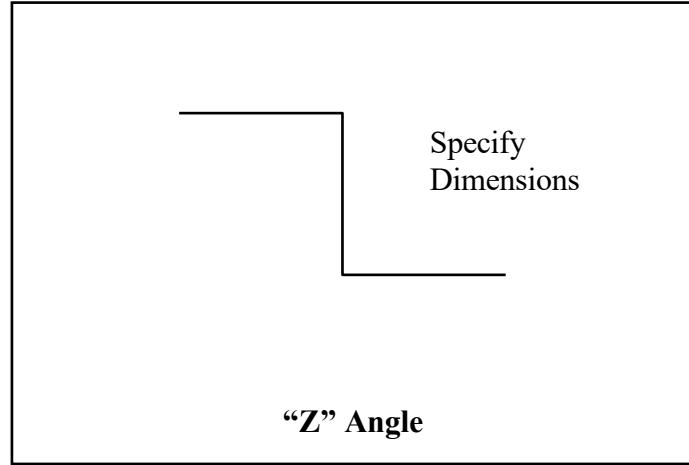
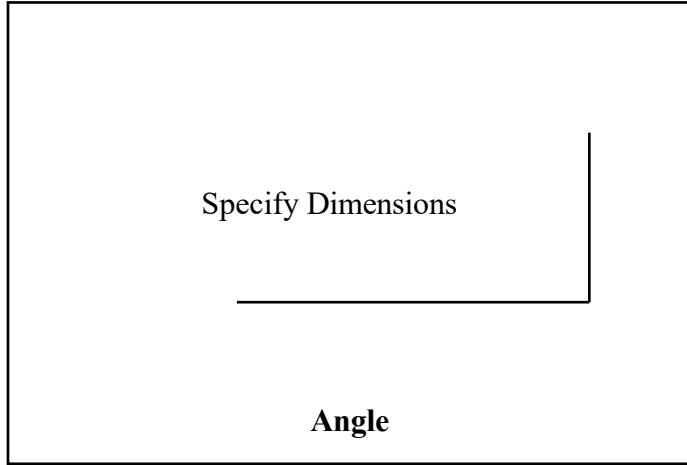
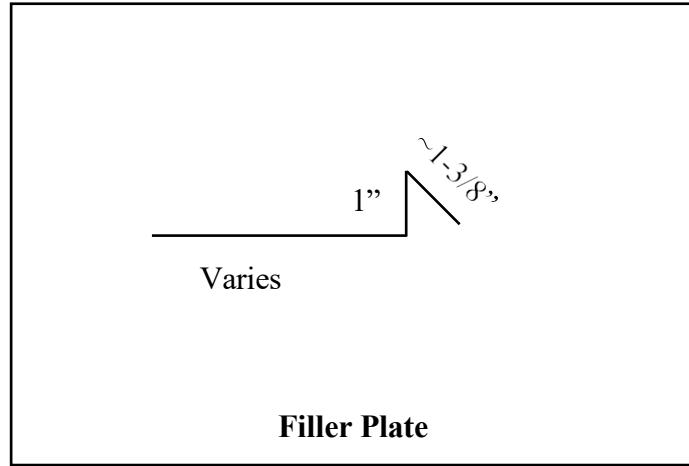
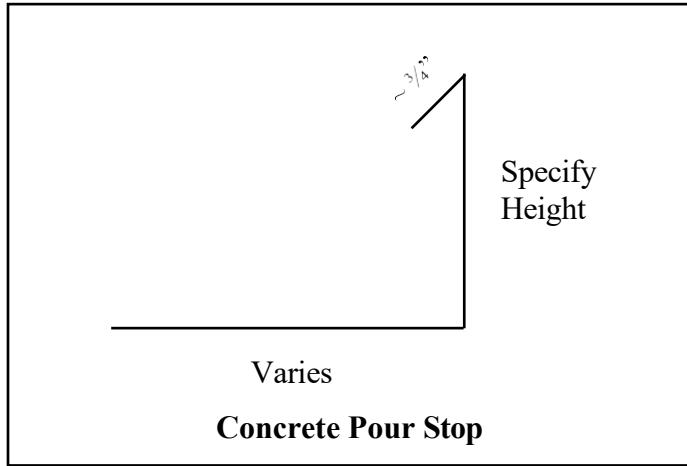


### 2" Floor Deck (2.0 Floor Deck)



\*Note: Specify with embossing (composite) or without.

# Sample Flashing Profiles



Custom shapes are available up to 30' long in 20, 18, 16, 14 and 12 gauge.

Some profiles are limited by width of material.

Please inquire with your requirements.

## Deck Panel Length and Tolerances

Length	3' – 6" Minimum	50' – 0" Maximum
Length Tolerance	+/- 1/4"	
Width Tolerance	+/- 3/8"	
Sweep	1/4" in 10' Length	
Square	1/8" per foot	

## Diaphragm Strength

Due to various factors such as type of fastener spacing, fastener type, etc. the diaphragm shear design of deck and composite deck-slab systems may be performed in accordance with the SDI Diaphragm Design Manual. Common attachment methods include arc spot welds, power actuated fasteners, and self-drilling screws. The side laps of the steel deck should be connected to prevent concrete leakage and provide some shear contribution. The minimum side lap connection should be button punches at 36 inches on center. Additional shear design resources may be found on the following fastener supplier websites as well as the Diaphragm Strength section of this catalog.

Steel Deck Institute	<a href="http://www.sdi.org">www.sdi.org</a>
Hilti	<a href="http://www.hilti.com">www.hilti.com</a>
Pneutek	<a href="http://www.pneutek.com">www.pneutek.com</a>
Simpson Strong-Tie	<a href="http://www.strongtie.com">www.strongtie.com</a>

# Testing and Certification

Cold Rolled Steel, LLC steel decking is independently evaluated and inspected by:

ICC-ES [www.icc-es.org](http://www.icc-es.org)

Report Number ESR-4866

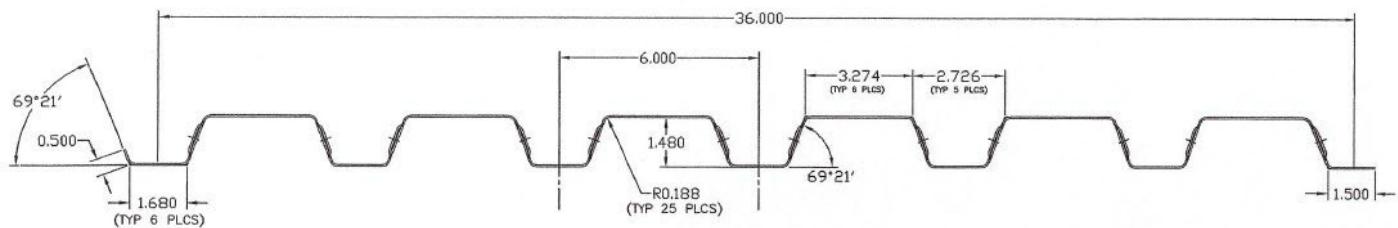


Scan QR Code for Report

Steel Deck Institute [www.sdi.org](http://www.sdi.org)



# B-Deck Roof Tables – 40 ksi



**Table 1A – B-Deck Section Properties and Flexural Resistance (Bare Deck)**

Profile	Gage Number	Design Thickness (inches)	Weight (psf)	F <sub>y</sub> ksi	S <sub>e+</sub> (inch <sup>3</sup> ) per foot	S <sub>e-</sub> (inch <sup>3</sup> ) per foot	ASD ( $\Omega = 1.67$ )		I <sub>d+</sub> (inch <sup>4</sup> ) per ft.	I <sub>d-</sub> (inch <sup>4</sup> ) per ft.
							M <sub>p</sub> /Ω inch-lbs per ft	M <sub>n</sub> /Ω inch-lbs per ft		
B-Deck	22	0.0295	1.6	40	0.185	0.191	4428	4578	0.162	0.182
B-Deck	20	0.0358	2.0	40	0.245	0.244	5868	5852	0.204	0.227
B-Deck	18	0.0474	2.6	40	0.333	0.331	7968	7928	0.288	0.303

**Table 1A Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI RD-2017, AISI S100-2012 and AISI S100-2016

**Table 1B – B-Deck Shear and Web Crippling (Bare Deck) (40 ksi)**

Profile	Gage Number	V <sub>n</sub> /Ω lbs per ft	Web Crippling (R <sub>n</sub> /Ω), lbs/ft One Flange Loading End Bearing			Web Crippling (R <sub>n</sub> /Ω), lbs/ft One Flange Loading Interior Bearing		
			1-1/2"	2"	3"	1-1/2"	2"	3"
B-Deck	22	2242	645	708	816	959	1040	1177
B-Deck	20	2711	919	1007	1154	1386	1499	1687
B-Deck	18	3568	1535	1673	1906	2359	2538	2837

**Table 1B Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI RD-2017, AISI S100-2012 and AISI S100-2016

**Table 2 – B-Deck (Bare Deck – Roof)****Table 2.1 B-Deck (40 ksi) ASD Uniform Downward Loads (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	118	98	82	70	60	52	46	41	36	33	30
	20	156	129	109	93	80	70	61	54	48	43	39
	18	212	176	148	126	108	94	83	74	66	59	53
Double	22	122	101	85	72	62	54	48	42	38	34	31
	20	156	129	108	92	80	69	61	54	48	43	39
	18	211	175	147	125	108	94	83	73	65	59	53
Triple	22	153	126	106	90	78	68	60	53	47	42	38
	20	195	161	135	115	100	87	76	68	60	54	49
	18	264	218	184	156	135	117	103	91	82	73	66

**Table 2.2 B-Deck (40 ksi) ASD Uniform Upward Loads (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	122	101	85	72	62	54	48	42	38	34	31
	20	156	129	108	92	80	69	61	54	48	43	39
	18	211	175	147	125	108	94	83	73	65	59	53
Double	22	118	98	82	70	60	52	46	41	36	33	30
	20	156	129	109	93	80	70	61	54	48	43	39
	18	212	176	148	126	108	94	83	74	66	59	53
Triple	22	148	122	102	87	75	66	58	51	46	41	37
	20	196	162	136	116	100	87	76	68	60	54	49
	18	266	220	184	157	136	118	104	92	82	74	66

**Tables 2.1 and 2.2 Notes:**

1. All section properties and ASD ( $\Omega = 1.67$ ) uniform loads are calculated in accordance with ANSI/SDI RD-2017, AISI S100-2012 and AISI S100-2016.
2. Loads shown in tables are uniformly distributed superimposed loads in psf. Span length assumes center-to-center spacing of supports. Tabulated loads shall not be increased by assuming clear span dimensions.
3. Bending Moment formulae used for flexural stress limitations are:

Simple and Two Span       $M = \frac{w\ell^2}{8}$

Three Span or More       $M = \frac{w\ell^2}{10}$

4. Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

**Table 2.3 B-Deck (40 ksi) Uniform Service Load that Causes L/240 Deflection (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	85	64	49	39	31	25	21	17	15	12	11
	20	107	81	62	49	39	32	26	22	18	16	13
	18	151	114	87	69	55	45	37	31	26	22	19
Double	22	205	154	119	93	75	61	50	42	35	30	26
	20	259	194	150	118	94	77	63	53	44	38	32
	18	364	273	211	166	133	108	89	74	62	53	45
Triple	22	161	121	93	73	59	48	39	33	28	23	20
	20	202	152	117	92	74	60	49	41	35	29	25
	18	285	214	165	130	104	84	70	58	49	42	36

**Table 2.3 Notes:**

- For loads that cause L/120 Deflection, multiply by 2.0. For loads that cause L/180 Deflection, multiply by 1.5. For loads that cause L/360 Deflection, multiply by 0.667.

**Table 3 – B-Deck (Bare Deck – Roof)****Table 3.1 B-Deck (40 ksi) Roof Deck Construction Spans  
(ANSI/SDI RD-2017 Section 2.4.A.3 and 2.4.A.4)**

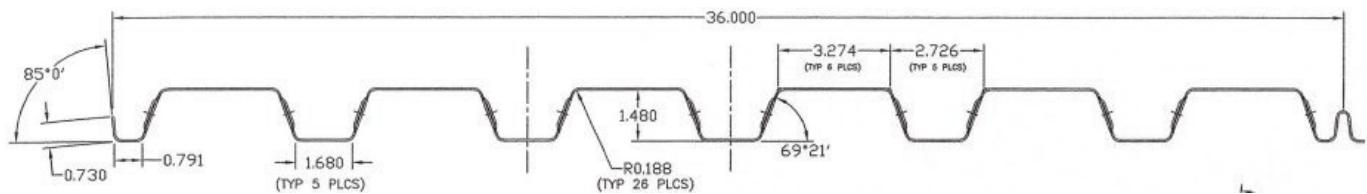
Span Cond.	Gage Number	ASD Span	ASD Cantilever Span
Single	22	7'-05"	1'-11"
	20	9'-09"	2'-05"
	18	13'-03"	3'-03"
Double or Triple	22	9'-01"	
	20	12'-00"	
	18	16'-04"	

**Tables 3 Notes:**

- All construction load spans are calculated using a 200 pound service load on a 1 foot width of deck, in accordance with ANSI/SDI RD-2017.
- All cantilever construction load spans are calculated using a 200 pound service load on a 1 foot width of deck and a 10 psf uniform distributed load, in accordance with ANSI/SDI RD-2017.

## B-Deck Floor Tables – 40 ksi

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**Table 1A – Section Properties and Flexural Resistance (Bare Deck) (B-Deck Composite and B-Deck Inverted Form)**

							ASD ( $\Omega = 1.67$ )			
Profile	Gage Number	Design Thickness (inches)	Weight (psf)	F <sub>y</sub> ksi	S <sub>e+</sub> (inch <sup>3</sup> ) per foot	S <sub>e-</sub> (inch <sup>3</sup> ) per foot	M <sub>p</sub> /Ω inch-lbs per ft	M <sub>n</sub> /Ω inch-lbs per ft	I <sub>d+</sub> (inch <sup>4</sup> ) per ft.	I <sub>d-</sub> (inch <sup>4</sup> ) per ft.
B-Deck	22	0.0295	1.6	40	0.185	0.191	4428	4578	0.162	0.182
B-Deck	20	0.0358	2.0	40	0.245	0.244	5868	5852	0.204	0.227
B-Deck	18	0.0474	2.6	40	0.333	0.331	7968	7928	0.288	0.303

**Table 1A Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017, and AISI S100-2012 and AISI S100-2016

**Table 1B – Shear and Web Crippling (Bare Deck) (B-Deck Composite and B-Deck Inverted Form) (40 ksi)**

			Web Crippling (R <sub>n</sub> /Ω), lbs/ft One Flange Loading End Bearing			Web Crippling (R <sub>n</sub> /Ω), lbs/ft One Flange Loading Interior Bearing		
Profile	Gage Number	V <sub>n</sub> /Ω lbs per ft	1-1/2"	2"	3"	1-1/2"	2"	3"
B-Deck	22	2242	645	708	816	959	1040	1177
B-Deck	20	2711	919	1007	1154	1386	1499	1687
B-Deck	18	3568	1535	1673	1906	2359	2538	2837

**Table 1B Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017, and AISI S100-2012 and AISI S100-2016

**Table 2 – B-Deck (Bare Deck) – (B-Deck Composite and B-Deck Inverted Form)****Table 2.1 B-Deck Composite and B-Deck Inverted Form (40 ksi) ASD Uniform Superimposed Downward Loads (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	118	98	82	70	60	52	46	41	36	33	30
	20	156	129	109	93	80	70	61	54	48	43	39
	18	212	176	148	126	108	94	83	74	66	59	53
Double	22	122	101	85	72	62	54	48	42	38	34	31
	20	156	129	108	92	80	69	61	54	48	43	39
	18	211	175	147	125	108	94	83	73	65	59	53
Triple	22	153	126	106	90	78	68	60	53	47	42	38
	20	195	161	135	115	100	87	76	68	60	54	49
	18	264	218	184	156	135	117	103	91	82	73	66

**Tables 2.1 and 2.2 Notes:**

1. All section properties and ASD ( $\Omega = 1.67$ ) uniform loads are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017 and AISI S100-2012 and AISI S100-2016.
2. Loads shown in tables are uniformly distributed superimposed loads in psf. Span length assumes center-to-center spacing of supports. Tabulated loads shall not be increased by assuming clear span dimensions.
3. Bending Moment formulae used for flexural stress limitations are:

$$\text{Simple and Two Span} \quad M = \frac{w\ell^2}{8}$$

$$\text{Three Span or More} \quad M = \frac{w\ell^2}{10}$$

4. Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

**Table 2.3 B-Deck Composite and B-Deck Inverted Form (40 ksi) Uniform Superimposed Service Load that Causes L/240 Deflection (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	85	64	49	39	31	25	21	17	15	12	11
	20	107	81	62	49	39	32	26	22	18	16	13
	18	151	114	87	69	55	45	37	31	26	22	19
Double	22	205	154	119	93	75	61	50	42	35	30	26
	20	259	194	150	118	94	77	63	53	44	38	32
	18	364	273	211	166	133	108	89	74	62	53	45
Triple	22	161	121	93	73	59	48	39	33	28	23	20
	20	202	152	117	92	74	60	49	41	35	29	25
	18	285	214	165	130	104	84	70	58	49	42	36

**Table 2.3 Notes:**

- For loads that cause L/120 Deflection, multiply by 2.0. For loads that cause L/180 Deflection, multiply by 1.5. For loads that cause L/360 Deflection, multiply by 0.667.

**Table 4.1 – Construction Span Table B-Deck Composite and B-Deck Inverted Form ( $F_y = 40$  ksi)  
- 20 psf Construction Load**

**Normal Weight Concrete (145 pcf)**

Total Slab Depth	Deck Type	Maximum Unshored Clear Span		
		1 span	2 span	3 span
3.50 (t=2.00) 31 PSF	B-Deck 22ga	6' 1"	7' 2"	7' 3"
	B-Deck 20ga	7' 5"	8' 8"	8' 10"
	B-Deck 18ga	9' 1"	10' 2"	10' 6"
4.00 (t=2.50) 37 PSF	B-Deck 22ga	5' 9"	6' 9"	6' 10"
	B-Deck 20ga	7' 0"	8' 2"	8' 4"
	B-Deck 18ga	8' 7"	9' 8"	9' 11"
4.50 (t=3.00) 43 PSF	B-Deck 22ga	5' 6"	6' 6"	6' 7"
	B-Deck 20ga	7' 2"	8' 1"	8' 4"
	B-Deck 18ga	8' 2"	9' 2"	9' 6"
5.00 (t=3.50) 49 PSF	B-Deck 22ga	5' 3"	6' 2"	6' 3"
	B-Deck 20ga	6' 5"	7' 6"	7' 7"
	B-Deck 18ga	7' 10"	8' 9"	9' 1"
5.50 (t=4.00) 55 PSF	B-Deck 22ga	5' 1"	6' 0"	6' 0"
	B-Deck 20ga	6' 2"	7' 2"	7' 3"
	B-Deck 18ga	7' 6"	8' 5"	8' 8"
6.00 (t=4.50) 61 PSF	B-Deck 22ga	4' 11"	5' 9"	5' 10"
	B-Deck 20ga	5' 11"	6' 11"	7' 0"
	B-Deck 18ga	7' 2"	8' 1"	8' 4"

**Lightweight Concrete (115 pcf)**

Total Slab Depth	Deck Type	Maximum Unshored Clear Span		
		1 span	2 span	3 span
3.50 (t=2.00) 23 PSF	B-Deck 22ga	6' 3"	7' 5"	7' 6"
	B-Deck 20ga	7' 8"	9' 1"	9' 2"
	B-Deck 18ga	9' 6"	10' 7"	11' 0"
4.00 (t=2.50) 28 PSF	B-Deck 22ga	6' 0"	7' 1"	7' 2"
	B-Deck 20ga	7' 4"	8' 7"	8' 8"
	B-Deck 18ga	9' 0"	10' 1"	10' 5"
4.50 (t=3.00) 33 PSF	B-Deck 22ga	5' 9"	6' 9"	6' 10"
	B-Deck 20ga	7' 9"	8' 8"	9' 0"
	B-Deck 18ga	8' 7"	9' 8"	9' 11"
5.00 (t=3.50) 37 PSF	B-Deck 22ga	5' 7"	6' 7"	6' 8"
	B-Deck 20ga	6' 9"	7' 11"	8' 0"
	B-Deck 18ga	8' 4"	9' 4"	9' 7"
5.50 (t=4.00) 42 PSF	B-Deck 22ga	5' 5"	6' 4"	6' 5"
	B-Deck 20ga	6' 6"	7' 8"	7' 9"
	B-Deck 18ga	8' 0"	8' 11"	9' 3"
6.00 (t=4.50) 46 PSF	B-Deck 22ga	5' 3"	6' 2"	6' 3"
	B-Deck 20ga	6' 4"	7' 5"	7' 6"
	B-Deck 18ga	7' 9"	8' 8"	9' 0"

**Tables 4 Notes:** Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

**Table 6A – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck	22 ga	$F_y$ 40 ksi	$f_c'$ 3000 psi	Normal Weight Concrete (145pcf)				
Slab Thickness (Inches)	Weight (psf)	5'- 0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	31	400	400	343	289	246	211	183
4	37	400	400	400	362	308	265	229
4.5	43	400	400	400	400	373	321	278
5	49	400	400	400	400	400	379	329
5.5	55	400	400	400	400	400	400	380
6	61	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	159	139	123	108	96	86	76	68
4	200	175	155	137	121	108	97	87
4.5	243	213	188	166	148	132	118	106
5	287	252	222	197	175	156	140	126
5.5	332	292	258	228	203	182	163	146
6	378	332	293	260	232	207	186	167

**Table 6B – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck	20 ga	$F_y$ 40 ksi	$f_c'$ 3000 psi	Normal Weight Concrete (145pcf)				
Slab Thickness (Inches)	Weight (psf)	5'-0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	31	400	400	400	347	296	255	221
4	37	400	400	400	400	371	320	278
4.5	43	400	400	400	400	400	388	337
5	49	400	400	400	400	400	400	399
5.5	55	400	400	400	400	400	400	400
6	61	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	193	170	150	133	119	106	95	85
4	243	214	189	168	150	134	120	108
4.5	295	260	230	204	182	163	147	132
5	349	307	272	242	216	194	174	157
5.5	400	356	315	280	251	225	202	182
6	400	400	359	320	286	256	231	208

**Table 6C – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck		18 ga	$F_y$ 40 ksi	$f_c$ 3000 psi	Normal Weight Concrete (145 pcf)			
Slab Thickness (Inches)	Weight (psf)	5'-0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	31	400	400	400	400	383	331	288
4	37	400	400	400	400	400	400	363
4.5	43	400	400	400	400	400	400	400
5	49	400	400	400	400	400	400	400
5.5	55	400	400	400	400	400	400	400
6	61	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	253	223	198	176	157	141	127	115
4	318	281	249	222	199	179	161	146
4.5	387	342	303	271	243	218	197	178
5	400	400	360	321	288	259	234	212
5.5	400	400	400	373	334	301	272	246
6	400	400	400	400	382	344	311	281

**Table 6D – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck		22 ga	$F_y$ 40 ksi	$f_c$ 3000 psi	Lightweight Concrete (115 pcf)			
Slab Thickness (Inches)	Weight (psf)	5'-0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	23	400	393	326	275	234	200	173
4	28	400	400	400	346	294	253	219
4.5	33	400	400	400	400	358	308	267
5	37	400	400	400	400	400	365	316
5.5	42	400	400	400	400	400	400	367
6	46	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	151	132	116	103	91	81	72	64
4	191	167	147	130	115	103	92	82
4.5	232	204	180	159	141	126	112	101
5	276	242	213	189	168	150	134	120
5.5	320	281	248	220	195	174	156	140
6	365	321	283	251	223	200	179	160

**Table 6E – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck		20 ga	$F_y$ 40 ksi	$f_c$ 3000 psi	Lightweight Concrete (115 pcf)			
Slab Thickness (Inches)	Weight (psf)	5'-0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	23	400	400	390	329	281	241	209
4	28	400	400	400	400	354	305	264
4.5	33	400	400	400	400	400	371	322
5	37	400	400	400	400	400	400	382
5.5	42	400	400	400	400	400	400	400
6	46	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	183	161	142	126	112	100	89	80
4	231	203	179	159	142	127	114	102
4.5	282	248	219	195	174	155	139	125
5	334	294	260	231	206	185	166	149
5.5	389	342	303	269	240	215	194	174
6	400	391	346	308	275	246	222	200

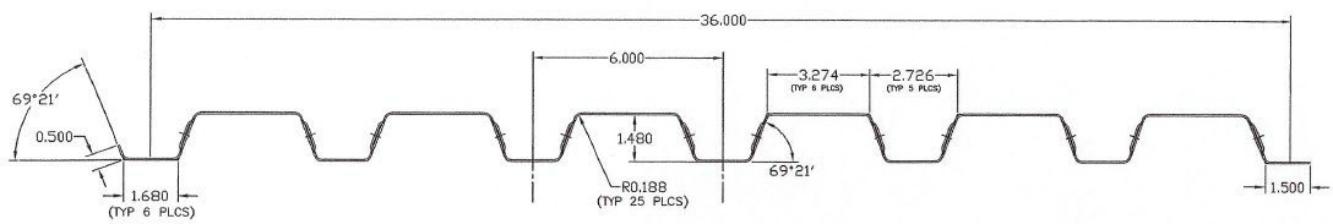
**Table 6G – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck		18 ga	$F_y$ 40 ksi	$f_c$ 3000 psi	Lightweight Concrete (115 pcf)			
Slab Thickness (Inches)	Weight (psf)	5'-0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	23	400	400	400	400	362	312	271
4	28	400	400	400	400	400	394	343
4.5	33	400	400	400	400	400	400	400
5	37	400	400	400	400	400	400	400
5.5	42	400	400	400	400	400	400	400
6	46	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	238	210	186	165	148	133	119	108
4	301	265	235	210	188	168	152	137
4.5	368	325	288	257	230	207	186	168
5	400	386	343	306	274	246	222	201
5.5	400	400	399	356	320	287	260	235
6	400	400	400	400	366	329	297	269

# B-Deck Roof Tables – 50 ksi



**Table 1A – Section Properties and Flexural Resistance (Bare Deck)**

Profile	Gage Number	Design Thickness (inches)	Weight (psf)	F <sub>y</sub> ksi	S <sub>e+</sub> (inch <sup>3</sup> ) per foot	S <sub>e-</sub> (inch <sup>3</sup> ) per foot	ASD ( $\Omega = 1.67$ )		I <sub>d+</sub> (inch <sup>4</sup> ) per ft.	I <sub>d-</sub> (inch <sup>4</sup> ) per ft.
							M <sub>p</sub> / $\Omega$ inch-lbs per ft	M <sub>n</sub> / $\Omega$ inch-lbs per ft		
B-Deck	22	0.0295	1.6	50	0.176	0.184	5258	5506	0.160	0.180
B-Deck	20	0.0358	2.0	50	0.233	0.236	6966	7064	0.200	0.222
B-Deck	18	0.0474	2.6	50	0.328	0.327	9830	9800	0.281	0.303

**Table 1A Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI RD-2017, AISI S100-2012 and AISI S100-2016

**Table 1B – Shear and Web Crippling (Bare Deck) (50 ksi)**

Profile	Gage Number	V <sub>n</sub> / $\Omega$ lbs per ft	Web Crippling (R <sub>n</sub> / $\Omega$ ), lbs/ft One Flange Loading End Bearing			Web Crippling (R <sub>n</sub> / $\Omega$ ), lbs/ft One Flange Loading Interior Bearing		
			1-1/2"	2"	3"	1-1/2"	2"	3"
B-Deck	22	2802	806	886	1019	1199	1301	1471
B-Deck	20	3389	1149	1258	1443	1733	1873	2109
B-Deck	18	4460	1918	2092	2383	2949	3172	3546

**Table 1B Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI RD-2017, AISI S100-2012 and AISI S100-2016

**Table 2 – B-Deck Deck (Bare Deck – Roof)****Table 2.1 B-Deck (50 ksi) ASD Uniform Downward Loads (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	140	116	97	83	72	62	55	49	43	39	35
	20	186	154	129	110	95	83	73	64	57	51	46
	18	262	217	182	155	134	117	102	91	81	73	66
Double	22	147	121	102	87	75	65	57	51	45	41	37
	20	188	156	131	111	96	84	74	65	58	52	47
	18	261	216	181	155	133	116	102	90	81	72	65
Triple	22	184	152	127	109	94	82	72	64	57	51	46
	20	235	195	164	139	120	105	92	81	73	65	59
	18	327	270	227	193	167	145	128	113	101	90	82

**Table 2.2 B-Deck (50 ksi) ASD Uniform Upward Loads (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	147	121	102	87	75	65	57	51	45	41	37
	20	188	156	131	111	96	84	74	65	58	52	47
	18	261	216	181	155	133	116	102	90	81	72	65
Double	22	140	116	97	83	72	62	55	49	43	39	35
	20	186	154	129	110	95	83	73	64	57	51	46
	18	262	217	182	155	134	117	102	91	81	73	66
Triple	22	175	145	122	104	89	78	68	61	54	49	44
	20	232	192	161	137	118	103	91	80	72	64	58
	18	328	271	228	194	167	146	128	113	101	91	82

**Tables 2.1 and 2.2 Notes:**

1. All section properties and ASD ( $\Omega = 1.67$ ) uniform loads are calculated in accordance with ANSI/SDI RD-2017, AISI S100-2012 and AISI S100-2016.
2. Loads shown in tables are uniformly distributed superimposed loads in psf. Span length assumes center-to-center spacing of supports. Tabulated loads shall not be increased by assuming clear span dimensions.
3. Bending Moment formulae used for flexural stress limitations are:

$$\text{Simple and Two Span} \quad M = \frac{w\ell^2}{8}$$

$$\text{Three Span or More} \quad M = \frac{w\ell^2}{10}$$

4. Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

**Table 2.3 B-Deck (50 ksi) Uniform Service Load that Causes L/240 Deflection (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	84	63	49	38	31	25	21	17	14	12	11
	20	105	79	61	48	38	31	26	21	18	15	13
	18	148	111	85	67	54	44	36	30	25	22	18
Double	22	202	152	117	92	74	60	49	41	35	29	25
	20	253	190	146	115	92	75	62	51	43	37	32
	18	355	267	206	162	130	105	87	72	61	52	44
Triple	22	158	119	92	72	58	47	39	32	27	23	20
	20	198	149	115	90	72	59	48	40	34	29	25
	18	278	209	161	127	101	82	68	57	48	41	35

**Table 2.3 Notes:**

- For loads that cause L/120 Deflection, multiply by 2.0. For loads that cause L/180 Deflection, multiply by 1.5. For loads that cause L/360 Deflection, multiply by 0.667.

**Table 3 – B-Deck Deck (Bare Deck –Roof)****Table 3.1 B-Deck (50 ksi) Roof Deck Construction Spans  
(ANSI/SDI RD-2017 Section 2.4.A.3 and 2.4.A.4)**

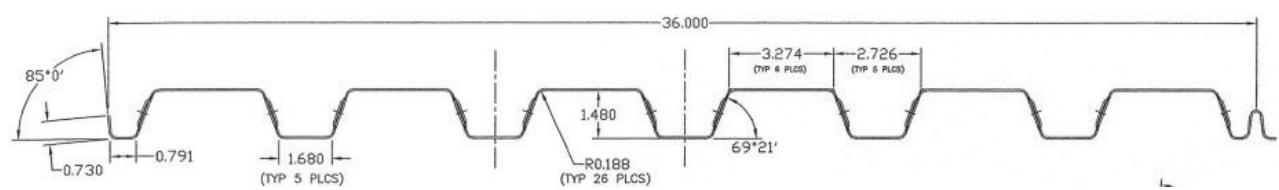
Span Cond.	Gage Number	ASD Span		ASD Cantilever Span
Single	22	8'-09"		2'-03"
	20	11'-07"		2'-11"
	18	16'-05"		4'-00"
Double or Triple	22	10'-09"		
	20	14'-03"		
	18	20'-02"		

**Tables 3 Notes:**

- All construction load spans are calculated using a 200 pound service load on a 1 foot width of deck, in accordance with ANSI/SDI RD-2017.
- All cantilever construction load spans are calculated using a 200 pound service load on a 1 foot width of deck and a 10 psf uniform distributed load, in accordance with ANSI/SDI RD-2017.

# B-Deck Floor Tables – 50 ksi

1.5 Inverted Form and 1.5 Composite Wide Flange Up



**Table 1A – Section Properties and Flexural Resistance (Bare Deck) (B-Deck Composite and B-Deck Inverted Form)**

							ASD ( $\Omega = 1.67$ )			
Profile	Gage Number	Design Thickness (inches)	Weight (psf)	F <sub>y</sub> ksi	S <sub>e+</sub> (inch <sup>3</sup> ) per foot	S <sub>e-</sub> (inch <sup>3</sup> ) per foot	M <sub>p</sub> /Ω inch-lbs per ft	M <sub>n</sub> /Ω inch-lbs per ft	I <sub>d+</sub> (inch <sup>4</sup> ) per ft.	I <sub>d-</sub> (inch <sup>4</sup> ) per ft.
B-Deck	22	0.0295	1.6	50	0.176	0.184	5258	5506	0.160	0.180
B-Deck	20	0.0358	2.0	50	0.233	0.236	6966	7064	0.200	0.222
B-Deck	18	0.0474	2.6	50	0.328	0.327	9830	9800	0.281	0.303

**Table 1A Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017, and AISI S100-2012 and AISI S100-2016

**Table 1B – Shear and Web Crippling (Bare Deck) (B-Deck Composite and B-Deck Inverted Form) (50 ksi)**

			Web Crippling (R <sub>n</sub> /Ω), lbs/ft One Flange Loading End Bearing			Web Crippling (R <sub>n</sub> /Ω), lbs/ft One Flange Loading Interior Bearing		
Profile	Gage Number	V <sub>n</sub> /Ω lbs per ft	1-1/2"	2"	3"	1-1/2"	2"	3"
B-Deck	22	2802	806	886	1019	1199	1301	1471
B-Deck	20	3389	1149	1258	1443	1733	1873	2109
B-Deck	18	4460	1918	2092	2383	2949	3172	3546

**Table 1B Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017, and AISI S100-2012 and AISI S100-2016

**Table 2 – B-Deck (Bare Deck) – (B-Deck Composite and B-Deck Inverted Form)****Table 2.1 B-Deck Composite and B-Deck Inverted Form (50 ksi) ASD Uniform Superimposed Downward Loads (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	140	116	97	83	72	62	55	49	43	39	35
	20	186	154	129	110	95	83	73	64	57	51	46
	18	262	217	182	155	134	117	102	91	81	73	66
Double	22	147	121	102	87	75	65	57	51	45	41	37
	20	188	156	131	111	96	84	74	65	58	52	47
	18	261	216	181	155	133	116	102	90	81	72	65
Triple	22	184	152	127	109	94	82	72	64	57	51	46
	20	235	195	164	139	120	105	92	81	73	65	59
	18	327	270	227	193	167	145	128	113	101	90	82

**Tables 2.1 and 2.2 Notes:**

1. All section properties and ASD ( $\Omega = 1.67$ ) uniform loads are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017 and AISI S100-2012 and AISI S100-2016.
2. Loads shown in tables are uniformly distributed superimposed loads in psf. Span length assumes center-to-center spacing of supports. Tabulated loads shall not be increased by assuming clear span dimensions.
3. Bending Moment formulae used for flexural stress limitations are:

Simple and Two Span       $M = \frac{w\ell^2}{8}$

Three Span or More       $M = \frac{w\ell^2}{10}$

4. Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

**Table 2.3 B-Deck Composite and B-Deck Inverted Form (50 ksi) Uniform Superimposed Service Load that Causes L/240 Deflection (psf)**

Span Cond.	Gage Number	5'- 0"	5'- 6"	6'- 0"	6'- 6"	7'- 0"	7'- 6"	8'- 0"	8'- 6"	9'- 0"	9'- 6"	10'- 0"
Single	22	84	63	49	38	31	25	21	17	14	12	11
	20	105	79	61	48	38	31	26	21	18	15	13
	18	148	111	85	67	54	44	36	30	25	22	18
Double	22	202	152	117	92	74	60	49	41	35	29	25
	20	253	190	146	115	92	75	62	51	43	37	32
	18	355	267	206	162	130	105	87	72	61	52	44
Triple	22	158	119	92	72	58	47	39	32	27	23	20
	20	198	149	115	90	72	59	48	40	34	29	25
	18	278	209	161	127	101	82	68	57	48	41	35

**Table 2.3 Notes:**

- For loads that cause L/120 Deflection, multiply by 2.0. For loads that cause L/180 Deflection, multiply by 1.5. For loads that cause L/360 Deflection, multiply by 0.667.

**Table 4.1 – Construction Span Table B-Deck Composite and B-Deck Inverted Form ( $F_y = 50$  ksi) - 20 psf Construction Load**

**Normal Weight Concrete (145 pcf)**

Total Slab Depth	Deck Type	Maximum Unshored Clear Span		
		1 span	2 span	3 span
3.50 (t=2.00) 31 PSF	B-Deck 22ga	6' 10"	8' 1"	8' 2"
	B-Deck 20ga	8' 3"	9' 7"	9' 11"
	B-Deck 18ga	9' 3"	11' 4"	11' 8"
4.00 (t=2.50) 37 PSF	B-Deck 22ga	6' 6"	7' 8"	7' 9"
	B-Deck 20ga	7' 10"	9' 1"	9' 4"
	B-Deck 18ga	8' 9"	10' 8"	11' 1"
4.50 (t=3.00) 43 PSF	B-Deck 22ga	6' 2"	7' 3"	7' 4"
	B-Deck 20ga	7' 5"	9' 0"	9' 3"
	B-Deck 18ga	8' 4"	10' 2"	10' 6"
5.00 (t=3.50) 49 PSF	B-Deck 22ga	5' 11"	6' 11"	7' 0"
	B-Deck 20ga	7' 1"	8' 3"	8' 5"
	B-Deck 18ga	7' 11"	9' 9"	10' 1"
5.50 (t=4.00) 55 PSF	B-Deck 22ga	5' 9"	6' 8"	6' 9"
	B-Deck 20ga	6' 10"	7' 11"	8' 1"
	B-Deck 18ga	7' 8"	9' 4"	9' 8"
6.00 (t=4.50) 61 PSF	B-Deck 22ga	5' 6"	6' 5"	6' 6"
	B-Deck 20ga	6' 7"	7' 8"	7' 9"
	B-Deck 18ga	7' 5"	8' 12"	9' 3"

**Lightweight Concrete (115 pcf)**

Total Slab Depth	Deck Type	Maximum Unshored Clear Span		
		1 span	2 span	3 span
3.50 (t=2.00) 23 PSF	B-Deck 22ga	7' 5"	8' 10"	8' 11"
	B-Deck 20ga	9' 1"	10' 6"	10' 10"
	B-Deck 18ga	10' 3"	12' 4"	12' 9"
4.00 (t=2.50) 28 PSF	B-Deck 22ga	7' 1"	8' 4"	8' 5"
	B-Deck 20ga	8' 7"	9' 11"	10' 3"
	B-Deck 18ga	9' 7"	11' 8"	12' 1"
4.50 (t=3.00) 33 PSF	B-Deck 22ga	6' 9"	7' 11"	8' 0"
	B-Deck 20ga	8' 1"	9' 11"	10' 3"
	B-Deck 18ga	9' 1"	11' 1"	11' 6"
5.00 (t=3.50) 37 PSF	B-Deck 22ga	6' 6"	7' 8"	7' 9"
	B-Deck 20ga	7' 10"	9' 1"	9' 4"
	B-Deck 18ga	8' 9"	10' 8"	11' 1"
5.50 (t=4.00) 42 PSF	B-Deck 22ga	6' 3"	7' 4"	7' 5"
	B-Deck 20ga	7' 6"	8' 9"	8' 11"
	B-Deck 18ga	8' 4"	10' 3"	10' 7"
6.00 (t=4.50) 46 PSF	B-Deck 22ga	6' 1"	7' 1"	7' 2"
	B-Deck 20ga	7' 3"	8' 5"	8' 8"
	B-Deck 18ga	8' 1"	9' 11"	10' 3"

**Tables 4 Notes:** Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

**Table 6A – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck	22 ga	$F_y$ 50 ksi	$f_c$ 3000 psi	Normal Weight Concrete (145 pcf)				
Slab Thickness (Inches)	Weight (psf)	5'-0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	31	400	400	400	366	312	269	234
4	37	400	400	400	400	392	338	293
4.5	43	400	400	400	400	400	400	356
5	49	400	400	400	400	400	400	400
5.5	55	400	400	400	400	400	400	400
6	61	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	204	180	159	141	126	113	101	91
4	257	226	200	178	159	142	128	115
4.5	311	274	243	216	193	173	155	140
5	368	324	287	255	228	205	184	166
5.5	400	375	332	296	264	237	214	193
6	400	400	378	337	301	270	243	220

**Table 6B – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck	20 ga	$F_y$ 50 ksi	$f_c$ 3000 psi	Normal Weight Concrete (145 pcf)				
Slab Thickness (Inches)	Weight (psf)	5'-0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	31	400	400	400	400	375	323	282
4	37	400	400	400	400	400	400	354
4.5	43	400	400	400	400	400	400	400
5	49	400	400	400	400	400	400	400
5.5	55	400	400	400	400	400	400	400
6	61	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	247	218	193	172	154	138	124	112
4	310	274	243	216	194	174	157	142
4.5	376	332	295	263	236	212	191	173
5	400	393	349	311	279	251	226	205
5.5	400	400	400	361	323	291	263	238
6	400	400	400	400	368	332	299	271

**Table 6C – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck	18 ga	$F_y$ 50 ksi	$f_c'$ 3000 psi	Normal Weight Concrete (145 pcf)				
Slab Thickness (Inches)	Weight (psf)	5'-0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	31	400	400	400	400	400	400	366
4	37	400	400	400	400	400	400	400
4.5	43	400	400	400	400	400	400	400
5	49	400	400	400	400	400	400	400
5.5	55	400	400	400	400	400	400	400
6	61	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	321	284	253	226	203	183	165	150
4	400	358	318	285	256	230	208	189
4.5	400	400	387	346	311	281	254	231
5	400	400	400	400	369	333	301	274
5.5	400	400	400	400	400	386	350	318
6	400	400	400	400	400	400	400	363

**Table 6D – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck	22 ga	$F_y$ 50 ksi	$f_c'$ 3000 psi	Lightweight Concrete (115 pcf)				
Slab Thickness (Inches)	Weight (psf)	5'-0	5'-6	6'-0	6'-6	7'-0	7'-6	8'-0
3.5	23	400	400	400	355	303	262	228
4	28	400	400	400	400	381	329	287
4.5	33	400	400	400	400	400	400	349
5	37	400	400	400	400	400	400	400
5.5	42	400	400	400	400	400	400	400
6	46	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	200	177	157	140	125	113	102	92
4	252	222	197	176	158	142	128	116
4.5	306	270	240	214	192	173	156	141
5	363	320	285	254	228	205	185	168
5.5	400	371	330	295	264	238	215	195
6	400	400	376	336	302	272	246	223

**Table 6E – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

B-Deck	20 ga	$F_y$ 50 ksi	$f'_c$ 3000 psi		Lightweight Concrete (115 pcf)			
			5'-0	5'-6	6'-0	6'-6	7'-0	7'-6
Slab Thickness (Inches)	Weight (psf)							
3.5	23	400	400	400	400	362	313	273
4	28	400	400	400	400	400	394	343
4.5	33	400	400	400	400	400	400	400
5	37	400	400	400	400	400	400	400
5.5	42	400	400	400	400	400	400	400
6	46	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	240	212	188	168	151	136	123	112
4	302	267	237	212	191	172	155	141
4.5	367	325	289	258	232	209	189	172
5	400	386	343	307	276	249	225	205
5.5	400	400	398	356	320	289	262	238
6	400	400	400	400	366	331	299	272

**Table 6F – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

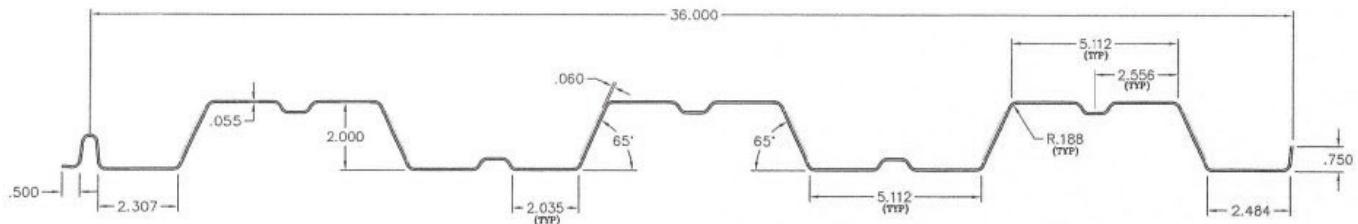
B-Deck	18 ga	$F_y$ 50 ksi	$f'_c$ 3000 psi		Lightweight Concrete (115 pcf)			
			5'-0	5'-6	6'-0	6'-6	7'-0	7'-6
Slab Thickness (Inches)	Weight (psf)							
3.5	23	400	400	400	400	400	400	351
4	28	400	400	400	400	400	400	400
4.5	33	400	400	400	400	400	400	400
5	37	400	400	400	400	400	400	400
5.5	42	400	400	400	400	400	400	400
6	46	400	400	400	400	400	400	400

Slab Thickness (Inches)	8'-6	9'-0	9'-6	10'-0	10'-6	11'-0	11'-6	12'-0
3.5	309	274	244	218	197	178	161	146
4	390	345	308	276	248	224	203	185
4.5	400	400	376	337	303	274	248	226
5	400	400	400	400	361	326	296	270
5.5	400	400	400	400	400	379	344	314
6	400	400	400	400	400	400	395	360

## 2" Floor Deck Tables – 50 ksi

2" Form and 2" Composite



**Table 1A – Section Properties and Flexural Resistance (Bare Deck) (2" Floor Deck Composite and 2" Floor Deck Form)**

							ASD ( $\Omega = 1.67$ )			
Profile	Gage Number	Design Thickness (inches)	Weight (psf)	F <sub>y</sub> ksi	S <sub>e+</sub> (inch <sup>3</sup> ) per foot	S <sub>e-</sub> (inch <sup>3</sup> ) per foot	M <sub>p</sub> /Ω inch-lbs per ft	M <sub>n</sub> /Ω inch-lbs per ft	I <sub>d+</sub> (inch <sup>4</sup> ) per ft.	I <sub>d-</sub> (inch <sup>4</sup> ) per ft.
2" Floor Deck	22	0.0295	1.6	50	0.237	0.244	7105	7311	0.294	0.273
2" Floor Deck	20	0.0358	1.9	50	0.317	0.324	9481	9701	0.371	0.350
2" Floor Deck	18	0.0474	2.5	50	0.471	0.479	14102	14351	0.513	0.500

**Table 1A Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017, and AISI S100-2012 and AISI S100-2016

**Table 1B – Shear and Web Crippling (Bare Deck) (2" Floor Deck Composite and 2" Floor Deck Form) (50 ksi)**

			Web Crippling (R <sub>n</sub> /Ω), lbs/ft One Flange Loading End Bearing			Web Crippling (R <sub>n</sub> /Ω), lbs/ft One Flange Loading Interior Bearing		
Profile	Gage Number	V <sub>n</sub> /Ω lbs per ft	2"	3"	4"	2"	3"	4"
2" Floor Deck	22	2033	417	480	533	649	735	806
2" Floor Deck	20	2815	594	681	754	932	1049	1148
2" Floor Deck	18	3709	991	1129	1245	1571	1757	1913

**Table 1B Notes:**

1. All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017, and AISI S100-2012 and AISI S100-2016

**Table 2 – 2" Floor Deck Deck (Bare Deck) – (2" Floor Deck Composite and 2" Floor Deck Form)**

**Table 2.1 2" Floor Deck Composite and 2" Floor Deck Form (50 ksi) ASD Uniform Superimposed Downward Loads (psf)**

Span Cond.	Gage Number	6'- 0"	7'- 0"	8'- 0"	9'- 0"	10'- 0"	11'- 0"	12'- 0"	13'- 0"	14'- 0"	15'- 0"	16'- 0"
Single	22	132	97	74	58	47	39	33	28	24	21	19
	20	176	129	99	78	63	52	44	37	32	28	25
	18	261	192	147	116	94	78	65	56	48	42	37
Double	22	135	99	76	60	49	40	34	29	25	22	19
	20	180	132	101	80	65	53	45	38	33	29	25
	18	266	195	149	118	96	79	66	57	49	43	37
Triple	22	169	124	95	75	61	50	42	36	31	27	24
	20	225	165	126	100	81	67	56	48	41	36	32
	18	332	244	187	148	120	99	83	71	61	53	47

**Tables 2.1 and 2.2 Notes:**

1. All section properties and ASD ( $\Omega = 1.67$ ) uniform loads are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017 and AISI S100-2012 and AISI S100-2016.
2. Loads shown in tables are uniformly distributed superimposed loads in psf. Span length assumes center-to-center spacing of supports. Tabulated loads shall not be increased by assuming clear span dimensions.
3. Bending Moment formulae used for flexural stress limitations are:

$$\text{Simple and Two Span} \quad M = \frac{w\ell^2}{8}$$

$$\text{Three Span or More} \quad M = \frac{w\ell^2}{10}$$

4. Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

**Table 2.3 2" Floor Deck Composite and 2" Floor Deck Form (50 ksi) Uniform Superimposed Service Load that Causes L/240 Deflection (psf)**

Span Cond.	Gage Number	6'- 0"	7'- 0"	8'- 0"	9'- 0"	10'- 0"	11'- 0"	12'- 0"	13'- 0"	14'- 0"	15'- 0"	16'- 0"
Single	22	83	52	35	25	18	13	10	8	7	5	4
	20	106	67	45	32	23	17	13	10	8	7	6
	18	152	96	64	45	33	25	19	15	12	10	8
Double	22	200	126	84	59	43	32	25	20	16	13	11
	20	256	161	108	76	55	42	32	25	20	16	14
	18	366	230	154	108	79	59	46	36	29	23	19
Triple	22	157	99	66	46	34	25	20	15	12	10	8
	20	200	126	85	59	43	33	25	20	16	13	11
	18	286	180	121	85	62	46	36	28	23	18	15

**Table 2.3 Notes:**

1. For loads that cause L/120 Deflection, multiply by 2.0. For loads that cause L/180 Deflection, multiply by 1.5. For loads that cause L/360 Deflection, multiply by 0.667.

**Table 4.1 – Construction Span Table 2" Floor Deck Composite and 2" Floor Deck Form ( $F_y = 50$  ksi) - 20 psf Construction Load**

**Normal Weight Concrete (145 pcf)**

Total Slab Depth	Deck Type	Maximum Unshored Clear Span		
		1 span	2 span	3 span
4.00 (t=2.00) 39 PSF	2" Floor Deck 22 ga	7' 10"	9' 1"	9' 3"
	2" Floor Deck 20 ga	9' 5"	10' 6"	10' 10"
	2" Floor Deck 18 ga	10' 6"	12' 9"	13' 2"
4.50 (t=2.50) 45 PSF	2" Floor Deck 22 ga	7' 5"	8' 8"	8' 10"
	2" Floor Deck 20 ga	9' 0"	9' 12"	10' 4"
	2" Floor Deck 18 ga	9' 12"	12' 2"	12' 6"
5.00 (t=3.00) 51 PSF	2" Floor Deck 22 ga	7' 2"	8' 3"	8' 5"
	2" Floor Deck 20 ga	8' 8"	10' 4"	10' 9"
	2" Floor Deck 18 ga	9' 7"	11' 7"	12' 0"
5.50 (t=3.50) 57 PSF	2" Floor Deck 22 ga	6' 10"	7' 11"	8' 1"
	2" Floor Deck 20 ga	8' 3"	9' 2"	9' 6"
	2" Floor Deck 18 ga	9' 3"	11' 2"	11' 6"
6.00 (t=4.00) 63 PSF	2" Floor Deck 22 ga	6' 7"	7' 8"	7' 9"
	2" Floor Deck 20 ga	7' 11"	8' 10"	9' 1"
	2" Floor Deck 18 ga	8' 11"	10' 9"	11' 1"
6.50 (t=4.50) 69 PSF	2" Floor Deck 22 ga	6' 5"	7' 5"	7' 6"
	2" Floor Deck 20 ga	7' 8"	8' 6"	8' 10"
	2" Floor Deck 18 ga	8' 8"	10' 4"	10' 9"

**Lightweight Concrete (115 pcf)**

Total Slab Depth	Deck Type	Maximum Unshored Clear Span		
		1 span	2 span	3 span
4.00 (t=2.00) 31 PSF	2" Floor Deck 22 ga	8' 5"	9' 9"	10' 0"
	2" Floor Deck 20 ga	10' 2"	11' 3"	11' 8"
	2" Floor Deck 18 ga	11' 4"	13' 8"	14' 2"
4.50 (t=2.50) 35 PSF	2" Floor Deck 22 ga	8' 1"	9' 5"	9' 7"
	2" Floor Deck 20 ga	9' 9"	10' 10"	11' 2"
	2" Floor Deck 18 ga	10' 10"	13' 2"	13' 8"
5.00 (t=3.00) 39 PSF	2" Floor Deck 22 ga	7' 10"	9' 1"	9' 3"
	2" Floor Deck 20 ga	9' 6"	11' 5"	11' 10"
	2" Floor Deck 18 ga	10' 6"	12' 9"	13' 2"
5.50 (t=3.50) 44 PSF	2" Floor Deck 22 ga	7' 6"	8' 9"	8' 11"
	2" Floor Deck 20 ga	9' 0"	10' 1"	10' 5"
	2" Floor Deck 18 ga	10' 1"	12' 3"	12' 8"
6.00 (t=4.00) 48 PSF	2" Floor Deck 22 ga	7' 3"	8' 6"	8' 7"
	2" Floor Deck 20 ga	8' 9"	9' 9"	10' 1"
	2" Floor Deck 18 ga	9' 9"	11' 10"	12' 3"
6.50 (t=4.50) 53 PSF	2" Floor Deck 22 ga	7' 0"	8' 2"	8' 4"
	2" Floor Deck 20 ga	8' 5"	9' 5"	9' 9"
	2" Floor Deck 18 ga	9' 6"	11' 5"	11' 10"

**Tables 4 Notes:**

1. Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

**Table 6A – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

2" Floor Deck		22 ga	$F_y$ 50 ksi	$f_c'$ 3000 psi	Normal Weight Concrete (145pcf)			
Slab Thickness (Inches)	Weight (psf)	7'-0	7'-6	8'-0	8'-6	9'-0	9'-6	10'-0
4	39	322	277	241	211	186	165	146
4.5	45	391	337	293	257	226	200	178
5	51	400	399	347	304	268	238	212
5.5	57	400	400	400	353	311	276	246
6	63	400	400	400	400	356	316	281
6.5	69	400	400	400	400	400	356	317

Slab Thickness (Inches)	10'-6	11'-0	11'-6	12'-0	12'-6	13'-0	13'-6	14'-0
4	131	117	105	95	86	77	70	64
4.5	159	143	129	116	105	95	86	78
5	189	170	153	138	125	113	103	94
5.5	220	198	178	161	146	132	120	110
6	252	226	204	184	167	152	138	126
6.5	284	255	230	208	189	172	156	143

**Table 6B – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

2" Floor Deck		20 ga	$F_y$ 50 ksi	$f_c'$ 3000 psi	Normal Weight Concrete (145pcf)			
Slab Thickness (Inches)	Weight (psf)	7'-0	7'-6	8'-0	8'-6	9'-0	9'-6	10'-0
4	39	388	335	292	256	226	201	179
4.5	45	400	400	355	311	275	244	218
5	51	400	400	400	369	326	289	258
5.5	57	400	400	400	400	378	336	300
6	63	400	400	400	400	400	384	343
6.5	69	400	400	400	400	400	400	387

Slab Thickness (Inches)	10'-6	11'-0	11'-6	12'-0	12'-6	13'-0	13'-6	14'-0
4	159	160	144	130	117	106	97	88
4.5	193	195	175	158	143	130	118	108
5	230	232	208	188	170	155	141	129
5.5	267	269	243	219	199	180	164	150
6	306	308	277	251	227	207	188	172
6.5	345	347	313	283	257	234	213	195

**Table 6C – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

2" Floor Deck		18 ga	$F_y$ 50 ksi		$f_c'$ 3000 psi		Normal Weight Concrete (145pcf)		
Slab Thickness (Inches)	Weight (psf)	7'-0	7'-6	8'-0	8'-6	9'-0	9'-6	10'-0	
4	39	400	400	382	336	297	265	237	
4.5	45	400	400	400	400	361	321	288	
5	51	400	400	400	400	400	381	341	
5.5	57	400	400	400	400	400	400	397	
6	63	400	400	400	400	400	400	400	
6.5	69	400	400	400	400	400	400	400	

Slab Thickness (Inches)	10'-6	11'-0	11'-6	12'-0	12'-6	13'-0	13'-6	14'-0
4	213	192	174	158	143	131	120	110
4.5	258	233	211	192	175	160	146	134
5	307	277	251	228	208	190	174	160
5.5	357	322	292	266	242	221	203	186
6	400	369	334	304	278	254	233	214
6.5	400	400	378	344	314	287	263	242

**Table 6D – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

2" Floor Deck		22 ga	$F_y$ 50 ksi		$f_c'$ 3000 psi		Light Weight Concrete (115pcf)		
Slab Thickness (Inches)	Weight (psf)	7'-0	7'-6	8'-0	8'-6	9'-0	9'-6	10'-0	
4	31	313	270	235	206	182	162	144	
4.5	35	381	329	287	252	222	198	176	
5	39	400	391	341	299	265	235	210	
5.5	44	400	400	396	348	308	274	244	
6	48	400	400	400	398	352	313	280	
6.5	53	400	400	400	400	397	354	316	

Slab Thickness (Inches)	10'-6	11'-0	11'-6	12'-0	12'-6	13'-0	13'-6	14'-0
4	129	116	105	95	86	78	71	65
4.5	158	142	129	116	106	96	88	80
5	189	170	153	139	126	115	105	96
5.5	219	198	179	162	147	134	123	112
6	252	227	205	186	169	155	141	130
6.5	284	256	232	210	191	175	160	146

**Table 6E – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

2" Floor Deck		20 ga	$F_y$ 50 ksi	$f_c'$ 3000 psi	Lightweight Concrete (115pcf)			
Slab Thickness (Inches)	Weight (psf)	7'-0	7'-6	8'-0	8'-6	9'-0	9'-6	10'-0
4	31	376	325	283	249	220	196	175
4.5	35	400	395	345	303	268	239	214
5	39	400	400	400	361	319	284	254
5.5	44	400	400	400	400	371	331	296
6	48	400	400	400	400	400	379	339
6.5	53	400	400	400	400	400	400	383

Slab Thickness (Inches)	10'-6	11'-0	11'-6	12'-0	12'-6	13'-0	13'-6	14'-0
4	157	142	128	116	106	96	88	81
4.5	192	173	157	142	130	118	108	99
5	229	206	187	170	155	141	130	119
5.5	266	240	218	198	180	165	151	139
6	305	276	250	227	207	190	174	160
6.5	345	311	282	257	234	214	196	181

**Table 6F – Composite Deck-Slab Allowable Superimposed Load (ASD), psf**

2" Floor Deck		18 ga	$F_y$ 50 ksi	$f_c'$ 3000 psi	Lightweight Concrete (115pcf)			
Slab Thickness (Inches)	Weight (psf)	7'-0	7'-6	8'-0	8'-6	9'-0	9'-6	10'-0
4	31	400	400	368	324	287	256	229
4.5	35	400	400	400	394	350	312	279
5	39	400	400	400	400	400	371	333
5.5	44	400	400	400	400	400	400	387
6	48	400	400	400	400	400	400	400
6.5	53	400	400	400	400	400	400	400

Slab Thickness (Inches)	10'-6	11'-0	11'-6	12'-0	12'-6	13'-0	13'-6	14'-0
4	206	186	169	154	140	128	118	108
4.5	252	227	206	188	172	157	144	133
5	300	271	246	224	205	188	172	159
5.5	349	316	287	261	239	219	201	185
6	400	362	329	300	274	252	231	213
6.5	400	400	372	339	310	285	262	241

# B-Deck Diaphragm Load Tables

## B-Deck Diaphragm Load Table – 22 Gauge 40 ksi (Welded)

1.5WR22

Design thickness = 0.0295 in.

Support fastening: 5/8" arc spot welds or equivalent

Side-lap fastening: #10 screws

Fu: 50 ksi

Fy: 40 ksi

Fxx: 60 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.55	3.00
Wind	0.75	2.15
Other	0.55	3.00

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		3	3.5	4	4.5	5	5.5	6	6.5	7		
36/9	0	1940	1705	1520	1345	1200						0.324
	1	2045	1805	1610	1445	1290	1165	1060				0.272
	2	2150	1905	1705	1540	1385	1250	1140	1045	960		0.234
	3	2250	2000	1795	1620	1475	1335	1215	1115	1025		0.206
	4	2350	2090	1880	1705	1555	1415	1290	1185	1095		0.183
	5	2440	2180	1965	1780	1630	1500	1370	1255	1160		0.165
36/7	6	2525	2265	2045	1860	1700	1570	1445	1325	1225		0.151
	0	1240	1075	935	825	740						0.486
	1	1365	1190	1050	930	830	750	685				0.377
	2	1490	1300	1155	1030	925	835	760	700	645		0.308
	3	1605	1410	1255	1125	1015	920	840	770	710		0.261
	4	1715	1510	1350	1215	1105	1000	915	840	775		0.226
36/5	5	1820	1610	1440	1300	1185	1085	990	910	845		0.199
	6	1925	1705	1530	1385	1260	1160	1070	980	910		0.178
	0	1095	965	860	765	685						0.583
	1	1205	1065	950	860	775	700	640				0.433
	2	1305	1160	1040	940	860	785	715	655	605		0.345
	3	1395	1250	1125	1020	935	860	790	725	670		0.286
36/4	4	1485	1335	1205	1100	1005	925	860	795	735		0.245
	5	1560	1410	1280	1170	1075	995	920	860	805		0.214
	6	1630	1485	1355	1240	1145	1055	985	920	860		0.190
	0	840	740	655	575	515						0.728
	1	945	835	750	675	605	545	495				0.509
	2	1040	930	835	760	695	630	575	525	485		0.391
36/4	3	1125	1010	915	835	765	705	650	595	550		0.318
	4	1200	1085	990	905	835	770	715	665	615		0.267
	5	1265	1155	1060	975	900	835	775	725	680		0.231
	6	1325	1220	1120	1035	960	890	830	780	730		0.203

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
WR	0.173	15257	11209	8582	6781	5493	4539	3814	3250	2802	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 40 ksi (#12 Screw)

1.5WR22

Design thickness = 0.0295 in.

Fu: 50 ksi

Support fastening: #12 screws

Fy: 40 ksi

Side-lap fastening: #10 screws

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.70	2.30
Wind	0.80	2.00
Other	0.70	2.30

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		3	3.5	4	4.5	5	5.5	6	6.5	7		
36/9	0	855	755	670	595	530						0.366
	1	960	850	765	690	620	560	510				0.301
	2	1060	945	850	770	705	645	585	540	495		0.255
	3	1145	1030	930	845	775	715	665	610	565		0.222
	4	1220	1105	1005	920	845	780	725	675	630		0.196
	5	1290	1175	1075	990	910	845	785	735	690		0.176
36/7	6	1355	1240	1140	1050	975	905	845	790	740		0.159
	0	545	475	415	365	325						0.549
	1	670	585	520	465	420	380	345				0.414
	2	785	690	615	555	505	460	420	385	360		0.333
	3	885	785	705	640	585	535	495	460	425		0.278
	4	970	870	790	715	655	605	560	520	485		0.239
36/5	5	1050	950	865	790	725	670	625	580	545		0.209
	6	1115	1020	935	855	790	735	685	640	600		0.186
	0	485	425	380	335	300						0.659
	1	585	520	470	425	385	355	325				0.474
	2	675	605	550	500	460	425	395	365	340		0.370
	3	745	680	620	570	525	490	455	425	400		0.304
36/4	4	800	740	680	630	585	545	510	480	450		0.257
	5	850	790	735	685	640	600	560	530	500		0.223
	6	885	830	780	730	685	645	610	575	545		0.197
	0	370	325	290	255	225						0.823
	1	470	420	380	345	315	285	260				0.554
	2	545	495	455	415	380	355	330	305	285		0.417
36/4	3	605	555	515	475	445	415	385	360	340		0.334
	4	650	605	565	530	495	465	435	410	390		0.279
	5	680	645	605	570	540	510	480	455	430		0.240
	6	710	675	640	610	575	550	520	495	470		0.210

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		3	3.5	4	4.5	5	5.5	6	6.5	7	
WR	0.173	15257	11209	8582	6781	5493	4539	3814	3250	2802	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df} S_{nf}, \phi_{db} S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 40 ksi (Hilti® X-HSN24)

1.5 WR 22

Design thickness = 0.0295 in.

Fu: 50 ksi

Support fastening: Hilti X-HSN24

Fy: 40 ksi

Side-lap fastening: #10 screws

0.125" through 0.375" Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		3	3.5	4	4.5	5	5.5	6	6.5	7	
36/9	0	1520	1335	1190	1055	940					0.352
	1	1625	1435	1285	1155	1035	930	850			0.291
	2	1730	1535	1375	1240	1125	1015	925	850	780	0.248
	3	1830	1630	1465	1325	1210	1100	1005	920	850	0.217
	4	1920	1715	1550	1405	1285	1180	1080	990	915	0.192
	5	2005	1800	1630	1480	1360	1250	1155	1060	980	0.172
36/7	6	2090	1885	1705	1555	1430	1320	1225	1135	1050	0.156
	0	970	845	735	650	580					0.528
	1	1100	960	850	750	670	605	555			0.402
	2	1220	1070	950	850	765	690	630	580	535	0.325
	3	1330	1175	1045	940	855	775	710	650	600	0.272
	4	1440	1275	1140	1030	935	860	785	720	670	0.235
36/5	5	1540	1370	1230	1110	1015	930	860	795	735	0.206
	6	1635	1460	1315	1190	1090	1000	925	860	800	0.184
	0	860	755	670	600	535					0.633
	1	965	855	765	690	630	565	515			0.461
	2	1065	950	855	775	705	650	595	545	505	0.362
	3	1150	1035	935	850	780	720	665	615	570	0.298
36/4	4	1230	1115	1010	925	850	785	730	680	635	0.253
	5	1300	1185	1085	995	915	850	790	740	690	0.220
	6	1365	1250	1150	1060	980	910	850	795	745	0.195
	0	655	580	515	450	405					0.792
	1	760	675	605	550	495	445	405			0.539
	2	855	765	690	630	575	530	485	445	410	0.409
36/4	3	930	845	765	700	645	595	555	515	475	0.329
	4	1000	915	835	770	710	660	615	575	540	0.275
	5	1055	975	900	830	770	720	670	630	590	0.237
	6	1105	1025	955	885	825	770	725	680	640	0.208

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		3	3.5	4	4.5	5	5.5	6	6.5	7
WR	0.173	15257	11209	8582	6781	5493	4539	3814	3250	2802

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 40 ksi (Hilti® X-ENP-19 L5)

1.5 WR 22

Design thickness = 0.0295 in.

Fu: 50 ksi

Support fastening: Hilti X-ENP-19 L5

Fy: 40 ksi

Side-lap fastening: #10 screws

0.250" and thicker Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		3	3.5	4	4.5	5	5.5	6	6.5	7	
36/9	0	1635	1440	1280	1135	1010					0.211
	1	1745	1540	1375	1235	1105	995	910			0.188
	2	1850	1640	1465	1325	1200	1080	985	905	835	0.169
	3	1945	1735	1555	1410	1285	1165	1060	975	900	0.154
	4	2040	1825	1640	1490	1360	1250	1140	1045	965	0.141
	5	2130	1910	1725	1565	1435	1320	1215	1115	1030	0.130
36/7	6	2215	1990	1805	1645	1505	1390	1290	1190	1100	0.121
	0	1045	910	790	700	625					0.317
	1	1175	1025	905	800	715	650	590			0.267
	2	1295	1135	1005	905	810	730	665	615	565	0.230
	3	1410	1240	1105	995	900	815	745	685	630	0.203
	4	1520	1340	1200	1080	985	900	820	755	700	0.181
36/5	5	1620	1440	1290	1165	1060	975	900	825	765	0.163
	6	1715	1530	1375	1245	1140	1045	970	900	830	0.149
	0	925	815	725	645	575					0.380
	1	1035	915	815	740	670	605	550			0.310
	2	1130	1010	905	820	750	690	630	575	530	0.262
	3	1220	1095	990	900	825	760	700	650	600	0.227
36/4	4	1300	1175	1065	975	895	825	765	715	665	0.200
	5	1375	1250	1140	1045	960	890	830	775	725	0.179
	6	1440	1315	1205	1110	1025	950	885	830	780	0.162
	0	705	620	550	485	435					0.475
	1	810	720	645	585	525	475	430			0.371
	2	905	810	730	665	610	560	510	465	430	0.304

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		3	3.5	4	4.5	5	5.5	6	6.5	7
WR	0.173	15257	11209	8582	6781	5493	4539	3814	3250	2802

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{df}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## B-Deck Diaphragm Load Table – 20 Gauge 40 ksi (Welded)

1.5WR20

Design thickness = 0.0358 in.

Support fastening: 5/8" arc spot welds or equivalent

Side-lap fastening: #10 screws

Fu: 50 ksi

Fy: 40 ksi

Fxx: 60 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.55	3.00
Wind	0.75	2.15
Other	0.55	3.00

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		4	4.5	5	5.5	6	6.5	7	7.5	8		
36/9	0	1855	1650	1475								0.357
	1	1980	1785	1600	1445	1315						0.299
	2	2100	1900	1720	1555	1420	1300	1200	1115	1035		0.258
	3	2220	2010	1830	1670	1520	1395	1290	1195	1115		0.226
	4	2335	2115	1935	1775	1625	1490	1375	1275	1190		0.202
	5	2445	2220	2030	1870	1725	1585	1465	1360	1270		0.182
36/7	6	2555	2325	2130	1960	1815	1680	1550	1440	1345		0.166
	0	1150	1015	910								0.535
	1	1300	1150	1030	935	850						0.415
	2	1435	1285	1155	1045	955	875	810	750	700		0.340
	3	1565	1405	1275	1155	1055	970	895	835	780		0.287
	4	1690	1525	1385	1270	1160	1065	985	915	855		0.249
36/5	5	1810	1635	1490	1365	1260	1160	1075	1000	930		0.219
	6	1930	1745	1595	1465	1350	1255	1160	1080	1010		0.196
	0	1050	940	840								0.642
	1	1175	1060	965	870	795						0.477
	2	1290	1170	1065	980	895	825	760	705	660		0.380
	3	1405	1275	1165	1075	995	920	850	790	735		0.315
36/4	4	1510	1375	1260	1165	1080	1005	935	870	810		0.270
	5	1605	1470	1355	1250	1160	1085	1015	950	890		0.236
	6	1700	1560	1440	1335	1240	1160	1090	1025	965		0.209
	0	805	710	635								0.802
	1	925	835	755	685	620						0.561
	2	1040	945	865	795	725	665	615	570	530		0.431
36/4	3	1145	1045	960	885	820	760	700	650	605		0.350
	4	1240	1140	1050	970	900	840	790	735	685		0.294
	5	1330	1225	1135	1050	980	915	860	810	760		0.254
	6	1410	1305	1210	1130	1055	990	930	875	830		0.224

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		4	4.5	5	5.5	6	6.5	7	7.5	8	
WR	0.210	11482	9072	7348	6073	5103	4348	3749	3266	2870	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 40 ksi (#12 Screw)

1.5WR20

Design thickness = 0.0358 in.  
Support fastening: #12 screws  
Side-lap fastening: #10 screws

Fu: 50 ksi  
Fy: 40 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.70	2.30
Wind	0.80	2.00
Other	0.70	2.30

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		4	4.5	5	5.5	6	6.5	7	7.5	8	
36/9	0	815	725	650							0.403
	1	935	845	770	695	635					0.331
	2	1050	955	875	805	735	675	625	580	540	0.281
	3	1160	1055	970	895	830	770	715	660	620	0.244
	4	1255	1150	1060	980	910	850	795	745	695	0.216
	5	1345	1240	1145	1065	990	925	870	815	770	0.193
36/7	6	1430	1320	1225	1140	1065	1000	940	885	835	0.175
	0	505	445	400							0.605
	1	645	580	520	470	430					0.456
	2	770	695	635	580	535	490	455	420	395	0.366
	3	890	805	735	675	625	580	540	505	470	0.306
	4	995	905	830	770	710	665	620	580	545	0.263
36/5	5	1090	1000	925	855	795	740	695	655	615	0.230
	6	1180	1090	1005	935	870	815	765	720	680	0.205
	0	460	410	370							0.726
	1	580	525	480	440	405					0.522
	2	685	625	575	530	495	460	430	400	375	0.408
	3	780	715	660	615	575	535	505	475	445	0.334
36/4	4	855	795	740	690	645	605	570	540	510	0.283
	5	920	860	805	755	710	670	635	600	570	0.246
	6	980	920	865	820	770	730	690	655	625	0.217

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		4	4.5	5	5.5	6	6.5	7	7.5	8
WR	0.210	11482	9072	7348	6073	5103	4348	3749	3266	2870

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 40 ksi (Hilti® X-HSN24)

1.5 WR 20

Design thickness = 0.0358 in.

Fu: 50 ksi

Support fastening: Hilti X-HSN24

Fy: 40 ksi

Side-lap fastening: #10 screws

0.125" through 0.375" Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		4	4.5	5	5.5	6	6.5	7	7.5	8		
36/9	0	1435	1280	1140								0.388
	1	1560	1405	1265	1145	1040						0.321
	2	1680	1520	1385	1255	1145	1050	970	900	840		0.274
	3	1800	1630	1490	1370	1250	1145	1060	980	915		0.239
	4	1910	1735	1590	1460	1350	1240	1145	1065	995		0.211
	5	2015	1835	1685	1555	1440	1335	1235	1145	1070		0.190
36/7	6	2120	1935	1780	1640	1525	1420	1325	1230	1150		0.172
	0	890	785	705								0.581
	1	1035	925	825	750	680						0.443
	2	1170	1050	950	860	785	720	665	620	580		0.358
	3	1300	1170	1065	975	890	815	755	700	655		0.300
	4	1420	1285	1170	1075	990	910	845	785	735		0.258
36/5	5	1540	1395	1275	1170	1080	1005	935	870	810		0.227
	6	1650	1500	1375	1265	1170	1090	1015	950	890		0.202
	0	810	725	650								0.698
	1	935	845	770	700	635						0.507
	2	1050	955	870	800	740	680	630	585	545		0.399
	3	1160	1055	970	895	830	770	720	665	625		0.328
36/4	4	1260	1155	1060	980	910	850	795	750	700		0.279
	5	1350	1240	1150	1065	990	925	870	820	775		0.243
	6	1435	1325	1230	1145	1065	1000	940	885	840		0.215
	0	620	550	490								0.872
	1	745	675	615	555	505						0.594
	2	855	780	715	655	610	560	515	480	445		0.450

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		4	4.5	5	5.5	6	6.5	7	7.5	8	
WR	0.210	11482	9072	7348	6073	5103	4348	3749	3266	2870	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 40 ksi (Hilti® X-ENP-19 L5)

1.5 WR 20

Design thickness = 0.0358 in.

Fu: 50 ksi

Support fastening: Hilti X-ENP-19 L5

Fy: 40 ksi

Side-lap fastening: #10 screws

0.250" and thicker Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		Span, ft.									
		4	4.5	5	5.5	6	6.5	7	7.5	8	
36/9	0	1545	1375	1230							0.233
	1	1670	1505	1355	1225	1115					0.207
	2	1795	1620	1475	1335	1215	1115	1030	955	890	0.186
	3	1910	1730	1580	1450	1320	1210	1120	1040	970	0.169
	4	2025	1835	1680	1545	1425	1305	1210	1120	1045	0.155
	5	2130	1940	1780	1640	1520	1405	1295	1205	1125	0.143
36/7	6	2235	2040	1870	1730	1605	1495	1385	1285	1200	0.133
	0	955	845	755							0.349
	1	1105	985	880	795	725					0.294
	2	1240	1115	1005	910	830	765	705	655	610	0.254
	3	1370	1235	1120	1020	935	860	795	740	690	0.223
	4	1495	1350	1230	1125	1035	955	880	820	765	0.199
36/5	5	1610	1460	1330	1225	1130	1050	970	905	845	0.180
	6	1725	1565	1435	1320	1220	1135	1060	985	920	0.164
	0	875	780	700							0.419
	1	1000	900	820	745	680					0.342
	2	1115	1010	925	850	780	720	665	615	575	0.289
	3	1225	1115	1020	940	875	810	750	700	655	0.250
36/4	4	1325	1215	1115	1030	955	890	835	780	730	0.220
	5	1420	1305	1205	1115	1040	970	910	855	805	0.197
	6	1505	1390	1285	1195	1115	1045	980	925	875	0.178
	0	670	590	530							0.523
	1	790	715	650	590	535					0.408
	2	905	820	755	695	640	585	540	500	470	0.335

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		4	4.5	5	5.5	6	6.5	7	7.5	8
WR	0.210	11482	9072	7348	6073	5103	4348	3749	3266	2870

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 18 Gauge 40 ksi (Welded)

1.5WR18

Design thickness = 0.0474 in.

Support fastening: 5/8" arc spot welds or equivalent

Side-lap fastening: #10 screws

Fu: 50 ksi

Fy: 40 ksi

Fxx: 60 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.55	3.00
Wind	0.75	2.15
Other	0.55	3.00

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		Span, ft.									
36/9	0	1935									0.410
	1	2120	1920	1750							0.344
	2	2290	2090	1905	1750	1615	1500	1400	1310	1230	0.297
	3	2450	2250	2060	1895	1750	1625	1515	1420	1335	0.261
	4	2600	2390	2215	2035	1885	1750	1635	1530	1440	0.232
	5	2750	2530	2345	2180	2015	1875	1750	1640	1545	0.210
36/7	6	2890	2670	2475	2305	2150	2000	1865	1750	1645	0.191
	0	1190									0.615
	1	1375	1245	1135							0.478
	2	1565	1415	1295	1190	1100	1020	955	895	840	0.391
	3	1730	1585	1450	1335	1235	1145	1070	1005	945	0.330
	4	1895	1735	1605	1475	1365	1270	1190	1115	1050	0.286
36/5	5	2050	1885	1740	1615	1500	1395	1305	1225	1155	0.253
	6	2205	2030	1875	1745	1630	1520	1425	1335	1260	0.226
	0	1100									0.739
	1	1275	1165	1065							0.549
	2	1430	1315	1215	1120	1035	965	900	845	790	0.437
	3	1580	1455	1350	1255	1170	1090	1015	955	895	0.363
36/4	4	1720	1590	1475	1375	1290	1210	1135	1065	1000	0.310
	5	1855	1720	1600	1495	1400	1315	1245	1175	1105	0.271
	6	1985	1840	1715	1605	1510	1420	1340	1270	1205	0.241
	0	830									0.923
	1	1015	920	840							0.645
	2	1165	1075	995	915	845	785	730	685	645	0.496
36/4	3	1305	1210	1120	1045	980	910	850	795	750	0.403
	4	1440	1335	1245	1160	1090	1025	965	905	850	0.339
	5	1560	1455	1355	1270	1195	1130	1065	1010	955	0.293
	6	1675	1565	1465	1375	1295	1225	1160	1100	1045	0.257

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft.								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11211	9265	7786	6634	5720	4983	4379	3879	3460

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 18 Gauge 40 ksi (#12 Screw)

1.5WR18

Design thickness = 0.0474 in.  
Support fastening: #12 screws  
Side-lap fastening: #10 screws

Fu: 50 ksi  
Fy: 40 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.70	2.30
Wind	0.80	2.00
Other	0.70	2.30

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9		
36/9	0	865										0.464
	1	1045	955	870								0.381
	2	1195	1100	1020	940	870	810	755	710	665		0.324
	3	1340	1235	1150	1070	1000	935	870	820	770		0.281
	4	1475	1365	1270	1185	1115	1045	990	930	875		0.248
	5	1595	1485	1385	1300	1220	1150	1085	1030	975		0.223
36/7	6	1715	1600	1495	1405	1320	1250	1180	1120	1065		0.202
	0	530										0.696
	1	720	650	595								0.525
	2	880	810	745	690	640	595	555	520	490		0.422
	3	1035	950	880	820	765	720	675	630	595		0.352
	4	1175	1085	1010	940	880	830	780	740	700		0.303
36/5	5	1305	1215	1130	1055	990	935	880	835	790		0.265
	6	1425	1330	1245	1165	1095	1035	980	930	880		0.236
	0	490										0.835
	1	655	605	560								0.601
	2	800	740	685	640	600	565	530	500	470		0.469
	3	925	860	805	755	710	665	630	600	570		0.385
36/4	4	1035	970	910	855	805	765	725	685	655		0.326
	5	1130	1065	1005	950	900	850	810	770	735		0.283
	6	1210	1150	1090	1030	980	935	890	850	810		0.250
	0	370										1.044
	1	535	495	460								0.702
	2	670	620	580	545	510	480	455	425	400		0.528

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		5	5.5	6	6.5	7	7.5	8	8.5	9	
WR	0.279	11211	9265	7786	6634	5720	4983	4379	3879	3460	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 18 Gauge 40 ksi (Hilti® X-HSN24)

1.5 WR 18

Design thickness = 0.0474 in.

Fu: 50 ksi

Support fastening: Hilti X-HSN24

Fy: 40 ksi

Side-lap fastening: #10 screws

0.125" through 0.375" Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9	
36/9	0	1510									0.446
	1	1695	1535	1400							0.369
	2	1860	1705	1555	1430	1320	1225	1145	1070	1005	0.315
	3	2015	1850	1710	1575	1455	1350	1260	1180	1110	0.274
	4	2160	1990	1845	1720	1590	1480	1380	1295	1215	0.243
	5	2305	2130	1975	1840	1725	1605	1500	1405	1320	0.218
36/7	6	2445	2260	2100	1960	1835	1725	1615	1515	1425	0.198
	0	925									0.669
	1	1115	1010	920							0.510
	2	1295	1180	1080	990	920	855	795	750	705	0.412
	3	1460	1340	1235	1140	1055	980	915	860	810	0.345
	4	1620	1490	1375	1280	1190	1105	1035	970	915	0.297
36/5	5	1775	1635	1510	1405	1315	1230	1150	1080	1020	0.261
	6	1920	1770	1645	1530	1430	1345	1265	1190	1125	0.233
	0	855									0.803
	1	1030	945	865							0.584
	2	1185	1090	1010	940	870	805	755	705	665	0.459
	3	1330	1225	1140	1060	995	935	870	820	770	0.378
36/4	4	1465	1355	1265	1180	1105	1040	980	930	875	0.321
	5	1590	1480	1380	1290	1215	1145	1080	1025	975	0.279
	6	1705	1590	1490	1400	1315	1245	1175	1115	1060	0.247
	0	650									1.004
	1	825	755	690							0.683
	2	975	900	835	775	720	670	625	585	550	0.518
36/3	3	1110	1030	960	895	840	790	740	695	655	0.417
	4	1230	1150	1075	1005	945	890	845	800	760	0.349
	5	1340	1255	1180	1110	1045	990	935	890	845	0.300
	6	1440	1355	1275	1205	1140	1080	1025	975	930	0.263

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11211	9265	7786	6634	5720	4983	4379	3879	3460

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 18 Gauge 40 ksi (Hilti® X-ENP-19 L5)

1.5 WR 18

Design thickness = 0.0474 in.

Fu: 50 ksi

Support fastening: Hilti X-ENP-19 L5

Fy: 40 ksi

Side-lap fastening: #10 screws

0.250" and thicker Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9	
36/9	0	1625									0.268
	1	1815	1640	1495							0.238
	2	1975	1810	1650	1515	1400	1300	1215	1135	1070	0.214
	3	2130	1960	1810	1660	1535	1425	1330	1250	1175	0.195
	4	2285	2105	1945	1810	1670	1555	1450	1360	1280	0.178
	5	2430	2240	2080	1935	1805	1680	1570	1470	1385	0.165
36/7	6	2570	2375	2205	2055	1925	1805	1685	1580	1490	0.153
	0	1000									0.401
	1	1185	1075	980							0.338
	2	1370	1245	1140	1045	970	900	840	790	740	0.292
	3	1535	1410	1295	1190	1105	1025	960	900	845	0.257
	4	1695	1560	1440	1335	1240	1150	1075	1010	950	0.229
36/5	5	1850	1705	1575	1465	1370	1280	1195	1120	1055	0.207
	6	2000	1845	1710	1590	1485	1395	1315	1235	1160	0.189
	0	925									0.482
	1	1095	1005	920							0.393
	2	1250	1150	1065	990	915	850	795	745	700	0.332
	3	1400	1290	1195	1115	1045	975	910	855	805	0.288
36/4	4	1535	1425	1325	1235	1160	1090	1025	965	910	0.254
	5	1665	1545	1440	1350	1265	1195	1125	1070	1015	0.227
	6	1785	1665	1555	1460	1370	1295	1225	1160	1105	0.205
	0	700									0.602
	1	875	800	730							0.470
	2	1025	945	880	815	755	700	655	610	575	0.385

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11211	9265	7786	6634	5720	4983	4379	3879	3460

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 50 ksi (Welded)

1.5WR22

Design thickness = 0.0295 in.

Support fastening: 5/8" arc spot welds or equivalent

Side-lap fastening: #10 screws

Fu: 50 ksi

Fy: 40 ksi

Fxx: 60 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.55	3.00
Wind	0.75	2.15
Other	0.55	3.00

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		3	3.5	4	4.5	5	5.5	6	6.5	7		
36/9	0	1940	1705	1520	1345	1200						0.324
	1	2045	1805	1610	1445	1290	1165	1060				0.272
	2	2150	1905	1705	1540	1385	1250	1140	1045	960		0.234
	3	2250	2000	1795	1620	1475	1335	1215	1115	1025		0.206
	4	2350	2090	1880	1705	1555	1415	1290	1185	1095		0.183
	5	2440	2180	1965	1780	1630	1500	1370	1255	1160		0.165
36/7	6	2525	2265	2045	1860	1700	1570	1445	1325	1225		0.151
	0	1240	1075	935	825	740						0.486
	1	1365	1190	1050	930	830	750	685				0.377
	2	1490	1300	1155	1030	925	835	760	700	645		0.308
	3	1605	1410	1255	1125	1015	920	840	770	710		0.261
	4	1715	1510	1350	1215	1105	1000	915	840	775		0.226
36/5	5	1820	1610	1440	1300	1185	1085	990	910	845		0.199
	6	1925	1705	1530	1385	1260	1160	1070	980	910		0.178
	0	1095	965	860	765	685						0.583
	1	1205	1065	950	860	775	700	640				0.433
	2	1305	1160	1040	940	860	785	715	655	605		0.345
	3	1395	1250	1125	1020	935	860	790	725	670		0.286
36/4	4	1485	1335	1205	1100	1005	925	860	795	735		0.245
	5	1560	1410	1280	1170	1075	995	920	860	805		0.214
	6	1630	1485	1355	1240	1145	1055	985	920	860		0.190
	0	840	740	655	575	515						0.728
	1	945	835	750	675	605	545	495				0.509
	2	1040	930	835	760	695	630	575	525	485		0.391
36/4	3	1125	1010	915	835	765	705	650	595	550		0.318
	4	1200	1085	990	905	835	770	715	665	615		0.267
	5	1265	1155	1060	975	900	835	775	725	680		0.231
	6	1325	1220	1120	1035	960	890	830	780	730		0.203

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
WR	0.173	15257	11209	8582	6781	5493	4539	3814	3250	2802	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 50 ksi (#12 Screw)

1.5WR22

Design thickness = 0.0295 in.  
Support fastening: #12 screws  
Side-lap fastening: #10 screws

Fu: 50 ksi  
Fy: 40 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.70	2.30
Wind	0.80	2.00
Other	0.70	2.30

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		3	3.5	4	4.5	5	5.5	6	6.5	7		
36/9	0	855	755	670	595	530						0.366
	1	960	850	765	690	620	560	510				0.301
	2	1060	945	850	770	705	645	585	540	495		0.255
	3	1145	1030	930	845	775	715	665	610	565		0.222
	4	1220	1105	1005	920	845	780	725	675	630		0.196
	5	1290	1175	1075	990	910	845	785	735	690		0.176
36/7	6	1355	1240	1140	1050	975	905	845	790	740		0.159
	0	545	475	415	365	325						0.549
	1	670	585	520	465	420	380	345				0.414
	2	785	690	615	555	505	460	420	385	360		0.333
	3	885	785	705	640	585	535	495	460	425		0.278
	4	970	870	790	715	655	605	560	520	485		0.239
36/5	5	1050	950	865	790	725	670	625	580	545		0.209
	6	1115	1020	935	855	790	735	685	640	600		0.186
	0	485	425	380	335	300						0.659
	1	585	520	470	425	385	355	325				0.474
	2	675	605	550	500	460	425	395	365	340		0.370
	3	745	680	620	570	525	490	455	425	400		0.304
36/4	4	800	740	680	630	585	545	510	480	450		0.257
	5	850	790	735	685	640	600	560	530	500		0.223
	6	885	830	780	730	685	645	610	575	545		0.197
	0	370	325	290	255	225						0.823
	1	470	420	380	345	315	285	260				0.554
	2	545	495	455	415	380	355	330	305	285		0.417
36/4	3	605	555	515	475	445	415	385	360	340		0.334
	4	650	605	565	530	495	465	435	410	390		0.279
	5	680	645	605	570	540	510	480	455	430		0.240
	6	710	675	640	610	575	550	520	495	470		0.210

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		3	3.5	4	4.5	5	5.5	6	6.5	7	
WR	0.173	15257	11209	8582	6781	5493	4539	3814	3250	2802	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 50 ksi (Hilti® X-HSN24)

1.5 WR 22

Design thickness = 0.0295 in.

Fu: 50 ksi

Support fastening: Hilti X-HSN24

Fy: 40 ksi

Side-lap fastening: #10 screws

0.125" through 0.375" Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		3	3.5	4	4.5	5	5.5	6	6.5	7	
36/9	0	1520	1335	1190	1055	940					0.352
	1	1625	1435	1285	1155	1035	930	850			0.291
	2	1730	1535	1375	1240	1125	1015	925	850	780	0.248
	3	1830	1630	1465	1325	1210	1100	1005	920	850	0.217
	4	1920	1715	1550	1405	1285	1180	1080	990	915	0.192
	5	2005	1800	1630	1480	1360	1250	1155	1060	980	0.172
36/7	6	2090	1885	1705	1555	1430	1320	1225	1135	1050	0.156
	0	970	845	735	650	580					0.528
	1	1100	960	850	750	670	605	555			0.402
	2	1220	1070	950	850	765	690	630	580	535	0.325
	3	1330	1175	1045	940	855	775	710	650	600	0.272
	4	1440	1275	1140	1030	935	860	785	720	670	0.235
36/5	5	1540	1370	1230	1110	1015	930	860	795	735	0.206
	6	1635	1460	1315	1190	1090	1000	925	860	800	0.184
	0	860	755	670	600	535					0.633
	1	965	855	765	690	630	565	515			0.461
	2	1065	950	855	775	705	650	595	545	505	0.362
	3	1150	1035	935	850	780	720	665	615	570	0.298
36/4	4	1230	1115	1010	925	850	785	730	680	635	0.253
	5	1300	1185	1085	995	915	850	790	740	690	0.220
	6	1365	1250	1150	1060	980	910	850	795	745	0.195
	0	655	580	515	450	405					0.792
	1	760	675	605	550	495	445	405			0.539
	2	855	765	690	630	575	530	485	445	410	0.409
36/4	3	930	845	765	700	645	595	555	515	475	0.329
	4	1000	915	835	770	710	660	615	575	540	0.275
	5	1055	975	900	830	770	720	670	630	590	0.237
	6	1105	1025	955	885	825	770	725	680	640	0.208

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
3	3.5	4	4.5	5	5.5	6	6.5	7		
WR	0.173	15257	11209	8582	6781	5493	4539	3814	3250	2802

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 50 ksi (Hilti® X-ENP-19 L5)

1.5 WR 22

Design thickness = 0.0295 in.

Fu: 50 ksi

Support fastening: Hilti X-ENP-19 L5

Fy: 40 ksi

Side-lap fastening: #10 screws

0.250" and thicker Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		Span, ft.									
		3	3.5	4	4.5	5	5.5	6	6.5	7	
36/9	0	1635	1440	1280	1135	1010					0.211
	1	1745	1540	1375	1235	1105	995	910			0.188
	2	1850	1640	1465	1325	1200	1080	985	905	835	0.169
	3	1945	1735	1555	1410	1285	1165	1060	975	900	0.154
	4	2040	1825	1640	1490	1360	1250	1140	1045	965	0.141
	5	2130	1910	1725	1565	1435	1320	1215	1115	1030	0.130
36/7	6	2215	1990	1805	1645	1505	1390	1290	1190	1100	0.121
	0	1045	910	790	700	625					0.317
	1	1175	1025	905	800	715	650	590			0.267
	2	1295	1135	1005	905	810	730	665	615	565	0.230
	3	1410	1240	1105	995	900	815	745	685	630	0.203
	4	1520	1340	1200	1080	985	900	820	755	700	0.181
36/5	5	1620	1440	1290	1165	1060	975	900	825	765	0.163
	6	1715	1530	1375	1245	1140	1045	970	900	830	0.149
	0	925	815	725	645	575					0.380
	1	1035	915	815	740	670	605	550			0.310
	2	1130	1010	905	820	750	690	630	575	530	0.262
	3	1220	1095	990	900	825	760	700	650	600	0.227
36/4	4	1300	1175	1065	975	895	825	765	715	665	0.200
	5	1375	1250	1140	1045	960	890	830	775	725	0.179
	6	1440	1315	1205	1110	1025	950	885	830	780	0.162
	0	705	620	550	485	435					0.475
	1	810	720	645	585	525	475	430			0.371
	2	905	810	730	665	610	560	510	465	430	0.304

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft.								
		3	3.5	4	4.5	5	5.5	6	6.5	7
WR	0.173	15257	11209	8582	6781	5493	4539	3814	3250	2802

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{sf}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 50 ksi (Pneutek SDK61)

1.5WR22

Design thickness = 0.0295 in.

Support fastening: Pneutek SDK61

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.113" to 0.155" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		Span, ft.	3	3.5	4	4.5	5	5.5	6	6.5	
36/9	0	1555	1370	1220	1080	965					0.844
	1	1705	1510	1350	1215	1090	985	895			0.563
	2	1840	1640	1470	1330	1215	1100	1000	920	850	0.422
	3	1970	1760	1585	1440	1315	1210	1105	1015	940	0.338
	4	2085	1875	1695	1545	1415	1305	1210	1115	1030	0.281
	5	2195	1985	1800	1645	1510	1395	1295	1210	1120	0.241
36/7	6	2295	2085	1900	1740	1605	1485	1380	1290	1205	0.211
	0	995	865	750	665	595					1.267
	1	1170	1020	905	805	720	650	595			0.724
	2	1330	1170	1040	935	845	765	700	645	595	0.507
	3	1475	1305	1170	1055	960	880	805	740	685	0.390
	4	1610	1435	1290	1170	1065	980	905	835	775	0.317
36/5	5	1735	1555	1405	1275	1170	1075	995	925	865	0.267
	6	1845	1665	1510	1380	1265	1170	1085	1010	945	0.230
	0	880	775	690	615	550					1.520
	1	1025	910	815	735	670	610	555			0.800
	2	1150	1035	930	845	775	715	660	610	560	0.543
	3	1260	1140	1040	950	870	805	745	695	650	0.411
36/4	4	1355	1240	1135	1040	960	890	830	775	725	0.330
	5	1435	1320	1220	1125	1045	970	910	850	800	0.276
	6	1505	1395	1295	1205	1120	1045	980	920	870	0.238
	0	675	595	525	465	415					1.900
	1	815	725	650	590	540	485	445			0.894
	2	930	840	760	695	640	590	545	505	465	0.585

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		3	3.5	4	4.5	5	5.5	6	6.5	7
WR	0.173	15500	11388	8719	6889	5580	4612	3875	3302	2847

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{df}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## B-Deck Diaphragm Load Table – 22 Gauge 50 ksi (Pneutek SDK63)

1.5WR22

Design thickness = 0.0295 in.

Support fastening: Pneutek SDK63

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.155" to 0.250" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		3	3.5	4	4.5	5	5.5	6	6.5	7	
36/9	0	1745	1535	1365	1210	1080					0.844
	1	1895	1675	1495	1350	1205	1090	990			0.563
	2	2035	1805	1620	1465	1335	1205	1095	1005	930	0.422
	3	2160	1930	1735	1575	1440	1320	1205	1105	1020	0.338
	4	2285	2050	1850	1680	1540	1420	1310	1200	1110	0.281
	5	2395	2160	1955	1785	1640	1510	1400	1300	1200	0.241
36/7	6	2500	2265	2060	1885	1730	1600	1485	1385	1290	0.211
	0	1115	970	845	745	665					1.267
	1	1290	1125	995	885	790	715	655			0.724
	2	1450	1275	1135	1020	920	830	760	695	645	0.507
	3	1600	1415	1265	1140	1035	945	865	795	735	0.390
	4	1740	1545	1385	1255	1145	1050	970	890	825	0.317
36/5	5	1870	1670	1505	1365	1250	1150	1060	985	915	0.267
	6	1990	1785	1615	1470	1350	1240	1150	1070	1000	0.230
	0	985	870	770	690	615					1.520
	1	1135	1005	900	815	740	670	610			0.800
	2	1265	1130	1020	925	845	775	715	660	610	0.543
	3	1375	1240	1125	1030	945	870	805	750	700	0.411
36/4	4	1475	1345	1225	1125	1035	960	890	830	780	0.330
	5	1565	1435	1315	1215	1120	1040	970	910	855	0.276
	6	1640	1515	1400	1295	1200	1120	1045	980	925	0.238
	0	755	665	590	520	465					1.900
	1	895	800	715	650	590	530	485			0.894
	2	1015	915	830	755	690	640	590	540	500	0.585

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		3	3.5	4	4.5	5	5.5	6	6.5	7
WR	0.173	15500	11388	8719	6889	5580	4612	3875	3302	2847

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 50 ksi (Pneutek K64)

1.5WR22

Design thickness = 0.0295 in.

Support fastening: Pneutek K64

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.187" to 0.312" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		Span, ft.	3	3.5	4	4.5	5	5.5	6	6.5	
36/9	0	1735	1525	1355	1200	1075					0.844
	1	1880	1665	1485	1340	1200	1085	985			0.563
	2	2020	1795	1610	1455	1325	1200	1090	1000	925	0.422
	3	2150	1920	1730	1565	1430	1315	1195	1100	1015	0.338
	4	2270	2035	1840	1675	1530	1410	1300	1195	1105	0.281
	5	2385	2150	1945	1775	1630	1505	1395	1295	1195	0.241
36/7	6	2485	2250	2050	1875	1725	1595	1480	1380	1285	0.211
	0	1110	965	835	740	660					1.267
	1	1280	1120	990	880	790	710	650			0.724
	2	1445	1265	1125	1015	915	825	755	695	640	0.507
	3	1595	1410	1255	1135	1030	945	860	790	730	0.390
	4	1735	1540	1380	1250	1140	1045	965	890	820	0.317
36/5	5	1860	1665	1500	1360	1245	1145	1055	985	910	0.267
	6	1980	1780	1610	1465	1345	1240	1145	1065	1000	0.230
	0	980	860	765	685	610					1.520
	1	1125	1000	895	810	735	665	605			0.800
	2	1255	1125	1010	920	840	775	715	655	605	0.543
	3	1370	1235	1120	1025	940	865	805	750	695	0.411
36/4	4	1470	1335	1220	1120	1030	955	885	830	775	0.330
	5	1555	1425	1310	1205	1115	1040	965	905	850	0.276
	6	1630	1505	1390	1290	1195	1115	1045	980	920	0.238
	0	750	660	585	515	460					1.900
	1	890	795	710	645	585	530	480			0.894
	2	1010	910	825	750	690	635	585	540	495	0.585

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		3	3.5	4	4.5	5	5.5	6	6.5	7
WR	0.173	15500	11388	8719	6889	5580	4612	3875	3302	2847

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 22 Gauge 50 ksi (Pneutek K66)

1.5WR22

Design thickness = 0.0295 in.

Support fastening: Pneutek K66

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.281" and thicker Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		Span, ft.	3	3.5	4	4.5	5	5.5	6	6.5	
36/9	0	1850	1625	1450	1285	1145					0.844
	1	2000	1765	1580	1425	1270	1150	1045			0.563
	2	2140	1900	1700	1540	1400	1265	1150	1055	975	0.422
	3	2270	2025	1820	1650	1505	1380	1255	1155	1065	0.338
	4	2395	2145	1935	1760	1610	1480	1360	1250	1155	0.281
	5	2505	2255	2045	1860	1710	1575	1460	1350	1245	0.241
36/7	6	2615	2365	2145	1960	1805	1665	1545	1440	1335	0.211
	0	1185	1030	895	790	705					1.267
	1	1355	1185	1050	930	835	755	685			0.724
	2	1520	1335	1185	1065	960	870	790	725	670	0.507
	3	1670	1475	1315	1185	1080	985	895	825	760	0.390
	4	1815	1610	1440	1305	1185	1090	1005	920	855	0.317
36/5	5	1945	1735	1560	1415	1290	1190	1100	1020	945	0.267
	6	2070	1855	1675	1520	1395	1285	1190	1105	1035	0.230
	0	1045	920	820	730	650					1.520
	1	1195	1055	945	855	780	705	640			0.800
	2	1325	1185	1065	965	885	810	745	685	635	0.543
	3	1440	1295	1175	1070	985	905	840	780	725	0.411
36/4	4	1545	1400	1275	1170	1075	995	925	865	810	0.330
	5	1635	1495	1370	1260	1165	1080	1005	940	885	0.276
	6	1710	1575	1455	1345	1245	1160	1085	1015	955	0.238
	0	800	705	625	550	490					1.900
	1	940	840	750	680	620	555	505			0.894
	2	1065	955	865	790	720	665	615	560	520	0.585

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		3	3.5	4	4.5	5	5.5	6	6.5	7
WR	0.173	15500	11388	8719	6889	5580	4612	3875	3302	2847

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 50 ksi (Welded)

1.5WR22

Design thickness = 0.0295 in.

Support fastening: 5/8" arc spot welds or equivalent

Side-lap fastening: #10 screws

Fu: 60 ksi

Fy: 50 ksi

Fxx: 60 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.55	3.00
Wind	0.75	2.15
Other	0.55	3.00

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		3	3.5	4	4.5	5	5.5	6	6.5	7		
36/9	0	2150	1890	1685	1490	1330						0.324
	1	2280	2015	1795	1615	1440	1300	1185				0.272
	2	2405	2130	1905	1720	1550	1400	1275	1170	1080		0.234
	3	2525	2245	2010	1820	1660	1500	1370	1255	1155		0.206
	4	2635	2350	2115	1920	1750	1600	1460	1340	1235		0.183
	5	2745	2455	2215	2010	1840	1695	1550	1425	1315		0.165
36/7	6	2845	2555	2310	2105	1925	1775	1645	1510	1395		0.151
	0	1375	1195	1040	920	820						0.486
	1	1525	1330	1175	1040	930	840	765				0.377
	2	1670	1465	1300	1165	1040	940	860	790	730		0.308
	3	1810	1590	1415	1275	1150	1040	950	875	805		0.261
	4	1945	1715	1530	1380	1255	1140	1045	960	885		0.226
36/5	5	2070	1830	1640	1480	1350	1235	1135	1045	965		0.199
	6	2185	1945	1745	1580	1440	1325	1220	1130	1045		0.178
	0	1215	1070	950	850	760						0.583
	1	1345	1190	1065	960	870	785	715				0.433
	2	1465	1305	1170	1060	965	885	805	740	685		0.345
	3	1575	1410	1270	1155	1055	970	900	825	765		0.286
36/4	4	1675	1505	1365	1245	1140	1055	975	910	840		0.245
	5	1765	1600	1455	1330	1225	1130	1050	980	920		0.214
	6	1845	1680	1540	1410	1305	1205	1125	1050	985		0.190
	0	930	820	725	640	570						0.728
	1	1055	935	840	760	680	615	560				0.509
	2	1170	1045	940	855	780	715	650	595	550		0.391

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		3	3.5	4	4.5	5	5.5	6	6.5	7	
WR	0.173	15257	11209	8582	6781	5493	4539	3814	3250	2802	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 50 ksi (#12 Screw)

1.5WR20

Design thickness = 0.0358 in.  
Support fastening: #12 screws  
Side-lap fastening: #10 screws

Fu: 60 ksi  
Fy: 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.70	2.30
Wind	0.80	2.00
Other	0.70	2.30

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		4	4.5	5	5.5	6	6.5	7	7.5	8		
36/9	0	975	870	780								0.403
	1	1125	1015	925	835	760						0.331
	2	1265	1145	1050	965	885	810	750	695	650		0.281
	3	1390	1270	1165	1075	995	925	855	795	740		0.244
	4	1510	1380	1270	1175	1095	1020	955	895	835		0.216
	5	1615	1490	1375	1275	1190	1110	1040	980	925		0.193
36/7	6	1715	1585	1470	1370	1280	1200	1125	1060	1005		0.175
	0	605	535	480								0.605
	1	775	695	625	565	515						0.456
	2	925	835	760	695	640	590	545	505	470		0.366
	3	1065	965	885	810	750	700	650	605	565		0.306
	4	1195	1090	1000	920	855	795	745	700	655		0.263
36/5	5	1310	1200	1110	1025	955	890	835	785	740		0.230
	6	1415	1305	1210	1120	1045	980	920	865	820		0.205
	0	550	495	440								0.726
	1	695	630	575	530	485						0.522
	2	825	755	690	640	590	550	515	480	450		0.408
	3	935	860	795	740	690	645	605	570	535		0.334
36/4	4	1025	955	885	830	775	730	685	645	610		0.283
	5	1105	1035	970	910	855	805	760	720	685		0.246
	6	1175	1105	1040	980	925	875	830	790	750		0.217

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		4	4.5	5	5.5	6	6.5	7	7.5	8	
WR	0.210	11482	9072	7348	6073	5103	4348	3749	3266	2870	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 50 ksi (Hilti® X-HSN24)

1.5 WR 20

Design thickness = 0.0358 in.

Fu: 60 ksi

Support fastening: Hilti X-HSN24

Fy: 50 ksi

Side-lap fastening: #10 screws

0.125" through 0.375" Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		4	4.5	5	5.5	6	6.5	7	7.5	8		
36/9	0	1435	1280	1140								0.388
	1	1585	1430	1290	1165	1060						0.321
	2	1730	1565	1425	1300	1185	1090	1005	930	870		0.274
	3	1865	1695	1550	1425	1310	1205	1110	1030	960		0.239
	4	1995	1815	1665	1535	1420	1315	1215	1130	1055		0.211
	5	2120	1935	1780	1640	1525	1420	1325	1230	1150		0.190
36/7	6	2235	2050	1885	1745	1625	1515	1420	1330	1240		0.172
	0	890	785	705								0.581
	1	1065	950	850	770	700						0.443
	2	1220	1100	1000	905	825	760	700	655	610		0.358
	3	1375	1240	1130	1035	950	875	810	750	700		0.300
	4	1515	1375	1255	1150	1065	990	915	850	795		0.258
36/5	5	1650	1500	1375	1265	1170	1090	1015	950	890		0.227
	6	1775	1620	1485	1375	1275	1185	1110	1040	980		0.202
	0	810	725	650								0.698
	1	960	865	790	720	660						0.507
	2	1095	995	910	840	775	720	665	615	575		0.399
	3	1220	1115	1025	945	880	820	765	715	670		0.328
36/4	4	1330	1225	1130	1050	975	910	855	805	760		0.279
	5	1435	1325	1230	1145	1065	1000	940	885	840		0.243
	6	1525	1415	1320	1230	1155	1085	1020	965	910		0.215
	0	620	550	490								0.872
	1	765	695	635	575	525						0.594
	2	895	815	750	695	645	595	550	510	475		0.450
36/3	3	1010	925	855	795	740	690	650	610	570		0.362
	4	1105	1025	950	885	830	780	730	690	655		0.303
	5	1190	1110	1035	970	910	860	810	765	725		0.261
	6	1260	1185	1115	1050	990	935	885	835	795		0.229

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		4	4.5	5	5.5	6	6.5	7	7.5	8	
WR	0.210	11482	9072	7348	6073	5103	4348	3749	3266	2870	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min \{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min \{\phi_{df} S_{nf}, \phi_{db} S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 50 ksi (Hilti® X-ENP-19 L5)

1.5 WR 20

Design thickness = 0.0358 in.

Fu: 60 ksi

Support fastening: Hilti X-ENP-19 L5

Fy: 50 ksi

Side-lap fastening: #10 screws

0.250" and thicker Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		4	4.5	5	5.5	6	6.5	7	7.5	8	
36/9	0	1545	1375	1230							0.233
	1	1695	1530	1380	1245	1135					0.207
	2	1840	1665	1520	1380	1260	1155	1065	990	920	0.186
	3	1980	1795	1640	1510	1380	1270	1170	1090	1015	0.169
	4	2110	1920	1760	1620	1500	1385	1280	1185	1110	0.155
	5	2235	2040	1870	1730	1605	1495	1385	1285	1200	0.143
36/7	6	2355	2155	1980	1835	1705	1590	1490	1385	1295	0.133
	0	955	845	755							0.349
	1	1135	1010	905	820	745					0.294
	2	1290	1160	1055	955	870	800	740	690	640	0.254
	3	1445	1305	1185	1085	995	915	845	785	735	0.223
	4	1590	1440	1310	1205	1110	1030	955	885	830	0.199
36/5	5	1725	1565	1435	1320	1220	1135	1060	985	920	0.180
	6	1855	1690	1550	1430	1325	1235	1155	1080	1015	0.164
	0	875	780	700							0.419
	1	1020	925	840	765	700					0.342
	2	1160	1055	965	885	820	755	700	650	605	0.289
	3	1285	1175	1080	995	925	860	805	750	700	0.250
36/4	4	1400	1285	1185	1100	1020	955	895	840	790	0.220
	5	1505	1390	1285	1195	1115	1045	980	925	875	0.197
	6	1600	1485	1380	1285	1205	1130	1065	1005	950	0.178
	0	670	590	530							0.523
	1	815	740	675	610	555					0.408
	2	945	860	790	730	675	625	575	535	500	0.335

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		4	4.5	5	5.5	6	6.5	7	7.5	8
WR	0.210	11482	9072	7348	6073	5103	4348	3749	3266	2870

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 50 ksi (Pneutek SDK61)

1.5WR20

Design thickness = 0.0358 in.

Support fastening: Pneutek SDK61

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.113" to 0.155" Support Steel

$F_u =$  60 ksi  
 $F_y =$  50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		4	4.5	5	5.5	6	6.5	7	7.5	8	
36/9	0	1460	1300	1165							0.930
	1	1615	1460	1315	1190	1085					0.620
	2	1765	1595	1455	1330	1210	1110	1025	950	890	0.465
	3	1905	1730	1580	1455	1340	1230	1135	1055	985	0.372
	4	2040	1860	1705	1570	1455	1350	1245	1155	1080	0.310
	5	2165	1980	1820	1680	1560	1455	1355	1260	1175	0.266
36/7	6	2285	2095	1930	1785	1660	1550	1455	1360	1270	0.233
	0	905	800	715							1.395
	1	1085	970	870	785	715					0.797
	2	1250	1125	1020	925	845	775	720	670	625	0.558
	3	1405	1270	1155	1060	975	895	830	770	720	0.429
	4	1550	1405	1285	1180	1090	1010	940	875	815	0.349
36/5	5	1690	1535	1405	1295	1200	1115	1045	975	910	0.294
	6	1820	1660	1525	1405	1305	1215	1140	1070	1005	0.254
	0	825	740	660							1.674
	1	980	885	805	735	670					0.881
	2	1120	1020	930	860	795	735	680	630	590	0.598
	3	1250	1140	1050	970	900	840	785	735	685	0.453
36/4	4	1365	1255	1160	1075	1000	935	875	825	780	0.364
	5	1465	1355	1260	1170	1095	1025	965	910	860	0.304
	6	1560	1450	1350	1260	1180	1110	1045	990	935	0.262
	0	630	560	500							2.093
	1	785	710	645	590	535					0.985
	2	915	835	770	710	655	610	565	525	490	0.644
36/4	3	1030	950	875	815	760	710	665	625	585	0.478
	4	1130	1050	975	910	850	795	750	710	670	0.381
	5	1215	1135	1060	995	935	880	830	785	745	0.316
	6	1290	1215	1140	1075	1010	955	905	860	815	0.270

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		4	4.5	5	5.5	6	6.5	7	7.5	8
WR	0.210	11665	9216	7465	6170	5184	4417	3809	3318	2916

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 50 ksi (Pneutek SDK63)

1.5WR20

Design thickness = 0.0358 in.

Support fastening: Pneutek SDK63

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.155" to 0.250" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		Span, ft.									
		4	4.5	5	5.5	6	6.5	7	7.5	8	
36/9	0	1575	1405	1255							0.930
	1	1730	1565	1410	1275	1160					0.620
	2	1880	1705	1550	1410	1285	1180	1090	1010	945	0.465
	3	2025	1835	1680	1545	1415	1300	1200	1115	1040	0.372
	4	2160	1965	1800	1660	1535	1420	1310	1215	1135	0.310
	5	2290	2090	1920	1770	1640	1530	1420	1320	1230	0.266
36/7	6	2410	2205	2030	1880	1745	1630	1525	1420	1325	0.233
	0	975	865	775							1.395
	1	1160	1035	925	840	765					0.797
	2	1325	1190	1080	980	890	820	760	705	660	0.558
	3	1480	1335	1215	1115	1020	940	870	805	755	0.429
	4	1630	1475	1345	1235	1140	1055	980	910	850	0.349
36/5	5	1770	1605	1470	1355	1250	1165	1085	1010	945	0.294
	6	1905	1735	1590	1465	1360	1265	1185	1110	1040	0.254
	0	890	800	715							1.674
	1	1045	945	860	785	715					0.881
	2	1185	1080	985	910	840	775	715	665	620	0.598
	3	1320	1205	1105	1020	945	880	825	770	715	0.453
36/4	4	1435	1320	1215	1125	1050	980	920	865	815	0.364
	5	1545	1425	1320	1225	1145	1070	1005	950	895	0.304
	6	1640	1520	1415	1320	1235	1160	1090	1030	975	0.262
	0	685	605	540							2.093
	1	835	755	690	625	570					0.985
	2	970	885	810	750	695	640	590	550	510	0.644

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		4	4.5	5	5.5	6	6.5	7	7.5	8
WR	0.210	11665	9216	7465	6170	5184	4417	3809	3318	2916

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 50 ksi (Pneutek K64)

1.5WR20

Design thickness = 0.0358 in.

Support fastening: Pneutek K64

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.187" to 0.312" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		Span, ft.	4	4.5	5	5.5	6	6.5	7	7.5	
36/9	0	1765	1575	1405							0.930
	1	1920	1735	1560	1410	1285					0.620
	2	2070	1875	1705	1550	1410	1295	1195	1110	1035	0.465
	3	2215	2010	1835	1685	1540	1415	1305	1210	1130	0.372
	4	2355	2140	1960	1805	1665	1530	1415	1315	1225	0.310
	5	2485	2265	2080	1915	1775	1650	1525	1415	1320	0.266
36/7	6	2610	2385	2195	2025	1880	1755	1635	1520	1415	0.233
	0	1095	965	865							1.395
	1	1280	1140	1020	920	840					0.797
	2	1445	1295	1175	1060	970	890	825	765	715	0.558
	3	1600	1445	1310	1200	1095	1010	935	865	810	0.429
	4	1755	1585	1445	1325	1225	1125	1045	970	905	0.349
36/5	5	1900	1720	1570	1445	1335	1240	1150	1070	1000	0.294
	6	2035	1850	1695	1560	1445	1345	1255	1175	1100	0.254
	0	1000	895	800							1.674
	1	1150	1040	950	860	785					0.881
	2	1295	1175	1075	990	915	840	775	720	675	0.598
	3	1430	1305	1195	1105	1020	950	885	825	770	0.453
36/4	4	1555	1425	1310	1210	1125	1050	985	925	865	0.364
	5	1665	1535	1415	1315	1225	1145	1075	1010	955	0.304
	6	1770	1635	1515	1410	1320	1235	1160	1095	1035	0.262
	0	765	675	605							2.093
	1	915	830	755	685	620					0.985
	2	1055	960	880	810	750	690	635	590	550	0.644
WR	3	1175	1080	995	920	855	795	745	695	645	0.478
	4	1285	1185	1100	1020	950	890	835	790	740	0.381
	5	1385	1285	1195	1115	1040	980	920	870	825	0.316
	6	1470	1370	1280	1200	1125	1060	1000	945	895	0.270

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		4	4.5	5	5.5	6	6.5	7	7.5	8
WR	0.210	11665	9216	7465	6170	5184	4417	3809	3318	2916

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 20 Gauge 50 ksi (Pneutek K66)

1.5WR20

Design thickness = 0.0358 in.

Support fastening: Pneutek K66

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.281" and thicker Support Steel

$F_u =$  60 ksi  
 $F_y =$  50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		4	4.5	5	5.5	6	6.5	7	7.5	8	
36/9	0	1800	1605	1430							0.930
	1	1955	1765	1585	1435	1305					0.620
	2	2105	1905	1735	1570	1435	1315	1215	1125	1050	0.465
	3	2250	2040	1865	1710	1560	1435	1325	1230	1145	0.372
	4	2390	2170	1985	1830	1690	1550	1435	1330	1240	0.310
	5	2520	2300	2105	1940	1800	1670	1545	1435	1340	0.266
36/7	6	2650	2420	2225	2055	1905	1775	1655	1535	1435	0.233
	0	1115	985	880							1.395
	1	1300	1155	1035	935	855					0.797
	2	1465	1315	1190	1075	980	905	835	775	725	0.558
	3	1625	1465	1330	1215	1110	1020	945	880	820	0.429
	4	1775	1605	1460	1340	1240	1140	1055	980	915	0.349
36/5	5	1920	1740	1590	1460	1350	1255	1165	1085	1010	0.294
	6	2060	1870	1715	1580	1460	1360	1270	1185	1110	0.254
	0	1015	910	815							1.674
	1	1170	1060	965	875	800					0.881
	2	1315	1195	1090	1005	925	850	785	730	680	0.598
	3	1450	1320	1210	1120	1035	965	895	835	780	0.453
36/4	4	1575	1440	1325	1225	1140	1065	995	935	875	0.364
	5	1685	1550	1435	1330	1240	1160	1085	1020	965	0.304
	6	1790	1655	1535	1430	1335	1250	1175	1105	1045	0.262
	0	780	690	615							2.093
	1	930	845	770	695	630					0.985
	2	1070	975	890	820	760	700	645	600	555	0.644
36/4	3	1195	1095	1005	930	865	805	755	700	655	0.478
	4	1305	1200	1110	1030	965	900	845	795	750	0.381
	5	1400	1300	1210	1125	1055	990	930	880	830	0.316
	6	1485	1385	1295	1215	1140	1070	1010	955	905	0.270

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		4	4.5	5	5.5	6	6.5	7	7.5	8
WR	0.210	11665	9216	7465	6170	5184	4417	3809	3318	2916

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 18 Gauge 50 ksi (Welded)

1.5WR18

Design thickness = 0.0474 in.

Support fastening: 5/8" arc spot welds or equivalent

Side-lap fastening: #10 screws

Fu: 60 ksi

Fy: 50 ksi

Fxx: 60 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.55	3.00
Wind	0.75	2.15
Other	0.55	3.00

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9		
36/9	0	2320										0.410
	1	2545	2300	2100								0.344
	2	2750	2505	2285	2100	1940	1800	1680	1570	1475		0.297
	3	2940	2700	2475	2270	2100	1950	1820	1705	1600		0.261
	4	3120	2870	2655	2445	2260	2100	1960	1835	1725		0.232
	5	3300	3040	2815	2620	2420	2250	2100	1970	1850		0.210
36/7	6	3470	3200	2970	2765	2580	2400	2240	2100	1975		0.191
	0	1425										0.615
	1	1650	1495	1365								0.478
	2	1875	1700	1550	1425	1320	1225	1145	1075	1010		0.391
	3	2080	1905	1740	1600	1480	1375	1285	1205	1135		0.330
	4	2275	2085	1925	1775	1640	1525	1425	1340	1260		0.286
36/5	5	2465	2260	2090	1940	1800	1675	1570	1470	1385		0.253
	6	2645	2435	2250	2095	1955	1825	1710	1605	1510		0.226
	0	1320										0.739
	1	1530	1400	1275								0.549
	2	1720	1580	1460	1345	1245	1155	1080	1010	950		0.437
	3	1895	1750	1620	1505	1405	1305	1220	1145	1075		0.363
36/4	4	2065	1910	1770	1655	1545	1455	1360	1275	1200		0.310
	5	2230	2065	1920	1795	1680	1580	1490	1410	1325		0.271
	6	2380	2210	2060	1930	1810	1705	1610	1525	1450		0.241
	0	1000										0.923
	1	1215	1105	1010								0.645
	2	1400	1290	1195	1100	1015	940	880	825	775		0.496
36/4	3	1570	1450	1345	1255	1175	1090	1020	955	900		0.403
	4	1725	1600	1490	1395	1310	1230	1160	1085	1025		0.339
	5	1875	1745	1630	1525	1435	1355	1280	1215	1150		0.293
	6	2010	1875	1760	1650	1555	1470	1390	1320	1255		0.257

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		5	5.5	6	6.5	7	7.5	8	8.5	9	
WR	0.279	11211	9265	7786	6634	5720	4983	4379	3879	3460	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 18 Gauge 50 ksi (#12 Screw)

1.5WR18

Design thickness = 0.0474 in.  
Support fastening: #12 screws  
Side-lap fastening: #10 screws

Fu: 60 ksi  
Fy: 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.70	2.30
Wind	0.80	2.00
Other	0.70	2.30

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9	
36/9	0	1040									0.464
	1	1250	1145	1045							0.381
	2	1435	1320	1225	1130	1045	970	905	850	800	0.324
	3	1605	1485	1380	1285	1200	1120	1045	980	925	0.281
	4	1770	1640	1525	1425	1335	1255	1185	1115	1050	0.248
	5	1915	1785	1665	1560	1465	1380	1305	1235	1175	0.223
36/7	6	2055	1920	1795	1685	1585	1500	1420	1345	1280	0.202
	0	640									0.696
	1	860	780	715							0.525
	2	1060	970	895	830	770	715	670	625	590	0.422
	3	1240	1145	1060	985	920	865	810	760	715	0.352
	4	1410	1305	1210	1130	1060	995	935	885	840	0.303
36/5	5	1570	1455	1355	1270	1190	1120	1060	1000	950	0.265
	6	1710	1595	1490	1400	1315	1240	1175	1115	1060	0.236
	0	590									0.835
	1	790	725	670							0.601
	2	960	885	825	770	720	675	640	600	565	0.469
	3	1110	1035	965	905	850	800	755	720	680	0.385
36/4	4	1245	1165	1090	1030	970	915	870	825	785	0.326
	5	1355	1280	1205	1140	1080	1025	975	925	885	0.283
	6	1455	1380	1305	1240	1180	1120	1070	1020	975	0.250
	0	445									1.044
	1	645	595	550							0.702
	2	805	745	695	650	610	575	545	515	485	0.528

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11211	9265	7786	6634	5720	4983	4379	3879	3460

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 18 Gauge 50 ksi (Hilti® X-HSN24)

1.5 WR 18

Design thickness = 0.0474 in.

Fu: 60 ksi

Support fastening: Hilti X-HSN24

Fy: 50 ksi

Side-lap fastening: #10 screws

0.125" through 0.375" Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9	
36/9	0	1510									0.446
	1	1730	1570	1430							0.369
	2	1920	1765	1620	1485	1375	1275	1190	1115	1050	0.315
	3	2105	1935	1795	1660	1535	1430	1335	1250	1175	0.274
	4	2275	2100	1950	1815	1700	1580	1475	1380	1300	0.243
	5	2445	2260	2100	1960	1835	1725	1615	1515	1425	0.218
36/7	6	2600	2415	2245	2100	1970	1855	1750	1650	1550	0.198
	0	925									0.669
	1	1155	1045	955							0.510
	2	1365	1250	1140	1050	970	905	845	790	745	0.412
	3	1560	1430	1320	1225	1135	1055	985	925	870	0.345
	4	1745	1605	1485	1380	1290	1205	1130	1060	995	0.297
36/5	5	1920	1770	1645	1530	1430	1345	1265	1190	1125	0.261
	6	2090	1930	1795	1675	1570	1475	1390	1315	1250	0.233
	0	855									0.803
	1	1060	975	895							0.584
	2	1245	1145	1060	990	920	860	800	750	705	0.459
	3	1410	1305	1215	1135	1060	1000	940	885	835	0.378
36/4	4	1565	1455	1355	1270	1195	1125	1060	1005	955	0.321
	5	1705	1590	1490	1400	1315	1245	1175	1115	1060	0.279
	6	1830	1720	1615	1520	1435	1355	1285	1225	1165	0.247
	0	650									1.004
	1	855	785	720							0.683
	2	1030	950	885	825	770	720	670	630	590	0.518

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11211	9265	7786	6634	5720	4983	4379	3879	3460

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{df}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## B-Deck Diaphragm Load Table – 18 Gauge 50 ksi (Hilti® X-HENP-19 L5)

1.5 WR 18

Design thickness = 0.0474 in.

F<sub>u</sub>: 60 ksi

Support fastening: Hilti X-ENP-19 L5

F<sub>y</sub>: 50 ksi

Side-lap fastening: #10 screws

0.250" and thicker Support Steel

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, S <sub>nf</sub> , plf <sup>1,2</sup>									K <sub>1</sub> 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9	
36/9	0	1625									0.268
	1	1850	1675	1525							0.238
	2	2040	1875	1715	1575	1455	1350	1260	1180	1110	0.214
	3	2225	2045	1895	1750	1615	1505	1405	1315	1235	0.195
	4	2400	2215	2050	1910	1780	1655	1545	1450	1360	0.178
	5	2570	2375	2205	2055	1925	1805	1685	1580	1490	0.165
36/7	6	2730	2530	2355	2200	2060	1940	1830	1715	1615	0.153
	0	1000									0.401
	1	1225	1110	1010							0.338
	2	1440	1315	1200	1105	1020	950	890	835	785	0.292
	3	1635	1500	1385	1280	1185	1100	1030	965	910	0.257
	4	1820	1675	1550	1440	1345	1255	1170	1100	1035	0.229
36/5	5	2000	1845	1710	1590	1485	1395	1315	1235	1160	0.207
	6	2170	2005	1865	1740	1625	1530	1440	1360	1290	0.189
	0	925									0.482
	1	1130	1035	950							0.393
	2	1310	1210	1120	1040	970	900	840	790	740	0.332
	3	1480	1370	1275	1190	1110	1045	985	920	870	0.288
36/4	4	1640	1520	1420	1325	1245	1175	1105	1050	995	0.254
	5	1785	1665	1555	1460	1370	1295	1225	1160	1105	0.227
	6	1915	1795	1680	1580	1490	1410	1335	1270	1210	0.205
	0	700									0.602
	1	910	835	760							0.470
	2	1085	1000	930	865	810	750	700	655	615	0.385
36/4	3	1240	1155	1075	1005	945	890	840	790	745	0.327
	4	1385	1290	1210	1135	1070	1010	955	905	860	0.283
	5	1510	1415	1330	1255	1185	1120	1065	1010	965	0.250
	6	1615	1525	1440	1365	1290	1225	1165	1110	1060	0.224

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, S <sub>nb</sub> , plf <sup>2</sup>								
		Span, ft								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11211	9265	7786	6634	5720	4983	4379	3879	3460

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min {S<sub>nf</sub> / Ω<sub>df</sub>, S<sub>nb</sub> / Ω<sub>db</sub>}

LRFD Required strength (Factored Applied Load) <= Min {φ<sub>df</sub>S<sub>nf</sub>, φ<sub>db</sub>S<sub>nb</sub>}

## B-Deck Diaphragm Load Table – 18 Gauge 50 ksi (Pneutek SDK61)

1.5WR18

Design thickness = 0.0474 in.

Support fastening: Pneutek SDK61

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.113" to 0.155" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9	
36/9	0	1515									1.070
	1	1720	1555	1415							0.714
	2	1890	1735	1585	1455	1345	1250	1165	1095	1025	0.535
	3	2055	1890	1750	1615	1490	1385	1295	1210	1140	0.428
	4	2215	2040	1895	1765	1635	1520	1420	1330	1255	0.357
	5	2370	2190	2030	1895	1775	1660	1550	1450	1365	0.306
36/7	6	2515	2330	2165	2020	1895	1780	1675	1570	1480	0.268
	0	930									1.606
	1	1135	1025	940							0.918
	2	1325	1210	1105	1020	940	875	820	770	720	0.642
	3	1505	1380	1275	1175	1090	1010	945	885	835	0.494
	4	1675	1540	1420	1320	1235	1150	1075	1005	950	0.401
36/5	5	1835	1690	1565	1460	1365	1280	1200	1125	1060	0.338
	6	1990	1840	1705	1590	1490	1400	1320	1245	1175	0.292
	0	860									1.927
	1	1045	960	880							1.014
	2	1210	1115	1035	960	890	830	775	725	685	0.688
	3	1365	1260	1170	1095	1025	960	900	845	795	0.521
36/4	4	1510	1400	1305	1220	1145	1075	1015	960	910	0.419
	5	1640	1530	1430	1340	1260	1185	1120	1065	1010	0.350
	6	1760	1645	1545	1450	1365	1290	1225	1160	1105	0.301
	0	650									2.409
	1	840	775	705							1.133
	2	1000	925	855	800	745	690	645	605	565	0.741
WR	3	1145	1060	990	925	865	815	770	725	680	0.551
	4	1270	1185	1110	1040	980	925	875	830	790	0.438
	5	1385	1300	1220	1150	1085	1025	975	925	880	0.364
	6	1485	1400	1320	1250	1185	1125	1065	1015	970	0.311

<sup>1</sup>Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11390	9413	7909	6739	5811	5062	4449	3941	3515

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}/\Omega_{df}$ ,  $S_{nb}/\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## B-Deck Diaphragm Load Table – 18 Gauge 50 ksi (Pneutek SDK63)

1.5WR18

Design thickness = 0.0474 in.

Support fastening: Pneutek SDK63

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.155" to 0.250" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		Span, ft.	5	5.5	6	6.5	7	7.5	8	8.5	
36/9	0	1545									1.070
	1	1745	1580	1440							0.714
	2	1920	1760	1610	1480	1365	1270	1185	1110	1040	0.535
	3	2085	1920	1775	1635	1510	1405	1310	1230	1155	0.428
	4	2245	2070	1915	1785	1655	1540	1440	1350	1270	0.357
	5	2400	2215	2055	1915	1795	1675	1565	1470	1380	0.306
36/7	6	2545	2355	2190	2045	1915	1800	1690	1585	1495	0.268
	0	950									1.606
	1	1150	1045	950							0.918
	2	1345	1230	1120	1030	955	890	830	775	730	0.642
	3	1520	1395	1290	1190	1100	1025	955	895	845	0.494
	4	1690	1555	1435	1335	1245	1160	1085	1015	960	0.401
36/5	5	1855	1710	1580	1470	1375	1290	1210	1135	1070	0.338
	6	2010	1855	1725	1605	1500	1410	1330	1255	1185	0.292
	0	875									1.927
	1	1065	975	895							1.014
	2	1230	1130	1045	975	905	840	785	735	690	0.688
	3	1385	1280	1185	1105	1035	975	910	855	805	0.521
36/4	4	1525	1415	1320	1230	1155	1090	1025	970	920	0.419
	5	1660	1545	1445	1350	1270	1200	1135	1075	1020	0.350
	6	1780	1665	1560	1465	1380	1305	1235	1170	1115	0.301

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11390	9413	7909	6739	5811	5062	4449	3941	3515

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{df}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## B-Deck Diaphragm Load Table – 18 Gauge 50 ksi (Pneutek K64)

1.5WR18

Design thickness = 0.0474 in.

Support fastening: Pneutek K64

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.187" to 0.312" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9	
36/9	0	1915									1.070
	1	2120	1915	1750							0.714
	2	2300	2100	1915	1760	1625	1510	1410	1320	1240	0.535
	3	2470	2270	2085	1920	1770	1645	1535	1440	1350	0.428
	4	2635	2425	2245	2075	1920	1780	1665	1560	1465	0.357
	5	2795	2575	2385	2220	2065	1920	1790	1680	1580	0.306
36/7	6	2945	2720	2525	2355	2205	2055	1920	1800	1690	0.268
	0	1180									1.606
	1	1380	1250	1140							0.918
	2	1585	1435	1310	1205	1115	1035	970	910	855	0.642
	3	1765	1615	1480	1360	1260	1175	1095	1030	965	0.494
	4	1940	1780	1640	1520	1405	1310	1225	1150	1080	0.401
36/5	5	2110	1935	1790	1665	1550	1445	1350	1265	1195	0.338
	6	2270	2090	1935	1800	1685	1580	1475	1385	1305	0.292
	0	1090									1.927
	1	1280	1170	1070							1.014
	2	1445	1330	1230	1140	1050	980	915	855	805	0.688
	3	1605	1480	1375	1280	1195	1115	1040	975	920	0.521
36/4	4	1760	1625	1510	1410	1320	1240	1170	1095	1030	0.419
	5	1900	1765	1640	1535	1440	1355	1280	1210	1145	0.350
	6	2035	1895	1765	1655	1555	1465	1385	1315	1250	0.301
	0	825									2.409
	1	1020	930	845							1.133
	2	1185	1090	1010	935	865	800	750	700	660	0.741
36/3	3	1335	1235	1145	1070	1005	935	875	820	770	0.551
	4	1475	1370	1275	1195	1120	1055	1000	940	885	0.438
	5	1600	1495	1395	1310	1235	1165	1100	1045	995	0.364
	6	1720	1610	1510	1420	1340	1270	1200	1140	1085	0.311

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	$I$ in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11390	9413	7909	6739	5811	5062	4449	3941	3515

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## B-Deck Diaphragm Load Table – 18 Gauge 50 ksi (Pneutek K66)

1.5WR18

Design thickness = 0.0474 in.

Support fastening: Pneutek K66

Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws

0.281" and thicker Support Steel

$F_u = 60 \text{ ksi}$   
 $F_y = 50 \text{ ksi}$

Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50
Wind	0.70	2.35
Other	0.65	2.50

Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}, \text{ plf}^{1,2}$									$K_1$ 1/ft
		5	5.5	6	6.5	7	7.5	8	8.5	9	
36/9	0	1990									1.070
	1	2195	1985	1810							0.714
	2	2380	2170	1980	1820	1680	1560	1455	1360	1280	0.535
	3	2545	2340	2150	1975	1825	1695	1580	1480	1390	0.428
	4	2710	2495	2310	2130	1970	1830	1710	1600	1505	0.357
	5	2870	2645	2450	2285	2115	1965	1835	1720	1620	0.306
36/7	6	3025	2795	2590	2415	2260	2100	1965	1840	1730	0.268
	0	1225									1.606
	1	1430	1295	1180							0.918
	2	1630	1480	1350	1240	1150	1065	995	935	880	0.642
	3	1810	1660	1520	1395	1295	1205	1125	1055	990	0.494
	4	1985	1825	1680	1555	1440	1340	1250	1175	1105	0.401
36/5	5	2155	1980	1830	1700	1585	1475	1380	1295	1220	0.338
	6	2320	2135	1980	1840	1720	1610	1505	1415	1330	0.292
	0	1135									1.927
	1	1320	1210	1105							1.014
	2	1490	1370	1270	1170	1080	1005	940	880	830	0.688
	3	1650	1525	1410	1315	1230	1140	1065	1000	940	0.521
36/4	4	1805	1670	1550	1445	1355	1270	1195	1120	1055	0.419
	5	1950	1805	1680	1570	1475	1385	1310	1240	1165	0.350
	6	2085	1935	1810	1690	1590	1500	1415	1340	1275	0.301
	0	855									2.409
	1	1055	960	875							1.133
	2	1215	1120	1040	960	885	820	765	720	675	0.741
WR	3	1370	1265	1175	1100	1030	960	895	840	790	0.551
	4	1510	1400	1305	1220	1145	1080	1020	960	900	0.438
	5	1640	1530	1430	1340	1260	1190	1125	1065	1015	0.364
	6	1760	1645	1545	1450	1370	1295	1225	1165	1110	0.311

<sup>1</sup> Nominal shear strength shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}, \text{ plf}^2$								
		Span, ft								
		5	5.5	6	6.5	7	7.5	8	8.5	9
WR	0.279	11390	9413	7909	6739	5811	5062	4449	3941	3515

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

# **2" Floor Deck Diaphragm Load Tables**

## 2" Floor Deck Diaphragm Load Tables – 22 Gauge 40 ksi (Welded)

Composite Deck  
Design thickness = 0.0295 in.  
Support fastening: 5/8" arc spot welds  
Side-lap fastening: #10 screws

$F_u = 50$  ksi  
 $F_y = 40$  ksi  
 $F_x = 60$  ksi

Loading	Bare Deck Diaphragm			Filled Diaphragm		
	$\phi_{df}$	$\Omega_{df}$	Seismic	$\phi_{df}$	$\Omega_{df}$	Seismic
Wind	0.75	2.15	Wind	0.50	3.25	Wind
Other	0.60	2.65	Other	0.50	3.25	Other

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	655	515	495							0.728
		1	750	605								0.509
		2	835	695	575	485	420	370				0.391
		3	915	765	650	550	475	420	380	345	315	0.318
		4	990	835	715	615	535	470	425	385	355	0.267
		5	1060	900	775	680	590	525	470	430	390	0.231
		6	1120	960	830	730	650	575	515	470	430	0.203
		8	1230	1070	940	830	745	670	610	555	505	0.164
2" x 12" No Fill (Bare Deck)	36/4	0	640	500								0.728
		1	750	590	480							0.509
		2	835	685	560	475	415	370				0.391
		3	915	765	635	540	475	420	380	345	315	0.318
		4	990	835	710	610	530	470	425	385	355	0.267
		5	1060	900	775	675	590	525	470	430	390	0.231
		6	1120	960	830	730	645	575	515	470	430	0.203
		8	1230	1070	940	830	745	670	610	555	505	0.164
2 1/2" NW Conc. (Above Deck)	36/4	0	5605	5465								0.728
		1	5720	5555	5450							0.509
		2	5835	5650	5525	5435	5370	5315				0.391
		3	5950	5740	5600	5500	5425	5370	5320	5285	5250	0.318
		4	6065	5835	5680	5565	5485	5420	5365	5325	5290	0.267
		5	6180	5925	5755	5630	5540	5470	5415	5365	5330	0.231
		6	6295	6015	5830	5700	5600	5520	5460	5410	5365	0.203
		8	6525	6200	5985	5830	5715	5625	5550	5490	5445	0.164
2 1/2" LW Conc. (Above Deck)	36/4	0	4165	4025								0.728
		1	4280	4115	4005							0.509
		2	4395	4210	4085	3995	3930	3875				0.391
		3	4510	4300	4160	4060	3985	3930	3880	3845	3810	0.318
		4	4615	4390	4235	4125	4045	3980	3925	3885	3850	0.267
		5	4615	4485	4315	4190	4100	4030	3975	3925	3890	0.231
		6	4615	4575	4390	4260	4160	4080	4020	3970	3925	0.203
		8	4615	4615	4545	4390	4275	4185	4110	4050	4005	0.164

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{df}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Tables – 22 Gauge 40 ksi (#10 Screw)

Composite Deck			$F_u =$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm					
			$F_y =$	40 ksi	Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$			
Design thickness = 0.0295 in.			Seismic			0.70	2.30	Seismic					
Support fastening: #10 screws			Wind			0.80	2.00	Wind					
Side-lap fastening: #10 screws			Other			0.70	2.30	Other					
Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , pif <sup>1,2</sup>										
			Span, ft.										
			4	5	6	7	8	9	10	11	12		
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	290	225							0.823		
		1	380	315	260						0.554		
		2	455	380	330	285	250	220			0.417		
		3	515	445	385	340	305	270	245	220	0.334		
		4	565	495	435	390	350	315	285	265	0.279		
		5	605	540	480	430	390	355	325	300	0.240		
		6	640	575	520	470	430	390	360	330	0.210		
		8	690	635	585	535	495	455	420	395	0.168		
2" x 12" No Fill (Bare Deck)	36/4	0	280	220							0.823		
		1	380	310	255						0.554		
		2	455	380	330	285	245	220			0.417		
		3	515	445	385	340	305	270	245	220	0.334		
		4	565	495	435	390	350	315	285	265	0.279		
		5	605	540	480	430	390	355	325	300	0.240		
		6	640	575	520	470	430	390	360	330	0.210		
		8	690	635	585	535	495	455	420	395	0.168		
2 1/2" NW Conc. (Above Deck)	36/4	0	5215	5150							0.823		
		1	5330	5245	5185						0.554		
		2	5445	5335	5265	5210	5170	5140			0.417		
		3	5560	5425	5340	5275	5230	5195	5165	5140	5120		
		4	5675	5520	5415	5340	5285	5245	5210	5180	5160		
		5	5790	5610	5495	5410	5345	5295	5255	5225	5195		
		6	5905	5705	5570	5475	5400	5345	5300	5265	5235		
		8	6135	5885	5720	5605	5515	5450	5395	5350	5310		
2 1/2" LW Conc. (Above Deck)	36/4	0	3775	3710							0.823		
		1	3890	3805	3745						0.554		
		2	4005	3895	3820	3770	3730	3700			0.417		
		3	4120	3985	3900	3835	3790	3755	3725	3700	3680		
		4	4235	4080	3975	3900	3845	3805	3770	3740	3720		
		5	4350	4170	4050	3970	3905	3855	3815	3785	3755		
		6	4460	4260	4130	4035	3960	3905	3860	3825	3795		
		8	4615	4445	4280	4165	4075	4010	3955	3910	3870		

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , pif <sup>2</sup>									
		Span, ft									
		4	5	6	7	8	9	10	11	12	
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965	
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nr}/\Omega_{dr}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{dr}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 22 Gauge 40 ksi (Hilti® X-HSN24)

Composite Deck Design thickness = 0.0295 in. Support fastening: Hilti X-HSN24 Side-lap fastening: #10 screws 0.125" to 0.250" Support Steel	$F_u$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_y$	40 ksi	Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$
Seismic	0.65	2.50	Seismic	0.50	3.25			
Wind	0.70	2.35	Wind	0.50	3.25			
Other	0.65	2.50	Other	0.50	3.25			

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	515	405								0.792
		1	605	495	405							0.539
		2	690	575	480	410	350	310				0.409
		3	765	645	550	475	410	365	325	295	270	0.329
		4	835	710	610	535	465	415	370	340	310	0.275
		5	895	770	670	590	525	465	420	380	350	0.237
		6	950	825	720	640	570	515	465	420	385	0.208
		8	1045	920	815	730	655	595	545	500	465	0.167
2" x 12" No Fill (Bare Deck)	36/4	0	500	390								0.792
		1	605	480	395							0.539
		2	690	575	470	400	350	310				0.409
		3	765	645	545	465	410	365	325	295	270	0.329
		4	835	710	610	535	465	415	370	340	310	0.275
		5	895	770	670	590	525	465	420	380	350	0.237
		6	950	825	720	640	570	515	465	420	385	0.208
		8	1045	920	815	730	655	595	545	500	465	0.167
2 1/2" NW Conc. (Above Deck)	36/4	0	5455	5345								0.792
		1	5570	5435	5345							0.539
		2	5685	5525	5425	5350	5290	5250				0.409
		3	5800	5620	5500	5415	5350	5300	5260	5230	5200	0.329
		4	5915	5710	5575	5480	5405	5350	5305	5270	5240	0.275
		5	6030	5805	5655	5545	5465	5400	5350	5310	5275	0.237
		6	6145	5895	5730	5610	5520	5455	5400	5355	5315	0.208
		8	6375	6080	5880	5740	5635	5555	5490	5435	5390	0.167
2 1/2" LW Conc. (Above Deck)	36/4	0	4015	3905								0.792
		1	4130	3995	3905							0.539
		2	4245	4085	3980	3910	3850	3810				0.409
		3	4360	4180	4060	3975	3910	3860	3820	3785	3760	0.329
		4	4475	4270	4135	4040	3965	3910	3865	3830	3800	0.275
		5	4590	4360	4210	4105	4025	3960	3910	3870	3835	0.237
		6	4615	4455	4290	4170	4080	4015	3960	3915	3875	0.208
		8	4615	4615	4440	4300	4195	4115	4050	3995	3950	0.167

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{sf}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{sf}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 22 Gauge 40 ksi (Hilti® X-ENP-19 L5)

Composite Deck Design thickness = 0.0295 in. Support fastening: Hilti X-ENP-19 L5 Side-lap fastening: #10 screws 0.125" to 0.375" Support Steel	$F_u$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_y$	40 ksi	Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$
	Seismic	0.65	2.50	Seismic	0.50	3.25		
	Wind	0.70	2.35	Wind	0.50	3.25		
	Other	0.65	2.50	Other	0.50	3.25		

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	550	435								0.475
		1	645	525	430							0.371
		2	730	605	510	430	370	330				0.304
		3	810	680	580	495	430	380	340	310	285	0.258
		4	880	745	640	560	485	430	385	350	320	0.224
		5	940	805	700	615	545	480	435	395	360	0.197
		6	1000	860	750	665	595	530	480	435	400	0.177
		8	1100	965	850	760	680	620	565	520	475	0.146
2" x 12" No Fill (Bare Deck)	36/4	0	540	420								0.475
		1	645	515	420							0.371
		2	730	605	495	420	370	330				0.304
		3	810	680	570	490	425	380	340	310	285	0.258
		4	880	745	640	555	485	430	385	350	320	0.224
		5	940	805	700	615	540	480	435	395	360	0.197
		6	1000	860	750	665	595	530	480	435	400	0.177
		8	1100	965	850	760	680	620	565	520	475	0.146
2 1/2" NW Conc. (Above Deck)	36/4	0	5495	5375								0.475
		1	5610	5470	5375							0.371
		2	5725	5560	5450	5375	5315	5270				0.304
		3	5840	5655	5530	5440	5370	5320	5275	5245	5215	0.258
		4	5955	5745	5605	5505	5430	5370	5325	5285	5255	0.224
		5	6070	5835	5680	5570	5485	5420	5370	5325	5290	0.197
		6	6185	5930	5755	5635	5545	5470	5415	5370	5330	0.177
		8	6415	6110	5910	5765	5660	5575	5505	5450	5405	0.146
2 1/2" LW Conc. (Above Deck)	36/4	0	4055	3935								0.475
		1	4170	4030	3935							0.371
		2	4285	4120	4010	3930	3875	3830				0.304
		3	4400	4210	4085	4000	3930	3880	3835	3805	3775	0.258
		4	4515	4305	4165	4065	3990	3930	3885	3845	3815	0.224
		5	4615	4395	4240	4130	4045	3980	3930	3885	3850	0.197
		6	4615	4490	4315	4195	4105	4030	3975	3930	3890	0.177
		8	4615	4615	4470	4325	4220	4135	4065	4010	3965	0.146

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{sf}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{sf}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Tables – 20 Gauge 40 ksi (Welded)

Composite Deck Design thickness = 0.0358 in. Support fastening: 5/8" arc spot welds Side-lap fastening: #10 screws	$F_u =$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_v =$	40 ksi	Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$
	$F_x =$	60 ksi	Seismic	0.55	3.00	Seismic	0.50	3.25
			Wind	0.75	2.15	Wind	0.50	3.25
			Other	0.60	2.65	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>										$K_1$ , 1/ft
			4	5	6	7	8	9	10	11	12		
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	805	635									0.802
		1	925	755	620								0.561
		2	1040	865	725	615	530	465					0.431
		3	1145	960	820	700	605	535	480	435	400		0.350
		4	1240	1050	900	790	685	600	540	490	450		0.294
		5	1330	1135	980	860	760	670	600	545	500		0.254
		6	1410	1210	1055	930	830	740	665	605	555		0.224
		8	1550	1355	1190	1060	950	860	785	715	655		0.180
2" x 12" No Fill (Bare Deck)	36/4	0	790	615									0.802
		1	925	740	605								0.561
		2	1040	865	705	600	525	465					0.431
		3	1145	960	810	685	600	535	480	435	400		0.350
		4	1240	1050	900	775	675	600	540	490	450		0.294
		5	1330	1135	980	860	755	670	600	545	500		0.254
		6	1410	1210	1055	930	830	740	665	605	555		0.224
		8	1550	1355	1190	1060	950	860	785	715	655		0.180
2 1/2" NW Conc. (Above Deck)	36/4	0	5760	5590									0.802
		1	5915	5710	5575								0.561
		2	6070	5835	5680	5570	5485	5420					0.431
		3	6220	5960	5780	5655	5560	5490	5430	5380	5340		0.350
		4	6375	6080	5885	5745	5640	5555	5490	5440	5395		0.294
		5	6530	6205	5985	5830	5715	5625	5555	5495	5445		0.254
		6	6535	6325	6090	5920	5790	5695	5615	5550	5495		0.224
		8	6535	6535	6295	6095	5945	5830	5735	5660	5600		0.180
2 1/2" LW Conc. (Above Deck)	36/4	0	4320	4150									0.802
		1	4475	4270	4135								0.561
		2	4615	4395	4240	4130	4045	3980					0.431
		3	4615	4520	4340	4215	4120	4050	3990	3940	3900		0.350
		4	4615	4615	4445	4305	4200	4115	4050	3995	3955		0.294
		5	4615	4615	4545	4390	4275	4185	4115	4055	4005		0.254
		6	4615	4615	4615	4480	4350	4255	4175	4110	4055		0.224
		8	4615	4615	4615	4615	4505	4390	4295	4220	4160		0.180

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
4	5	6	7	8	9	10	11	12			
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295	
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nr}/\Omega_{sf}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{sf}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Tables – 20 Gauge 40 ksi (#10 Screw)

Composite Deck  
Design thickness = 0.0358 in.  
Support fastening: #10 screws  
Side-lap fastening: #10 screws

$F_u$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm		
$F_y$	40 ksi	Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$
Seismic	0.70	2.30	Seismic	0.50	3.25		
Wind	0.80	2.00	Wind	0.50	3.25		
Other	0.70	2.30	Other	0.50	3.25		

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12		
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	350	275									0.907
		1	470	390	330								0.610
		2	565	480	415	365	320	280					0.459
		3	645	560	490	430	385	350	315	285	260		0.368
		4	710	625	555	495	445	400	365	340	310		0.307
		5	760	680	610	550	495	455	415	385	355		0.264
		6	800	725	660	600	545	500	460	425	395		0.231
		8	860	795	735	680	630	585	540	505	470		0.185
2" x 12" No Fill (Bare Deck)	36/4	0	345	270									0.907
		1	470	390	320								0.610
		2	565	480	415	360	315	280					0.459
		3	645	560	490	430	385	350	315	285	260		0.368
		4	710	625	555	495	445	400	365	340	310		0.307
		5	760	680	610	550	495	455	415	385	355		0.264
		6	800	725	660	600	545	500	460	425	395		0.231
		8	860	795	735	680	630	585	540	505	470		0.185
2 1/2" NW Conc. (Above Deck)	36/4	0	5280	5205									0.907
		1	5435	5325	5255								0.610
		2	5585	5450	5360	5295	5245	5205					0.459
		3	5740	5575	5460	5380	5320	5275	5235	5205	5180		0.368
		4	5895	5695	5565	5470	5400	5345	5300	5265	5235		0.307
		5	6050	5820	5665	5555	5475	5410	5360	5320	5285		0.264
		6	6200	5940	5770	5645	5550	5480	5420	5375	5335		0.231
		8	6510	6190	5975	5820	5705	5615	5545	5485	5440		0.185
2 1/2" LW Conc. (Above Deck)	36/4	0	3840	3765									0.907
		1	3995	3885	3815								0.610
		2	4145	4010	3920	3855	3805	3765					0.459
		3	4300	4135	4020	3940	3880	3835	3795	3765	3740		0.368
		4	4455	4255	4125	4030	3960	3905	3860	3820	3790		0.307
		5	4610	4380	4225	4115	4035	3970	3920	3880	3845		0.264
		6	4615	4500	4330	4205	4110	4040	3980	3935	3895		0.231
		8	4615	4615	4535	4380	4265	4175	4105	4045	3995		0.185

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

$\phi_{db}$	$\Omega_{db}$
Buckling	0.80
	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
4	5	6	7	8	9	10	11	12			
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295	
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nr}/\Omega_{dr}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{dr}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 40 ksi (Hilti® X-HSN24)

Composite Deck Design thickness = 0.0358 in. Support fastening: Hilti X-HSN24 Side-lap fastening: #10 screws 0.125" to 0.250" Support Steel			$F_u$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm			
			$F_y$	40 ksi	Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$	
			Seismic	0.65	2.50	Seismic	0.50	3.25	Wind	0.50	3.25
			Wind	0.70	2.35	Other	0.65	2.50	Other	0.50	3.25
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	620	490						0.872	
		1	740	615	505					0.594	
		2	850	710	605	515	445	390		0.450	
		3	950	805	690	600	520	460	410	375	
		4	1040	885	770	675	600	525	475	430	
		5	1115	965	840	745	665	595	535	485	
		6	1185	1035	910	805	725	655	595	540	
		7	1300	1155	1030	925	835	760	695	640	
		8								0.184	
		9									
2" x 12" No Fill (Bare Deck)	36/4	0	610	475						0.872	
		1	740	600	490					0.594	
		2	850	710	595	500	440	390		0.450	
		3	950	805	690	590	515	460	410	375	
		4	1040	885	770	675	590	525	475	430	
		5	1115	965	840	745	665	595	535	485	
		6	1185	1035	910	805	725	655	595	540	
		7	1300	1155	1030	925	835	760	695	640	
		8								0.184	
		9									
2 1/2" NW Conc. (Above Deck)	36/4	0	5565	5435						0.872	
		1	5720	5555	5445					0.594	
		2	5875	5680	5550	5455	5390	5335		0.450	
		3	6030	5800	5650	5545	5465	5400	5350	5310	
		4	6180	5925	5755	5635	5540	5470	5415	5365	
		5	6335	6050	5855	5720	5620	5540	5475	5425	
		6	6490	6170	5960	5810	5695	5605	5535	5480	
		7	6535	6415	6165	5985	5850	5745	5660	5590	
		8								0.184	
		9									
2 1/2" LW Conc. (Above Deck)	36/4	0	4125	3995						0.872	
		1	4280	4115	4005					0.594	
		2	4435	4240	4110	4015	3950	3895		0.450	
		3	4585	4360	4210	4105	4025	3960	3910	3870	
		4	4615	4485	4315	4195	4100	4030	3975	3925	
		5	4615	4610	4415	4280	4180	4100	4035	3985	
		6	4615	4615	4520	4370	4255	4165	4095	4040	
		7	4615	4615	4615	4545	4410	4305	4220	4150	
		8								0.184	
		9									

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
4	5	6	7	8	9	10	11	12			
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295	
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nr}/\Omega_{sf}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{sf}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 40 ksi (Hilti® X-ENP-19 L5)

Composite Deck

Design thickness = 0.0358 in.

Support fastening: Hilti X-ENP-19 L5

Side-lap fastening: #10 screws

0.125" to 0.375" Support Steel

$F_u$  = 50 ksi  
 $F_y$  = 40 ksi

Bare Deck Diaphragm			Filled Diaphragm		
Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50	Seismic	0.50	3.25
Wind	0.70	2.35	Wind	0.50	3.25
Other	0.65	2.50	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	670	530								0.523
		1	790	650	535							0.408
		2	900	750	635	540	465	410				0.335
		3	1005	845	725	625	545	480	430	390	360	0.284
		4	1095	930	805	705	620	545	490	445	410	0.246
		5	1175	1010	880	775	690	615	555	500	460	0.217
		6	1245	1080	950	840	750	680	615	560	510	0.195
		8	1370	1210	1075	960	865	785	720	660	610	0.161
2" x 12" No Fill (Bare Deck)	36/4	0	655	515								0.523
		1	790	635	520							0.408
		2	900	750	625	525	460	410				0.335
		3	1005	845	725	615	540	480	430	390	360	0.284
		4	1095	930	805	705	615	545	490	445	410	0.246
		5	1175	1010	880	775	690	615	555	500	460	0.217
		6	1245	1080	950	840	750	680	615	560	510	0.195
		8	1370	1210	1075	960	865	785	720	660	610	0.161
2 1/2" NW Conc. (Above Deck)	36/4	0	5620	5475								0.523
		1	5770	5600	5480							0.408
		2	5925	5720	5585	5485	5415	5355				0.335
		3	6080	5845	5685	5575	5490	5425	5375	5330	5295	0.284
		4	6230	5965	5790	5660	5565	5495	5435	5385	5345	0.246
		5	6385	6090	5890	5750	5645	5560	5495	5440	5395	0.217
		6	6535	6210	5995	5840	5720	5630	5555	5495	5450	0.195
		8	6535	6460	6200	6015	5875	5765	5680	5610	5550	0.161
2 1/2" LW Conc. (Above Deck)	36/4	0	4175	4035								0.523
		1	4330	4155	4040							0.408
		2	4485	4280	4145	4045	3975	3915				0.335
		3	4615	4405	4245	4135	4050	3985	3930	3890	3855	0.284
		4	4615	4525	4350	4220	4125	4055	3995	3945	3905	0.246
		5	4615	4615	4450	4310	4205	4120	4055	4000	3955	0.217
		6	4615	4615	4555	4395	4280	4190	4115	4055	4005	0.195
		8	4615	4615	4615	4575	4435	4325	4240	4170	4110	0.161

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{df}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Tables – 18 Gauge 40 ksi (Welded)

Composite Deck Design thickness = 0.0474 in. Support fastening: 5/8" arc spot welds Side-lap fastening: #10 screws	$F_u =$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_d =$	40 ksi	Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$
	$F_x =$	60 ksi	Seismic	0.55	3.00	Seismic	0.50	3.25
			Wind	0.75	2.15	Wind	0.50	3.25
			Other	0.60	2.65	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_m$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			5	6	7	8	9	10	11	12	13	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	830									0.923
		1	1015	840								0.645
		2	1165	995	845	730	645					0.496
		3	1305	1120	980	850	750	665	605	555		0.403
		4	1440	1245	1090	965	850	760	690	630	585	0.339
		5	1560	1355	1195	1065	955	855	775	710	655	0.293
		6	1675	1465	1295	1160	1045	950	860	785	725	0.257
		8	1870	1660	1485	1335	1215	1110	1020	945	870	0.207
2" x 12" No Fill (Bare Deck)	36/4	0	815									0.923
		1	1000	820								0.645
		2	1165	975	825	715	635					0.496
		3	1305	1120	960	830	740	665	605	555		0.403
		4	1440	1245	1090	950	845	760	690	630	585	0.339
		5	1560	1355	1195	1065	945	850	775	710	655	0.293
		6	1675	1465	1295	1160	1045	945	860	785	725	0.257
		8	1870	1660	1485	1335	1215	1110	1020	945	870	0.207
2 1/2" NW Conc. (Above Deck)	36/4	0	5795									0.923
		1	5980	5800								0.645
		2	6170	5960	5805	5695	5605					0.496
		3	6355	6115	5940	5810	5710	5630	5565	5510		0.403
		4	6535	6270	6075	5930	5815	5725	5650	5585	5535	0.339
		5	6535	6425	6210	6045	5920	5815	5735	5665	5605	0.293
		6	6535	6535	6340	6160	6020	5910	5820	5740	5675	0.257
		8	6535	6535	6535	6395	6230	6095	5990	5900	5820	0.207
2 1/2" LW Conc. (Above Deck)	36/4	0	4355									0.923
		1	4540	4360								0.645
		2	4615	4515	4365	4255	4165					0.496
		3	4615	4615	4500	4370	4270	4190	4120	4065		0.403
		4	4615	4615	4615	4485	4375	4280	4210	4145	4095	0.339
		5	4615	4615	4615	4605	4475	4375	4295	4225	4165	0.293
		6	4615	4615	4615	4615	4580	4470	4380	4300	4235	0.257
		8	4615	4615	4615	4615	4615	4615	4550	4460	4380	0.207

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		5	6	7	8	9	10	11	12	13
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

$$\text{ASD Required strength (Service Applied Load)} \leq \min\{S_m / \Omega_{dr}, S_{nb} / \Omega_{db}\}$$

$$\text{LRFD Required strength (Factored Applied Load)} \leq \min\{\phi_{dr} S_m, \phi_{db} S_{nb}\}$$

## 2" Floor Deck Diaphragm Load Tables – 18 Gauge 40 ksi (#10 Screw)

Composite Deck Design thickness = 0.0474 in. Support fastening: 5/8" arc spot welds Side-lap fastening: #10 screws	$F_u =$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_d =$	40 ksi	Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$
	$F_a =$	60 ksi	Seismic	0.55	3.00	Seismic	0.50	3.25
			Wind	0.75	2.15	Wind	0.50	3.25
			Other	0.60	2.65	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			Span, ft.	5	6	7	8	9	10	11	12	13
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	830									0.923
		1	1015	840								0.645
		2	1165	995	845	730	645					0.496
		3	1305	1120	980	850	750	665	605	555		0.403
		4	1440	1245	1090	965	850	760	690	630	585	0.339
		5	1560	1355	1195	1065	955	855	775	710	655	0.293
		6	1675	1465	1295	1160	1045	950	860	785	725	0.257
		8	1870	1660	1485	1335	1215	1110	1020	945	870	0.207
2" x 12" No Fill (Bare Deck)	36/4	0	815									0.923
		1	1000	820								0.645
		2	1165	975	825	715	635					0.496
		3	1305	1120	960	830	740	665	605	555		0.403
		4	1440	1245	1090	950	845	760	690	630	585	0.339
		5	1560	1355	1195	1065	945	850	775	710	655	0.293
		6	1675	1465	1295	1160	1045	945	860	785	725	0.257
		8	1870	1660	1485	1335	1215	1110	1020	945	870	0.207
2 1/2" NW Conc. (Above Deck)	36/4	0	5795									0.923
		1	5980	5800								0.645
		2	6170	5960	5805	5695	5605					0.496
		3	6355	6115	5940	5810	5710	5630	5565	5510		0.403
		4	6535	6270	6075	5930	5815	5725	5650	5585	5535	0.339
		5	6535	6425	6210	6045	5920	5815	5735	5665	5605	0.293
		6	6535	6535	6340	6160	6020	5910	5820	5740	5675	0.257
		8	6535	6535	6535	6395	6230	6095	5990	5900	5820	0.207
2 1/2" LW Conc. (Above Deck)	36/4	0	4355									0.923
		1	4540	4360								0.645
		2	4615	4515	4365	4255	4165					0.496
		3	4615	4615	4500	4370	4270	4190	4120	4065		0.403
		4	4615	4615	4615	4485	4375	4280	4210	4145	4095	0.339
		5	4615	4615	4615	4605	4475	4375	4295	4225	4165	0.293
		6	4615	4615	4615	4615	4580	4470	4380	4300	4235	0.257
		8	4615	4615	4615	4615	4615	4615	4550	4460	4380	0.207

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
5	6	7	8	9	10	11	12	13		
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nr}$  /  $\Omega_{dr}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{dr}S_{nr}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 40 ksi (Hilti® X-HSN24)

Composite Deck			$F_u$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm			
			$F_y$	40 ksi	Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$	
Design thickness = 0.0474 in.						Seismic			Seismic		
Support fastening: Hilti X-HSN24			Wind			0.65			0.50		
Side-lap fastening: #10 screws			Other			2.50			3.25		
0.125" to 0.250" Support Steel			Wind			0.70			0.50		
			Other			2.35			3.25		
Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>								K <sub>1</sub> 1/ft
			5	6	7	8	9	10	11	12	13
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	650								1.004
		1	825	690							0.683
		2	970	830	715	620	545				0.518
		3	1105	955	835	740	650	580	525	480	0.417
		4	1230	1070	940	840	755	675	610	560	0.349
		5	1340	1175	1040	935	845	770	695	640	0.300
		6	1435	1270	1135	1020	925	845	780	715	0.263
		8	1600	1440	1300	1180	1080	990	915	850	0.211
2" x 12" No Fill (Bare Deck)	36/4	0	635								1.004
		1	820	675							0.683
		2	970	830	700	610	540				0.518
		3	1105	955	835	725	645	580	525	480	0.417
		4	1230	1070	940	840	750	675	610	560	0.349
		5	1340	1175	1040	935	845	765	695	640	0.300
		6	1435	1270	1135	1020	925	845	780	715	0.263
		8	1600	1440	1300	1180	1080	990	915	850	0.211
2 1/2" NW Conc. (Above Deck)	36/4	0	5600								1.004
		1	5785	5640							0.683
		2	5970	5795	5665	5570	5495				0.518
		3	6160	5950	5800	5690	5600	5530	5475	5425	0.417
		4	6345	6105	5935	5805	5705	5625	5560	5505	0.349
		5	6535	6260	6070	5920	5810	5720	5645	5580	0.300
		6	6535	6420	6200	6040	5915	5810	5730	5660	0.263
		8	6535	6535	6470	6275	6120	6000	5900	5815	0.211
2 1/2" LW Conc. (Above Deck)	36/4	0	4155								1.004
		1	4345	4195							0.683
		2	4530	4355	4225	4130	4055				0.518
		3	4615	4510	4360	4245	4160	4090	4035	3985	0.417
		4	4615	4615	4495	4365	4265	4185	4120	4065	0.349
		5	4615	4615	4615	4480	4370	4280	4205	4140	0.300
		6	4615	4615	4615	4600	4470	4370	4290	4220	0.263
		8	4615	4615	4615	4615	4615	4560	4460	4375	0.211

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	$I$ in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nf}/\Omega_{dr}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{dr}S_{nf}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 40 ksi (Hilti® X-ENP-19 L5)

Composite Deck			$F_u =$	50 ksi	Bare Deck Diaphragm			Filled Diaphragm				
			$F_y =$	40 ksi	Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$		
Design thickness = 0.0474 in.						Seismic	0.65	2.50	Seismic	0.50	3.25	
Support fastening: Hilti X-ENP-19 L5						Wind	0.70	2.35	Wind	0.50	3.25	
Side-lap fastening: #10 screws						Other	0.65	2.50	Other	0.50	3.25	
0.125" to 0.375" Support Steel												
Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			5	6	7	8	9	10	11	12	13	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	700								0.602	
		1	875	730							0.470	
		2	1025	875	750	650	575				0.385	
		3	1160	1000	875	770	675	605	545	500	0.327	
		4	1285	1115	985	875	780	700	635	580	0.283	
		5	1400	1225	1085	970	875	790	720	660	0.250	
		6	1505	1325	1180	1060	960	875	805	735	680	
		8	1675	1505	1355	1225	1115	1025	945	875	815	
2" x 12" No Fill (Bare Deck)	36/4	0	680								0.602	
		1	870	715							0.470	
		2	1025	870	735	635	565				0.385	
		3	1160	1000	870	755	670	600	545	500	0.327	
		4	1285	1115	985	870	775	695	635	580	0.283	
		5	1400	1225	1085	970	875	790	720	660	0.250	
		6	1505	1325	1180	1060	960	875	805	735	680	
		8	1675	1505	1355	1225	1115	1025	945	875	815	
2 1/2" NW Conc. (Above Deck)	36/4	0	5650								0.602	
		1	5840	5680							0.470	
		2	6025	5840	5705	5605	5525				0.385	
		3	6215	5995	5840	5720	5630	5555	5500	5450	0.327	
		4	6400	6150	5970	5840	5735	5650	5585	5525	0.283	
		5	6535	6305	6105	5955	5840	5745	5670	5605	0.250	
		6	6535	6465	6240	6070	5940	5840	5755	5680	0.224	
		8	6535	6535	6505	6305	6150	6025	5925	5840	0.185	
2 1/2" LW Conc. (Above Deck)	36/4	0	4210								0.602	
		1	4400	4240							0.470	
		2	4585	4400	4265	4165	4085				0.385	
		3	4615	4555	4400	4280	4190	4115	4055	4010	0.327	
		4	4615	4615	4530	4400	4295	4210	4145	4085	0.283	
		5	4615	4615	4615	4515	4400	4305	4230	4165	0.250	
		6	4615	4615	4615	4615	4500	4400	4315	4240	0.224	
		8	4615	4615	4615	4615	4615	4585	4485	4400	0.185	

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{sf}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{sf}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Tables – 22 Gauge 50 ksi (Welded)

Composite Deck  
Design thickness = 0.0295 in.  
Support fastening: 5/8" arc spot welds  
Side-lap fastening: #10 screws

$F_u = 50 \text{ ksi}$   
 $F_y = 50 \text{ ksi}$   
 $F_{ax} = 60 \text{ ksi}$

Bare Deck Diaphragm			Filled Diaphragm		
Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$
Seismic	0.55	3.00	Seismic	0.50	3.25
Wind	0.75	2.15	Wind	0.50	3.25
Other	0.60	2.65	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_n$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	725	570								0.728
		1	840	680	560							0.509
		2	940	780	650	550	475	420				0.391
		3	1035	870	740	630	545	480	435	395	360	0.318
		4	1125	950	815	710	615	545	490	445	405	0.267
		5	1205	1025	885	780	680	605	545	495	450	0.231
		6	1275	1095	955	840	750	665	600	545	500	0.203
		8	1400	1225	1075	955	855	775	705	645	590	0.164
2" x 12" No Fill (Bare Deck)	36/4	0	710	555								0.728
		1	840	665	540							0.509
		2	940	775	635	540	475	420				0.391
		3	1035	870	725	620	540	480	435	395	360	0.318
		4	1125	950	815	700	610	545	490	445	405	0.267
		5	1205	1025	885	775	680	605	545	495	450	0.231
		6	1275	1095	955	840	750	665	600	545	500	0.203
		8	1400	1225	1075	955	855	775	705	645	590	0.164
2 1/2" NW Conc. (Above Deck)	36/4	0	5680	5525								0.728
		1	5820	5635	5515							0.509
		2	5960	5745	5605	5505	5430	5370				0.391
		3	6095	5855	5700	5585	5500	5435	5380	5335	5300	0.318
		4	6235	5970	5790	5665	5570	5495	5435	5385	5345	0.267
		5	6370	6080	5880	5740	5635	5555	5490	5435	5390	0.231
		6	6510	6190	5975	5820	5705	5615	5545	5485	5440	0.203
		8	6535	6410	6160	5980	5845	5740	5655	5585	5530	0.164
2 1/2" LW Conc. (Above Deck)	36/4	0	4240	4085								0.728
		1	4380	4195	4075							0.509
		2	4520	4305	4165	4065	3990	3930				0.391
		3	4615	4415	4260	4145	4060	3990	3940	3895	3860	0.318
		4	4615	4525	4350	4225	4130	4055	3995	3945	3905	0.267
		5	4615	4615	4440	4300	4195	4115	4050	3995	3950	0.231
		6	4615	4615	4535	4380	4265	4175	4105	4045	3995	0.203
		8	4615	4615	4615	4540	4405	4300	4215	4145	4090	0.164

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_n$  /  $\Omega_{sf}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{sf}S_n$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 22 Gauge 50 ksi (#10 Screw)

Composite Deck			$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm		
Type of Fill	Fastener Layout	Side-lap Conn/Span	$F_y =$	50 ksi	Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$
Design thickness = 0.0295 in.			Seismic	0.70	2.30	Seismic	0.50	3.25		
Support fastening: #10 screws			Wind	0.80	2.00	Wind	0.50	3.25		
Side-lap fastening: #10 screws			Other	0.70	2.30	Other	0.50	3.25		
Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>										
Span, ft.										
1 1/2" x 6" No Fill (Bare Deck)	36/4	4	345	270						0.823
		5	455	375	315					0.554
		6	545	460	395	345	300	265		0.417
		7	620	530	465	410	365	325	290	0.334
		8	680	595	525	465	420	380	345	0.279
		9	730	650	580	520	470	425	390	0.240
		10	770	695	625	565	515	470	430	0.210
		11	830	765	700	645	595	550	505	470
		12							440	0.168
2" x 12" No Fill (Bare Deck)	36/4	0	340	265						0.823
		1	455	375	305					0.554
		2	545	460	395	340	295	265		0.417
		3	620	530	465	410	365	325	290	0.334
		4	680	595	525	465	420	380	345	0.279
		5	730	650	580	520	470	425	390	0.240
		6	770	695	625	565	515	470	430	0.210
		7	830	765	700	645	595	550	505	470
		8							440	0.168
2 1/2" NW Conc. (Above Deck)	36/4	0	5275	5200						0.823
		1	5415	5310	5245					0.554
		2	5550	5420	5335	5275	5225	5190		0.417
		3	5690	5530	5425	5350	5295	5250	5215	0.334
		4	5825	5640	5520	5430	5365	5315	5270	0.279
		5	5965	5750	5610	5510	5435	5375	5325	0.240
		6	6105	5865	5705	5590	5500	5435	5380	0.210
		7	6380	6085	5885	5745	5640	5560	5495	0.168
		8							5440	5395
2 1/2" LW Conc. (Above Deck)	36/4	0	3835	3760						0.823
		1	3975	3870	3805					0.554
		2	4110	3980	3895	3835	3785	3750		0.417
		3	4250	4090	3985	3910	3855	3810	3775	0.334
		4	4385	4200	4080	3990	3925	3875	3830	0.279
		5	4525	4310	4170	4070	3995	3935	3885	0.240
		6	4615	4420	4260	4150	4060	3995	3940	0.210
		7	4615	4615	4445	4305	4200	4120	4050	0.168
		8							4000	3955

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	$I$ in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nr}/\Omega_{dr}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{dr}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 22 Gauge 50 ksi (Hilti® X-HSN24)

Composite Deck  
Design thickness = 0.0295 in.  
Support fastening: Hilti X-HSN24  
Side-lap fastening: #10 screws  
0.125" to 0.250" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Bare Deck Diaphragm			Filled Diaphragm		
Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$
Seismic	0.65	2.50	Seismic	0.50	3.25
Wind	0.70	2.35	Wind	0.50	3.25
Other	0.65	2.50	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	515	405								0.792
		1	625	515	420							0.539
		2	720	600	515	435	375	330				0.409
		3	805	685	590	515	445	395	355	320	295	0.329
		4	885	755	655	580	515	455	410	370	340	0.275
		5	950	825	720	640	570	515	465	420	385	0.237
		6	1010	885	780	695	625	565	515	470	430	0.208
		8	1105	985	885	795	720	655	600	555	515	0.167
2" x 12" No Fill (Bare Deck)	36/4	0	500	390								0.792
		1	625	500	410							0.539
		2	720	600	500	430	375	330				0.409
		3	805	685	590	505	445	395	355	320	295	0.329
		4	885	755	655	580	510	455	410	370	340	0.275
		5	950	825	720	640	570	515	465	420	385	0.237
		6	1010	885	780	695	625	565	515	470	430	0.208
		8	1105	985	885	795	720	655	600	555	515	0.167
2 1/2" NW Conc. (Above Deck)	36/4	0	5455	5345								0.792
		1	5590	5455	5360							0.539
		2	5730	5565	5455	5375	5315	5270				0.409
		3	5865	5675	5545	5455	5385	5330	5290	5255	5225	0.329
		4	6005	5785	5635	5530	5455	5390	5345	5305	5270	0.275
		5	6145	5895	5730	5610	5520	5455	5400	5355	5315	0.237
		6	6280	6005	5820	5690	5590	5515	5455	5405	5360	0.208
		8	6535	6225	6005	5845	5730	5635	5565	5505	5455	0.167
2 1/2" LW Conc. (Above Deck)	36/4	0	4015	3905								0.792
		1	4150	4015	3920							0.539
		2	4290	4125	4015	3935	3875	3830				0.409
		3	4425	4235	4105	4015	3945	3890	3850	3810	3785	0.329
		4	4565	4345	4195	4090	4015	3950	3905	3865	3830	0.275
		5	4615	4455	4290	4170	4080	4015	3960	3915	3875	0.237
		6	4615	4565	4380	4250	4150	4075	4015	3965	3920	0.208
		8	4615	4615	4565	4405	4290	4195	4125	4065	4015	0.167

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{sf}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{sf} S_{nf}$ ,  $\phi_{db} S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 22 Gauge 50 ksi (Hilti® X-ENP-19 L5)

Composite Deck			$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm			
			$F_y =$	50 ksi	Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$	
Design thickness = 0.0295 in.			Seismic	0.65	2.50	Seismic	0.50	3.25			
Support fastening: Hilti X-ENP-19 L5			Wind	0.70	2.35	Wind	0.50	3.25			
Side-lap fastening: #10 screws			Other	0.65	2.50	Other	0.50	3.25			
0.125" to 0.375" Support Steel											
Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>								
			Span, ft.								
			4	5	6	7	8	9	10	11	12
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	550	435							0.475
		1	665	545	445						0.371
		2	760	635	540	455	395	350			0.304
		3	850	720	615	535	460	410	370	335	0.258
		4	930	795	685	605	530	470	425	385	0.224
		5	1000	860	750	665	595	530	480	435	0.197
		6	1060	925	815	720	645	585	535	485	445
		8	1165	1035	920	825	750	680	625	575	530
2" x 12" No Fill (Bare Deck)	36/4	0	540	420							0.475
		1	665	530	435						0.371
		2	760	635	525	450	390	350			0.304
		3	850	720	615	525	460	410	370	335	0.258
		4	930	795	685	605	530	470	425	385	0.224
		5	1000	860	750	665	595	530	480	435	0.197
		6	1060	925	815	720	645	585	535	485	445
		8	1165	1035	920	825	750	680	625	575	530
2 1/2" NW Conc. (Above Deck)	36/4	0	5495	5375							0.475
		1	5635	5485	5390						0.371
		2	5770	5600	5480	5400	5335	5290			0.304
		3	5910	5710	5575	5480	5405	5350	5305	5270	5240
		4	6045	5820	5665	5555	5475	5410	5360	5320	5285
		5	6185	5930	5755	5635	5545	5470	5415	5370	5330
		6	6325	6040	5850	5715	5615	5535	5470	5420	5375
		8	6535	6260	6035	5870	5750	5655	5580	5520	5470
2 1/2" LW Conc. (Above Deck)	36/4	0	4055	3935							0.475
		1	4195	4045	3950						0.371
		2	4330	4155	4040	3960	3895	3850			0.304
		3	4470	4270	4135	4035	3965	3910	3865	3830	3795
		4	4605	4380	4225	4115	4035	3970	3920	3880	3845
		5	4615	4490	4315	4195	4105	4030	3975	3930	3890
		6	4615	4600	4410	4275	4170	4095	4030	3980	3935
		8	4615	4615	4595	4430	4310	4215	4140	4080	4025

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	$I$ in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
		4	5	6	7	8	9	10	11	12	
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965	
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nr}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 22 Gauge 50 ksi (Pneutek SDK61)

Composite Deck Design thickness = 0.0295 in. Support fastening: Pneutek SDK61 Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws 0.113" to 0.155" Support Steel			$F_u$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm		
			$F_y$	50 ksi	Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$
					Seismic	0.65	2.50	Seismic	0.50	3.25
1 1/2" x 6" No Fill (Bare Deck)			2	760	640	545	465	400	355	385
			3	855	730	630	550	480	425	350
			4	940	810	705	625	555	495	445
			5	1010	880	775	690	620	560	510
			6	1075	945	840	750	675	615	560
			7	1170	1055	950	860	785	715	660
			8	1170	1055	950	860	785	715	660
			9							
2" x 12" No Fill (Bare Deck)			0	515	400	325	430			
			1	650	525	430				
			2	760	640	535	460	400	355	385
			3	855	730	630	550	480	425	350
			4	940	810	705	625	555	495	445
			5	1010	880	775	690	620	560	510
			6	1075	945	840	750	675	615	560
			7	1170	1055	950	860	785	715	660
			8	1170	1055	950	860	785	715	660
2 1/2" NW Conc. (Above Deck)			0	5465	5355					
			1	5625	5480	5385				
			2	5785	5610	5490	5405	5345	5295	
			3	5940	5735	5595	5495	5420	5365	5320
			4	6100	5860	5700	5585	5500	5435	5380
			5	6260	5990	5805	5675	5580	5505	5445
			6	6415	6115	5910	5770	5660	5575	5510
			7	6535	6370	6125	5950	5820	5715	5635
2 1/2" LW Conc. (Above Deck)			0	4025	3915					
			1	4185	4040	3945				
			2	4345	4165	4050	3965	3905	3855	
			3	4500	4295	4155	4055	3980	3925	3880
			4	4615	4420	4260	4145	4060	3995	3940
			5	4615	4545	4365	4235	4140	4065	4005
			6	4615	4615	4470	4330	4220	4135	4070
			7	4615	4615	4615	4510	4380	4275	4195
			8	4615	4615	4615	4510	4380	4275	4130

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ plf <sup>2</sup>								
		Span, ft								
		4	5	6	7	8	9	10	11	12
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{df}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 22 Gauge 50 ksi (Pneutek SDK63)

Composite Deck  
Design thickness = 0.0295 in.  
Support fastening: Pneutek SDK63  
Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws  
0.155" to 0.250" Support Steel

	Bare Deck Diaphragm			Filled Diaphragm		
	Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$
Seismic	0.65	2.50		Seismic	0.50	3.25
Wind	0.70	2.35		Wind	0.50	3.25
Other	0.65	2.50		Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	590	465								1.900
		1	715	590	485							0.894
		2	830	690	590	500	430	380				0.585
		3	930	785	675	590	510	450	405	370	340	0.434
		4	1015	870	755	665	590	525	470	425	390	0.345
		5	1095	945	830	735	655	590	535	485	445	0.287
		6	1160	1015	895	800	715	650	590	540	495	0.245
		8	1270	1135	1015	915	830	755	690	640	590	0.190
2" x 12" No Fill (Bare Deck)	36/4	0	575	450								1.900
		1	715	575	470							0.894
		2	830	690	575	490	430	380				0.585
		3	930	785	675	580	510	450	405	370	340	0.434
		4	1015	870	755	665	590	525	470	425	390	0.345
		5	1095	945	830	735	655	590	535	485	445	0.287
		6	1160	1015	895	800	715	650	590	540	495	0.245
		8	1270	1135	1015	915	830	755	690	640	590	0.190
2 1/2" NW Conc. (Above Deck)	36/4	0	5535	5410								1.900
		1	5695	5535	5430							0.894
		2	5850	5660	5535	5445	5375	5325				0.585
		3	6010	5790	5640	5535	5455	5395	5345	5305	5270	0.434
		4	6170	5915	5745	5625	5535	5465	5410	5365	5325	0.345
		5	6325	6040	5850	5715	5615	5535	5470	5420	5375	0.287
		6	6485	6170	5960	5805	5695	5605	5535	5480	5430	0.245
		8	6535	6420	6170	5990	5850	5745	5660	5595	5535	0.190
2 1/2" LW Conc. (Above Deck)	36/4	0	4095	3970								1.900
		1	4255	4095	3990							0.894
		2	4410	4220	4095	4005	3935	3885				0.585
		3	4570	4350	4200	4095	4015	3955	3905	3865	3830	0.434
		4	4615	4475	4305	4185	4095	4025	3970	3920	3885	0.345
		5	4615	4600	4410	4275	4175	4095	4030	3980	3935	0.287
		6	4615	4615	4515	4365	4255	4165	4095	4035	3990	0.245
		8	4615	4615	4615	4545	4410	4305	4220	4155	4095	0.190

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		4	5	6	7	8	9	10	11	12
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{dr}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{dr}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 22 Gauge 50 ksi (Pneutek K64)

Composite Deck Design thickness = 0.0295 in. Support fastening: Pneutek K64 Side-lap fastening: Buldex, Elco, Hilti, or Simpson Strong-Tie #10 screws 0.187" to 0.312" Support Steel	$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_r =$	50 ksi	Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$
	Seismic	0.65	2.50	Seismic	0.50	3.25		
	Wind	0.70	2.35	Wind	0.50	3.25		
	Other	0.65	2.50	Other	0.50	3.25		

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	585	460	480							1.900 0.894
		1	710	585								
		2	825	690	585	495	430	380				0.585
		3	925	780	675	585	510	450	405	370	335	0.434
		4	1010	865	750	660	590	520	470	425	390	0.345
		5	1090	940	825	730	655	590	530	485	445	0.287
		6	1155	1010	895	795	715	645	590	540	495	0.245
		8	1265	1130	1010	910	825	755	690	635	590	0.190
2" x 12" No Fill (Bare Deck)	36/4	0	570	445								1.900 0.894
		1	710	575	470							
		2	825	690	575	490	430	380				0.585
		3	925	780	675	580	505	450	405	370	335	0.434
		4	1010	865	750	660	585	520	470	425	390	0.345
		5	1090	940	825	730	655	590	530	485	445	0.287
		6	1155	1010	895	795	715	645	590	540	495	0.245
		8	1265	1130	1010	910	825	755	690	635	590	0.190
2 1/2" NW Conc. (Above Deck)	36/4	0	5530	5405								1.900 0.894
		1	5690	5530	5425							
		2	5850	5660	5535	5440	5375	5320				0.585
		3	6005	5785	5640	5535	5455	5395	5345	5305	5270	0.434
		4	6165	5910	5745	5625	5535	5465	5405	5360	5325	0.345
		5	6325	6040	5850	5715	5610	5535	5470	5420	5375	0.287
		6	6480	6165	5955	5805	5690	5605	5535	5475	5430	0.245
		8	6535	6420	6165	5985	5850	5745	5660	5590	5535	0.190
2 1/2" LW Conc. (Above Deck)	36/4	0	4090	3965								1.900 0.894
		1	4250	4090	3985							
		2	4410	4220	4090	4000	3935	3880				0.585
		3	4565	4345	4200	4095	4015	3950	3905	3865	3830	0.434
		4	4615	4470	4305	4185	4095	4025	3965	3920	3880	0.345
		5	4615	4600	4410	4275	4170	4095	4030	3980	3935	0.287
		6	4615	4615	4515	4365	4250	4165	4095	4035	3990	0.245
		8	4615	4615	4615	4545	4410	4305	4220	4150	4095	0.190

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{ S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db} \}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{ \phi_{df} S_{nf}, \phi_{db} S_{nb} \}$

## 2" Floor Deck Diaphragm Load Table – 22 Gauge 50 ksi (Pneutek K66)

Composite Deck Design thickness = 0.0295 in. Support fastening: Pneutek K66 Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws 0.281" and thicker Support Steel	$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_y =$	50 ksi	Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$
	Seismic	0.65	2.50	Seismic	0.50	3.25		
	Wind	0.70	2.35	Wind	0.50	3.25		
	Other	0.65	2.50	Other	0.50	3.25		

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	625	490	505							1.900
		1	750	620	505							0.894
		2	865	720	615	520	450	395				0.585
		3	965	815	700	610	525	465	420	380	350	0.434
		4	1055	900	780	685	605	535	485	440	400	0.345
		5	1135	980	855	755	675	610	545	495	455	0.287
		6	1205	1055	925	825	740	665	610	555	510	0.245
		8	1320	1175	1050	945	850	775	710	655	605	0.190
2" x 12" No Fill (Bare Deck)	36/4	0	610	475								1.900
		1	750	605	490							0.894
		2	865	720	600	510	445	395				0.585
		3	965	815	700	600	525	465	420	380	350	0.434
		4	1055	900	780	685	605	535	485	440	400	0.345
		5	1135	980	855	755	675	610	545	495	455	0.287
		6	1205	1055	925	825	740	665	610	555	510	0.245
		8	1320	1175	1050	945	850	775	710	655	605	0.190
2 1/2" NW Conc. (Above Deck)	36/4	0	5575	5440								1.900
		1	5730	5565	5455							0.894
		2	5890	5695	5560	5465	5395	5340				0.585
		3	6050	5820	5665	5555	5475	5410	5360	5320	5285	0.434
		4	6205	5945	5770	5650	5555	5480	5425	5375	5335	0.345
		5	6365	6075	5880	5740	5635	5550	5485	5435	5390	0.287
		6	6525	6200	5985	5830	5715	5625	5550	5490	5440	0.245
		8	6535	6455	6195	6010	5870	5765	5675	5605	5550	0.190
2 1/2" LW Conc. (Above Deck)	36/4	0	4135	4000								1.900
		1	4290	4125	4015							0.894
		2	4450	4250	4120	4025	3955	3900				0.585
		3	4610	4380	4225	4115	4035	3970	3920	3880	3845	0.434
		4	4615	4505	4330	4205	4115	4040	3985	3935	3895	0.345
		5	4615	4615	4435	4300	4195	4110	4045	3995	3950	0.287
		6	4615	4615	4545	4390	4270	4180	4110	4050	4000	0.245
		8	4615	4615	4615	4570	4430	4325	4235	4165	4110	0.190

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

<sup>2</sup> Design Strengths:

$$\text{ASD Required strength (Service Applied Load)} \leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$$

$$\text{LRFD Required strength (Factored Applied Load)} \leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$$

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 50 ksi (Welded)

Composite Deck Design thickness = 0.0358 in. Support fastening: 5/8" arc spot welds Side-lap fastening: #10 screws	$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_j =$	50 ksi	Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$
	$F_{\alpha} =$	60 ksi	Seismic	0.55	3.00	Seismic	0.50	3.25
			Wind	0.75	2.15	Wind	0.50	3.25
			Other	0.60	2.65	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	965	760								0.802
		1	1110	910	745							0.561
		2	1250	1035	870	735	635	560				0.431
		3	1375	1150	985	840	730	640	575	525	480	0.350
		4	1490	1260	1085	945	820	720	650	590	540	0.294
		5	1595	1360	1175	1035	915	805	725	655	600	0.254
		6	1695	1455	1265	1115	995	885	795	725	665	0.224
		8	1860	1625	1430	1270	1140	1030	940	860	785	0.180
2" x 12" No Fill (Bare Deck)	36/4	0	945	740								0.802
		1	1110	890	725							0.561
		2	1250	1035	850	720	630	560				0.431
		3	1375	1150	970	825	720	640	575	525	480	0.350
		4	1490	1260	1085	930	810	720	650	590	540	0.294
		5	1595	1360	1175	1035	905	805	725	655	600	0.254
		6	1695	1455	1265	1115	995	885	795	725	665	0.224
		8	1860	1625	1430	1270	1140	1030	940	860	785	0.180
2 1/2" NW Conc. (Above Deck)	36/4	0	5935	5725								0.802
		1	6120	5875	5710							0.561
		2	6300	6020	5835	5700	5600	5525				0.431
		3	6485	6170	5960	5805	5695	5605	5535	5480	5430	0.350
		4	6535	6315	6080	5915	5785	5690	5610	5545	5490	0.294
		5	6535	6465	6205	6020	5880	5770	5685	5610	5555	0.254
		6	6535	6535	6325	6125	5970	5850	5755	5680	5615	0.224
		8	6535	6535	6335	6155	6015	5905	5815	5735	5735	0.180
2 1/2" LW Conc. (Above Deck)	36/4	0	4495	4285								0.802
		1	4615	4435	4270							0.561
		2	4615	4580	4395	4260	4160	4085				0.431
		3	4615	4615	4520	4365	4255	4165	4095	4040	3990	0.350
		4	4615	4615	4615	4470	4345	4250	4170	4105	4050	0.294
		5	4615	4615	4615	4580	4440	4330	4245	4170	4115	0.254
		6	4615	4615	4615	4615	4530	4410	4315	4240	4175	0.224
		8	4615	4615	4615	4615	4615	4575	4465	4375	4295	0.180

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nr}/\Omega_{sf}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{sf}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 50 ksi (#10 Screw)

Composite Deck  
Design thickness = 0.0358 in.  
Support fastening: #10 screws  
Side-lap fastening: #10 screws

$F_u$  = 60 ksi  
 $F_y$  = 50 ksi

Bare Deck Diaphragm			Filled Diaphragm		
Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$
Seismic	0.70	2.30	Seismic	0.50	3.25
Wind	0.80	2.00	Wind	0.50	3.25
Other	0.70	2.30	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_n$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	425	335								0.907
		1	565	470	395							0.610
		2	680	575	500	435	380	335				0.459
		3	775	670	585	520	465	420	375	340	315	0.368
		4	850	750	665	590	535	485	440	405	375	0.307
		5	910	815	730	660	595	545	500	460	425	0.264
		6	960	870	790	720	655	600	555	510	475	0.231
		8	1030	955	885	815	755	700	650	605	565	0.185
2" x 12" No Fill (Bare Deck)	36/4	0	415	325								0.907
		1	565	470	385							0.610
		2	680	575	500	430	380	335				0.459
		3	775	670	585	520	465	420	375	340	315	0.368
		4	850	750	665	590	535	485	440	405	375	0.307
		5	910	815	730	660	595	545	500	460	425	0.264
		6	960	870	790	720	655	600	555	510	475	0.231
		8	1030	955	885	815	755	700	650	605	565	0.185
2 1/2" NW Conc. (Above Deck)	36/4	0	5355	5265								0.907
		1	5540	5410	5325							0.610
		2	5725	5560	5450	5370	5315	5265				0.459
		3	5910	5705	5575	5475	5405	5350	5305	5270	5235	0.368
		4	6095	5855	5695	5580	5495	5430	5380	5335	5300	0.307
		5	6275	6000	5820	5690	5590	5515	5450	5400	5360	0.264
		6	6460	6150	5940	5795	5680	5595	5525	5470	5420	0.231
		8	6535	6445	6190	6005	5865	5760	5675	5605	5545	0.185
2 1/2" LW Conc. (Above Deck)	36/4	0	3915	3825								0.907
		1	4100	3970	3885							0.610
		2	4285	4120	4010	3930	3875	3825				0.459
		3	4470	4265	4135	4035	3965	3910	3865	3830	3795	0.368
		4	4615	4415	4255	4140	4055	3990	3940	3895	3860	0.307
		5	4615	4560	4380	4245	4150	4075	4010	3960	3920	0.264
		6	4615	4615	4500	4355	4240	4155	4085	4030	3980	0.231
		8	4615	4615	4615	4565	4425	4320	4235	4165	4105	0.185

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_n$  /  $\Omega_{sf}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{sf}S_n$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 50 ksi (Hilti® X-HSN24)

Composite Deck			$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm				
			$F_y =$	50 ksi	Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$		
Design thickness = 0.0358 in.						Seismic	0.65	2.50	Seismic	0.50	3.25	
Support fastening: Hilti X-HSN24						Wind	0.70	2.35	Wind	0.50	3.25	
Side-lap fastening: #10 screws 0.125" to 0.250" Support Steel						Other	0.65	2.50	Other	0.50	3.25	
Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>								K <sub>1</sub> 1/ft	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	4	5	6	7	8	9	10	11	12	0.872
		1	620	490								0.594
		2	765	635	525							0.450
		3	895	750	640	550	475	415				0.362
		4	1005	855	735	645	565	500	450	410	375	0.303
		5	1105	950	825	730	650	580	525	475	435	0.261
		6	1185	1035	910	805	725	655	595	540	495	
		8	1260	1110	985	880	790	720	655	605	560	0.229
2" x 12" No Fill (Bare Deck)	36/4	0	1375	1235	1115	1010	915	840	770	710	660	0.184
		1	610	475								0.872
		2	765	625	510							0.594
		3	895	750	635	535	470	415				0.450
		4	1005	855	735	640	560	500	450	410	375	0.362
		5	1105	950	825	730	650	580	525	475	435	0.303
		6	1185	1035	910	805	725	655	595	540	495	0.261
		8	1260	1110	985	880	790	720	655	605	560	
2 1/2" NW Conc. (Above Deck)	36/4	0	1375	1235	1115	1010	915	840	770	710	660	0.184
		1	5565	5435								0.872
		2	5750	5580	5470							0.594
		3	5935	5730	5590	5490	5420	5360				0.450
		4	6120	5875	5715	5600	5510	5445	5390	5345	5310	0.362
		5	6305	6025	5835	5705	5605	5525	5465	5410	5370	0.303
		6	6490	6170	5960	5810	5695	5605	5535	5480	5430	0.261
		8	6535	6320	6085	5915	5785	5690	5610	5545	5490	0.229
2 1/2" LW Conc. (Above Deck)	36/4	0	6535	6330	6125	5970	5855	5760	5680	5615		0.184
		1	4125	3995								0.872
		2	4310	4140	4030							0.594
		3	4495	4290	4150	4050	3980	3920				0.450
		4	4615	4435	4275	4155	4070	4005	3950	3905	3865	0.362
		5	4615	4585	4395	4265	4165	4085	4020	3970	3930	0.303
		6	4615	4615	4520	4370	4255	4165	4095	4040	3990	0.261
		8	4615	4615	4615	4475	4345	4250	4170	4105	4050	0.229

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295	
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{sf}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{sf}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 50 ksi (Hilti® X-ENP-19 L5)

Composite Deck  
Design thickness = 0.0358 in.  
Support fastening: Hilti X-ENP-19 L5  
Side-lap fastening: #10 screws  
0.125" to 0.375" Support Steel

$F_u$  = 60 ksi  
 $F_y$  = 50 ksi

Bare Deck Diaphragm			Filled Diaphragm		
Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$
Seismic	0.65	2.50	Seismic	0.50	3.25
Wind	0.70	2.35	Wind	0.50	3.25
Other	0.65	2.50	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>										$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12		
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	670	530									0.523
		1	815	670	555								0.408
		2	945	790	675	575	495	435					0.335
		3	1060	895	775	675	590	520	465	425	390		0.284
		4	1160	995	865	760	680	600	540	490	450		0.246
		5	1245	1080	950	840	750	680	615	560	510		0.217
		6	1325	1160	1025	915	820	745	680	625	575		0.195
		8	1445	1295	1165	1050	950	865	795	735	680		0.161
2" x 12" No Fill (Bare Deck)	36/4	0	655	515									0.523
		1	815	660	540								0.408
		2	945	790	665	560	490	435					0.335
		3	1060	895	775	670	585	520	465	425	390		0.284
		4	1160	995	865	760	675	600	540	490	450		0.246
		5	1245	1080	950	840	750	680	615	560	510		0.217
		6	1325	1160	1025	915	820	745	680	625	575		0.195
		8	1445	1295	1165	1050	950	865	795	735	680		0.161
2 1/2" NW Conc. (Above Deck)	36/4	0	5620	5475									0.523
		1	5800	5620	5500								0.408
		2	5985	5770	5625	5520	5445	5385					0.335
		3	6170	5915	5750	5625	5535	5465	5410	5365	5325		0.284
		4	6355	6065	5870	5730	5630	5550	5485	5430	5385		0.246
		5	6535	6210	5995	5840	5720	5630	5555	5495	5450		0.217
		6	6535	6360	6115	5945	5815	5710	5630	5565	5510		0.195
		8	6535	6365	6155	6155	5995	5875	5780	5700	5630		0.161
2 1/2" LW Conc. (Above Deck)	36/4	0	4175	4035									0.523
		1	4360	4180	4060								0.408
		2	4545	4330	4185	4080	4005	3945					0.335
		3	4615	4475	4310	4185	4095	4025	3970	3925	3885		0.284
		4	4615	4615	4430	4290	4190	4105	4045	3990	3945		0.246
		5	4615	4615	4555	4395	4280	4190	4115	4055	4005		0.217
		6	4615	4615	4615	4505	4375	4270	4190	4125	4070		0.195
		8	4615	4615	4615	4615	4555	4435	4340	4260	4190		0.161

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
4	5	6	7	8	9	10	11	12			
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295	
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nr}$  /  $\Omega_{sf}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{sf}S_{nr}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 50 ksi (Pneutek SDK61)

Composite Deck  
Design thickness = 0.0358 in.  
Support fastening: Pneutek SDK61  
Side-lap fastening: Bulidex, Elco, Hilti, or Simpson Strong-Tie #10 screws  
0.113" to 0.155" Support Steel

$F_u = 60$  ksi  
 $F_y = 50$  ksi

Bare Deck Diaphragm			Filled Diaphragm		
Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50	Seismic	0.50	3.25
Wind	0.70	2.35	Wind	0.50	3.25
Other	0.65	2.50	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	630	500	535							2.093
		1	785	645								0.985
		2	915	770	655	565	490	430				0.644
		3	1030	875	760	665	585	515	460	420	385	0.478
		4	1130	975	850	750	670	600	540	490	450	0.381
		5	1215	1060	935	830	745	675	615	560	515	0.316
		6	1290	1140	1010	905	815	740	675	625	575	0.270
		8	1405	1270	1145	1040	945	865	795	735	680	0.209
2" x 12" No Fill (Bare Deck)	36/4	0	620	485								2.093
		1	785	640	525							0.985
		2	915	770	650	550	485	430				0.644
		3	1030	875	760	660	580	515	460	420	385	0.478
		4	1130	975	850	750	670	600	540	490	450	0.381
		5	1215	1060	935	830	745	675	615	560	515	0.316
		6	1290	1140	1010	905	815	740	675	625	575	0.270
		8	1405	1270	1145	1040	945	865	795	735	680	0.209
2 1/2" NW Conc. (Above Deck)	36/4	0	5580	5445								2.093
		1	5770	5595	5480							0.985
		2	5965	5750	5610	5510	5435	5375				0.644
		3	6155	5905	5740	5620	5530	5460	5405	5360	5320	0.478
		4	6350	6060	5865	5730	5625	5545	5480	5430	5385	0.381
		5	6535	6210	5995	5840	5720	5630	5555	5495	5450	0.316
		6	6535	6365	6120	5950	5815	5715	5635	5565	5510	0.270
		8	6535	6535	6380	6165	6010	5885	5790	5705	5640	0.209
2 1/2" LW Conc. (Above Deck)	36/4	0	4140	4005								2.093
		1	4330	4155	4040							0.985
		2	4525	4310	4170	4070	3990	3935				0.644
		3	4615	4465	4295	4180	4090	4020	3965	3915	3880	0.478
		4	4615	4615	4425	4290	4185	4105	4040	3985	3945	0.381
		5	4615	4615	4555	4395	4280	4190	4115	4055	4005	0.316
		6	4615	4615	4615	4505	4375	4275	4195	4125	4070	0.270
		8	4615	4615	4615	4615	4570	4445	4345	4265	4200	0.209

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min(S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db})$

LRFD Required strength (Factored Applied Load)  $\leq \min(\phi_{df}S_{nf}, \phi_{db}S_{nb})$

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 50 ksi (Pneutek SDK63)

Composite Deck  
Design thickness = 0.0358 in.  
Support fastening: Pneutek SDK63  
Side-lap fastening: Bulldex, Elco, Hilti, or Simpson Strong-Tie #10 screws  
0.155" to 0.250" Support Steel

	Bare Deck Diaphragm			Filled Diaphragm		
	Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$
Seismic	0.65	2.50		Seismic	0.50	3.25
Wind	0.70	2.35		Wind	0.50	3.25
Other	0.65	2.50		Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	685	540								2.093
		1	835	690	570							0.985
		2	970	810	695	590	510	450				0.644
		3	1085	920	795	695	610	535	480	435	400	0.478
		4	1190	1020	890	785	700	620	560	505	465	0.381
		5	1280	1115	975	865	775	700	635	575	530	0.316
		6	1360	1195	1055	940	845	770	700	645	595	0.270
		8	1485	1335	1200	1080	980	895	820	760	705	0.209
2" x 12" No Fill (Bare Deck)	36/4	0	670	525								2.093
		1	835	680	555							0.985
		2	970	810	685	580	505	450				0.644
		3	1085	920	795	690	600	535	480	435	400	0.478
		4	1190	1020	890	785	700	620	560	505	465	0.381
		5	1280	1115	975	865	775	700	635	575	530	0.316
		6	1360	1195	1055	940	845	770	700	645	595	0.270
		8	1485	1335	1200	1080	980	895	820	760	705	0.209
2 1/2" NW Conc. (Above Deck)	36/4	0	5635	5485								2.093
		1	5825	5640	5515							0.985
		2	6015	5795	5645	5540	5460	5395				0.644
		3	6210	5950	5775	5650	5555	5485	5425	5375	5340	0.478
		4	6400	6100	5900	5760	5650	5570	5500	5445	5400	0.381
		5	6535	6255	6030	5870	5750	5655	5580	5515	5465	0.316
		6	6535	6410	6160	5980	5845	5740	5655	5585	5530	0.270
		8	6535	6535	6415	6200	6035	5910	5810	5725	5660	0.209
2 1/2" LW Conc. (Above Deck)	36/4	0	4190	4045								2.093
		1	4385	4200	4075							0.985
		2	4575	4355	4205	4100	4020	3955				0.644
		3	4615	4505	4335	4210	4115	4040	3985	3935	3895	0.478
		4	4615	4615	4460	4320	4210	4130	4060	4005	3960	0.381
		5	4615	4615	4590	4430	4305	4215	4140	4075	4025	0.316
		6	4615	4615	4615	4540	4405	4300	4215	4145	4090	0.270
		8	4615	4615	4615	4615	4595	4470	4370	4285	4215	0.209

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		4	5	6	7	8	9	10	11	12
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{dr}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{dr}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 50 ksi (Pneutek K64)

Composite Deck Design thickness = 0.0358 in. Support fastening: Pneutek K64 Side-lap fastening: Buildex, Eloco, Hilti, or Simpson Strong-Tie #10 screws 0.187" to 0.312" Support Steel			$F_u$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm		
			Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$		
			Seismic	0.65	2.50	Seismic	0.50	3.25	Wind	0.50
<b>1 1/2" x 6"</b> <b>No Fill</b> <b>(Bare Deck)</b>			Wind	0.70	2.35	Wind	0.50	3.25	Other	0.50
			0	765	605	0	510	465	425	425
			1	915	755	1	665	605	555	555
			2	1055	880	2	510	465	425	425
			3	1175	995	3	665	605	555	555
			4	1285	1100	4	590	535	490	490
			5	1385	1195	5	665	605	555	555
			6	1470	1280	6	740	675	620	620
<b>2" x 12"</b> <b>No Fill</b> <b>(Bare Deck)</b>			7	1000	895	7	810	740	675	620
			8	1610	1430	8	945	865	795	735
			0	750	585	0	510	465	425	425
			1	915	740	1	665	605	555	555
			2	1055	880	2	510	465	425	425
			3	1175	995	3	665	605	555	555
			4	1285	1100	4	590	535	490	490
			5	1385	1195	5	665	605	555	555
<b>2 1/2" NW Conc.</b> <b>(Above Deck)</b>			6	1470	1280	6	740	675	620	620
			7	1125	1000	7	810	740	675	620
			8	1610	1430	8	945	865	795	735
			0	5720	5555	0	510	465	425	425
			1	5910	5710	1	665	605	555	555
			2	6105	5865	2	510	465	425	425
			3	6295	6015	3	665	605	555	555
			4	6490	6170	4	590	535	490	490
<b>2 1/2" LW Conc.</b> <b>(Above Deck)</b>			5	6535	6325	5	665	605	555	555
			6	6535	6480	6	740	675	620	620
			7	6535	6535	7	810	740	675	620
			8	6535	6535	8	945	865	795	735

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	$I$ in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

<sup>2</sup>Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 20 Gauge 50 ksi (Pneutek K66)

Composite Deck			$F_u$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm				
			$F_y$	50 ksi	Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$		
Design thickness = 0.0358 in.						Seismic			Seismic			
Support fastening: Pneutek K66			Wind			Wind			Wind			
Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws			Other			Other			Other			
0.281" and thicker Support Steel												
Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			4	5	6	7	8	9	10	11	12	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	780	615							2.093	
		1	930	770	630						0.985	
		2	1070	890	760	645	555	490			0.644	
		3	1195	1005	865	755	655	575	515	470	430	
		4	1305	1110	965	845	750	660	595	540	495	
		5	1400	1210	1055	930	830	745	670	610	560	
		6	1485	1295	1140	1010	905	820	745	680	620	
		8	1630	1450	1290	1160	1045	950	870	805	745	
2" x 12" No Fill (Bare Deck)	36/4	0	765	600							2.093	
		1	930	750	615						0.985	
		2	1070	890	745	630	550	490			0.644	
		3	1195	1005	865	740	645	575	515	470	430	
		4	1305	1110	965	845	745	660	595	540	495	
		5	1400	1210	1055	930	830	745	670	610	560	
		6	1485	1295	1140	1010	905	820	745	680	620	
		8	1630	1450	1290	1160	1045	950	870	805	745	
2 1/2" NW Conc. (Above Deck)	36/4	0	5735	5570							2.093	
		1	5930	5725	5585						0.985	
		2	6120	5875	5715	5600	5510	5445			0.644	
		3	6310	6030	5840	5710	5605	5530	5465	5415	5370	
		4	6505	6185	5970	5820	5705	5615	5545	5485	5435	
		5	6535	6340	6100	5930	5800	5700	5620	5555	5500	
		6	6535	6490	6225	6035	5895	5785	5695	5625	5565	
		8	6535	6535	6485	6255	6090	5955	5850	5765	5690	
2 1/2" LW Conc. (Above Deck)	36/4	0	4295	4130							2.093	
		1	4485	4280	4145						0.985	
		2	4615	4435	4275	4160	4070	4005			0.644	
		3	4615	4590	4400	4265	4165	4090	4025	3975	3930	
		4	4615	4615	4530	4375	4265	4175	4105	4045	3995	
		5	4615	4615	4615	4485	4360	4260	4180	4115	4060	
		6	4615	4615	4615	4595	4455	4345	4255	4185	4125	
		8	4615	4615	4615	4615	4615	4515	4410	4325	4250	

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
4	5	6	7	8	9	10	11	12		
1.5" x 6"	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{df}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 50 ksi (Welded)

Composite Deck  
Design thickness = 0.0474 in.  
Support fastening: 5/8" arc spot welds  
Side-lap fastening: #10 screws

$F_u = 60$  ksi  
 $F_y = 50$  ksi  
 $F_{ax} = 60$  ksi

Bare Deck Diaphragm			Filled Diaphragm		
Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$
Seismic	0.55	3.00	Seismic	0.50	3.25
Wind	0.75	2.15	Wind	0.50	3.25
Other	0.60	2.65	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			5	6	7	8	9	10	11	12	13	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	1000									0.923
		1	1215	1010								0.645
		2	1400	1195	1015	880	775					0.496
		3	1570	1345	1175	1020	900	800	725	665		0.403
		4	1725	1490	1310	1160	1025	915	825	760	700	0.339
		5	1875	1630	1435	1280	1150	1025	930	850	785	0.293
		6	2010	1760	1555	1390	1255	1140	1030	945	870	0.257
		8	2245	1990	1780	1605	1455	1330	1225	1130	1045	0.207
2" x 12" No Fill (Bare Deck)	36/4	0	975									0.923
		1	1200	985								0.645
		2	1400	1170	990	855	760					0.496
		3	1570	1345	1150	1000	885	800	725	665		0.403
		4	1725	1490	1310	1140	1010	910	825	760	700	0.339
		5	1875	1630	1435	1280	1135	1020	930	850	785	0.293
		6	2010	1760	1555	1390	1255	1135	1030	945	870	0.257
		8	2245	1990	1780	1605	1455	1330	1225	1130	1045	0.207
2 1/2" NW Conc. (Above Deck)	36/4	0	5975									0.923
		1	6195	5980								0.645
		2	6420	6170	5990	5850	5745					0.496
		3	6535	6355	6150	5990	5870	5775	5695	5630		0.403
		4	6535	6535	6310	6135	5995	5885	5795	5725	5660	0.339
		5	6535	6535	6470	6275	6120	6000	5900	5815	5745	0.293
		6	6535	6535	6535	6415	6245	6110	6000	5910	5830	0.257
		8	6535	6535	6535	6535	6495	6335	6205	6095	6005	0.207
2 1/2" LW Conc. (Above Deck)	36/4	0	4530									0.923
		1	4615	4540								0.645
		2	4615	4615	4545	4410	4305					0.496
		3	4615	4615	4615	4550	4430	4335	4255	4190		0.403
		4	4615	4615	4615	4615	4555	4445	4355	4280	4220	0.339
		5	4615	4615	4615	4615	4615	4560	4460	4375	4305	0.293
		6	4615	4615	4615	4615	4615	4560	4470	4390	4257	0.257
		8	4615	4615	4615	4615	4615	4615	4615	4615	4565	0.207

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		5	6	7	8	9	10	11	12	13
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{dr}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{dr}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 50 ksi (#10 Screw)

Composite Deck  
Design thickness = 0.0474 in.  
Support fastening: #10 screws  
Side-lap fastening: #10 screws

$F_u = 60$  ksi  
 $F_y = 50$  ksi

Bare Deck Diaphragm			Filled Diaphragm		
Loading	$\phi_{sf}$	$\Omega_{sf}$	Loading	$\phi_{sf}$	$\Omega_{sf}$
Seismic	0.70	2.30	Seismic	0.50	3.25
Wind	0.80	2.00	Wind	0.50	3.25
Other	0.70	2.30	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			5	6	7	8	9	10	11	12	13	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	445									1.044 0.702
		1	645	550								0.528 0.424
		2	805	695	610	545	485					0.354 0.304
		3	940	825	735	655	595	540	495	450		0.266 0.213
		4	1050	935	840	760	690	630	580	540	500	0.354 0.304
		5	1140	1030	935	850	780	715	660	615	575	0.266 0.213
		6	1210	1110	1015	930	860	795	735	685	645	0.354 0.304
		8	1320	1230	1145	1065	995	930	870	815	770	0.266 0.213
2" x 12" No Fill (Bare Deck)	36/4	0	435									1.044 0.702
		1	645	545								0.528 0.424
		2	805	695	610	540	480					0.354 0.304
		3	940	825	735	655	595	540	495	450		0.266 0.213
		4	1050	935	840	760	690	630	580	540	500	0.354 0.304
		5	1140	1030	935	850	780	715	660	615	575	0.266 0.213
		6	1210	1110	1015	930	860	795	735	685	645	0.354 0.304
		8	1320	1230	1145	1065	995	930	870	815	770	0.266 0.213
2 1/2" NW Conc. (Above Deck)	36/4	0	5380									1.044 0.702
		1	5605	5490								0.528 0.424
		2	5830	5675	5565	5485	5420					0.354 0.304
		3	6055	5865	5725	5625	5545	5480	5425	5385		0.266 0.213
		4	6280	6050	5885	5765	5670	5590	5530	5475	5430	0.354 0.304
		5	6505	6240	6050	5905	5795	5705	5630	5570	5520	0.266 0.213
		6	6535	6425	6210	6045	5920	5815	5735	5665	5605	0.354 0.304
		8	6535	6535	6530	6325	6165	6040	5935	5850	5780	0.266 0.213
2 1/2" LW Conc. (Above Deck)	36/4	0	3940									1.044 0.702
		1	4165	4050								0.528 0.424
		2	4390	4235	4125	4045	3980					0.354 0.304
		3	4615	4425	4285	4185	4105	4040	3985	3945		0.266 0.213
		4	4615	4610	4445	4325	4230	4150	4090	4035	3990	0.354 0.304
		5	4615	4615	4605	4465	4355	4265	4190	4130	4080	0.266 0.213
		6	4615	4615	4615	4605	4475	4375	4295	4225	4165	0.354 0.304
		8	4615	4615	4615	4615	4615	4600	4495	4410	4340	0.266 0.213

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nr}/\Omega_{sf}$ ,  $S_{nb}/\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{sf}S_{nr}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 50 ksi (Hilti® X-HSN24)

Composite Deck  
Design thickness = 0.0474 in.  
Support fastening: Hilti X-HSN24  
Side-lap fastening: #10 screws  
0.125" to 0.250" Support Steel

	$F_u$ = 60 ksi	$F_y$ = 50 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	Loading	$\phi_{dr}$	$\Omega_{dr}$	Loading	$\phi_{dr}$	$\Omega_{dr}$		
Seismic	0.65	2.50		Seismic	0.50	3.25		
Wind	0.70	2.35		Wind	0.50	3.25		
Other	0.65	2.50		Other	0.50	3.25		

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			5	6	7	8	9	10	11	12	13	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	650									1.004
		1	855	720								0.683
		2	1025	880	770	670	590					0.518
		3	1180	1025	900	800	715	640	580	530		0.417
		4	1315	1155	1020	915	825	750	680	625	575	0.349
		5	1435	1270	1135	1020	925	845	780	715	660	0.300
		6	1540	1375	1235	1120	1020	935	860	800	745	0.263
		8	1705	1555	1415	1295	1190	1100	1020	950	885	0.211
2" x 12" No Fill (Bare Deck)	36/4	0	635									1.004
		1	855	705								0.683
		2	1025	880	755	655	580					0.518
		3	1180	1025	900	795	705	635	580	530		0.417
		4	1315	1155	1020	915	825	750	680	625	575	0.349
		5	1435	1270	1135	1020	925	845	780	715	660	0.300
		6	1540	1375	1235	1120	1020	935	860	800	745	0.263
		8	1705	1555	1415	1295	1190	1100	1020	950	885	0.211
2 1/2" NW Conc. (Above Deck)	36/4	0	5600									1.004
		1	5820	5670								0.683
		2	6045	5855	5720	5620	5540					0.518
		3	6270	6045	5880	5760	5665	5585	5525	5475		0.417
		4	6495	6230	6040	5900	5790	5700	5625	5565	5515	0.349
		5	6535	6420	6200	6040	5915	5810	5730	5660	5600	0.300
		6	6535	6535	6360	6180	6035	5925	5830	5755	5690	0.263
		8	6535	6535	6535	6460	6285	6150	6035	5940	5860	0.211
2 1/2" LW Conc. (Above Deck)	36/4	0	4155									1.004
		1	4380	4230								0.683
		2	4605	4415	4280	4175	4100					0.518
		3	4615	4605	4440	4320	4225	4145	4085	4030		0.417
		4	4615	4615	4600	4460	4345	4260	4185	4125	4075	0.349
		5	4615	4615	4615	4600	4470	4370	4290	4220	4160	0.300
		6	4615	4615	4615	4615	4595	4485	4390	4315	4250	0.263
		8	4615	4615	4615	4615	4615	4615	4595	4500	4420	0.211

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	$I$ in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
		5	6	7	8	9	10	11	12	13
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nr}/\Omega_{dr}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{dr}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 50 ksi (Hilti® X-ENP-19 L5)

Composite Deck			$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm			
$F_y =$	50 ksi	Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$	Seismic	0.50	3.25	
Design thickness = 0.0474 in.			Wind			Wind			0.50	3.25	
Support fastening: Hilti X-ENP-19 L5			Other			Other			0.50	3.25	
Side-lap fastening: #10 screws 0.125" to 0.375" Support Steel											
Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nr}$ , plf <sup>1,2</sup>								
			5	6	7	8	9	10	11	12	13
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	700								0.602
		1	905	760							0.470
		2	1080	925	805	700	615				0.385
		3	1240	1070	940	835	740	660	600	550	0.327
		4	1380	1205	1065	950	860	775	700	640	595
		5	1505	1325	1180	1060	960	875	805	735	680
		6	1610	1435	1285	1160	1055	965	890	825	765
		8	1790	1625	1475	1345	1230	1135	1050	975	910
2" x 12" No Fill (Bare Deck)	36/4	0	680								0.602
		1	905	745							0.470
		2	1080	925	790	685	605				0.385
		3	1240	1070	940	825	730	660	600	550	0.327
		4	1380	1205	1065	950	855	770	700	640	595
		5	1505	1325	1180	1060	960	875	805	735	680
		6	1610	1435	1285	1160	1055	965	890	825	765
		8	1790	1625	1475	1345	1230	1135	1050	975	910
2 1/2" NW Conc. (Above Deck)	36/4	0	5650								0.602
		1	5875	5715							0.470
		2	6100	5900	5760	5650	5570				0.385
		3	6325	6090	5920	5790	5695	5615	5550	5495	0.327
		4	6535	6275	6080	5930	5815	5725	5650	5590	5535
		5	6535	6465	6240	6070	5940	5840	5755	5680	5620
		6	6535	6535	6400	6215	6065	5950	5855	5775	5710
		8	6535	6535	6535	6495	6315	6175	6060	5965	5880
2 1/2" LW Conc. (Above Deck)	36/4	0	4210								0.602
		1	4435	4275							0.470
		2	4615	4460	4320	4210	4125				0.385
		3	4615	4615	4480	4350	4250	4175	4110	4055	0.327
		4	4615	4615	4615	4490	4375	4285	4210	4150	4095
		5	4615	4615	4615	4615	4500	4400	4315	4240	4180
		6	4615	4615	4615	4615	4615	4510	4415	4335	4270
		8	4615	4615	4615	4615	4615	4615	4525	4440	0.185

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	$I$ in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>									
		Span, ft									
5	6	7	8	9	10	11	12	13			
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680	
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690	

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nr}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nr}, \phi_{db}S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 50 ksi (Pneutek SDK61)

Composite Deck Design thickness = 0.0474 in. Support fastening: Pneutek SDK61 Side-lap fastening: Bulidex, Elco, Hilti, or Simpson Strong-Tie #10 screws 0.113" to 0.155" Support Steel	$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_r =$	50 ksi	Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$
	Seismic	0.65	2.50	Seismic	0.50	3.25	Wind	0.50
	Wind	0.70	2.35	Other	0.65	2.50	Other	0.50

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			5	6	7	8	9	10	11	12	13	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	650									2.409
		1	840	705								1.133
		2	1000	855	745	645	565					0.741
		3	1145	990	865	770	680	605	550	505		0.551
		4	1270	1110	980	875	790	710	645	590	545	0.438
		5	1385	1220	1085	975	880	805	735	675	620	0.364
		6	1485	1320	1185	1065	970	885	815	755	700	0.311
		8	1655	1495	1355	1235	1130	1040	965	895	835	0.241
2" x 12" No Fill (Bare Deck)	36/4	0	635									2.409
		1	840	690								1.133
		2	1000	855	730	630	560					0.741
		3	1145	990	865	755	675	605	550	505		0.551
		4	1270	1110	980	875	785	705	645	590	545	0.438
		5	1385	1220	1085	975	880	805	735	675	620	0.364
		6	1485	1320	1185	1065	970	885	815	755	700	0.311
		8	1655	1495	1355	1235	1130	1040	965	895	835	0.241
2 1/2" NW Conc. (Above Deck)	36/4	0	5600									2.409
		1	5805	5655								1.133
		2	6010	5825	5690	5595	5515					0.741
		3	6210	5995	5835	5720	5630	5555	5495	5450		0.551
		4	6415	6165	5985	5850	5745	5660	5590	5530	5485	0.438
		5	6535	6335	6130	5975	5855	5760	5680	5615	5560	0.364
		6	6535	6500	6275	6100	5970	5860	5775	5700	5640	0.311
		8	6535	6535	6535	6355	6195	6065	5960	5870	5795	0.241
2 1/2" LW Conc. (Above Deck)	36/4	0	4160									2.409
		1	4365	4215								1.133
		2	4570	4385	4250	4155	4075					0.741
		3	4615	4555	4395	4280	4190	4115	4055	4005		0.551
		4	4615	4615	4540	4405	4300	4220	4150	4090	4045	0.438
		5	4615	4615	4615	4535	4415	4320	4240	4175	4120	0.364
		6	4615	4615	4615	4615	4530	4420	4335	4260	4200	0.311
		8	4615	4615	4615	4615	4615	4615	4520	4430	4355	0.241

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
5	6	7	8	9	10	11	12	13		
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \text{Min} \{ S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db} \}$

LRFD Required strength (Factored Applied Load)  $\leq \text{Min} \{ \phi_{df} S_{nf}, \phi_{db} S_{nb} \}$

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 50 ksi (Pneutek SDK63)

Composite Deck  
Design thickness = 0.0474 in.  
Support fastening: Pneutek SDK63  
Side-lap fastening: Buildex, Elco, Hilti, or Simpson Strong-Tie #10 screws  
0.155" to 0.250" Support Steel

$F_u$ = 60 ksi  
 $F_y$ = 50 ksi

Bare Deck Diaphragm			Filled Diaphragm		
Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$
Seismic	0.65	2.50	Seismic	0.50	3.25
Wind	0.70	2.35	Wind	0.50	3.25
Other	0.65	2.50	Other	0.50	3.25

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			5	6	7	8	9	10	11	12	13	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	665									2.409
		1	855	715								1.133
		2	1010	865	750	650	575					0.741
		3	1155	1000	875	780	685	615	555	510		0.551
		4	1285	1120	990	885	795	715	650	595	550	0.438
		5	1400	1235	1095	985	890	810	740	680	625	0.364
		6	1505	1335	1195	1075	980	895	825	760	705	0.311
		8	1675	1510	1370	1245	1140	1050	970	900	840	0.241
2" x 12" No Fill (Bare Deck)	36/4	0	650									2.409
		1	850	700								1.133
		2	1010	865	735	635	565					0.741
		3	1155	1000	875	765	680	610	555	510		0.551
		4	1285	1120	990	885	790	715	650	595	550	0.438
		5	1400	1235	1095	985	890	810	740	680	625	0.364
		6	1505	1335	1195	1075	980	895	825	760	705	0.311
		8	1675	1510	1370	1245	1140	1050	970	900	840	0.241
2 1/2" NW Conc. (Above Deck)	36/4	0	5615									2.409
		1	5815	5665								1.133
		2	6020	5835	5700	5600	5525					0.741
		3	6225	6005	5845	5730	5635	5565	5505	5455		0.551
		4	6430	6175	5990	5855	5750	5665	5595	5540	5490	0.438
		5	6535	6345	6135	5985	5865	5765	5690	5625	5565	0.364
		6	6535	6515	6285	6110	5975	5870	5780	5705	5645	0.311
		8	6535	6535	6535	6365	6200	6070	5965	5875	5800	0.241
2 1/2" LW Conc. (Above Deck)	36/4	0	4175									2.409
		1	4375	4225								1.133
		2	4580	4395	4260	4160	4085					0.741
		3	4615	4565	4405	4290	4195	4125	4065	4015		0.551
		4	4615	4615	4550	4415	4310	4225	4155	4095	4050	0.438
		5	4615	4615	4615	4545	4420	4325	4250	4180	4125	0.364
		6	4615	4615	4615	4615	4535	4430	4340	4265	4205	0.311
		8	4615	4615	4615	4615	4615	4615	4525	4435	4360	0.241

<sup>1</sup> Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
5	6	7	8	9	10	11	12	13		
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load) <= Min { $S_{nf}$  /  $\Omega_{df}$ ,  $S_{nb}$  /  $\Omega_{db}$ }

LRFD Required strength (Factored Applied Load) <= Min { $\phi_{df}S_{nf}$ ,  $\phi_{db}S_{nb}$ }

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 50 ksi (Pneutek K64)

Composite Deck Design thickness = 0.0474 in. Support fastening: Pneutek K64 Side-lap fastening: Bulidex, Elco, Hilti, or Simpson Strong-Tie #10 screws 0.187" to 0.312" Support Steel	$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_y =$	50 ksi	Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$
	Seismic	0.65	2.50	Seismic	0.50	3.25		
	Wind	0.70	2.35	Wind	0.50	3.25		
	Other	0.65	2.50	Other	0.50	3.25		

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			5	6	7	8	9	10	11	12	13	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	825									2.409
		1	1020	845								1.133
		2	1185	1010	865	750	660					0.741
		3	1335	1145	1005	875	770	690	625	570		0.551
		4	1475	1275	1120	1000	885	790	715	655	605	0.438
		5	1600	1395	1235	1100	995	890	810	740	685	0.364
		6	1720	1510	1340	1200	1085	990	900	825	760	0.311
		8	1920	1710	1535	1385	1260	1155	1065	985	915	0.241
2" x 12" No Fill (Bare Deck)	36/4	0	805									2.409
		1	1010	830								1.133
		2	1185	1000	845	730	650					0.741
		3	1335	1145	990	855	760	685	625	570		0.551
		4	1475	1275	1120	985	875	785	715	655	605	0.438
		5	1600	1395	1235	1100	990	890	810	740	685	0.364
		6	1720	1510	1340	1200	1085	990	900	825	760	0.311
		8	1920	1710	1535	1385	1260	1155	1065	985	915	0.241
2 1/2" NW Conc. (Above Deck)	36/4	0	5785									2.409
		1	5990	5810								1.133
		2	6195	5980	5825	5710	5620					0.741
		3	6395	6150	5970	5835	5730	5650	5580	5525		0.551
		4	6535	6315	6115	5965	5845	5750	5675	5610	5555	0.438
		5	6535	6485	6260	6090	5960	5855	5765	5695	5635	0.364
		6	6535	6535	6405	6220	6070	5955	5860	5780	5710	0.311
		8	6535	6535	6535	6470	6300	6160	6045	5950	5870	0.241
2 1/2" LW Conc. (Above Deck)	36/4	0	4345									2.409
		1	4550	4370								1.133
		2	4615	4540	4385	4270	4180					0.741
		3	4615	4615	4530	4395	4290	4210	4140	4085		0.551
		4	4615	4615	4615	4525	4405	4310	4235	4170	4115	0.438
		5	4615	4615	4615	4615	4520	4410	4325	4255	4195	0.364
		6	4615	4615	4615	4615	4615	4515	4420	4340	4270	0.311
		8	4615	4615	4615	4615	4615	4615	4605	4510	4430	0.241

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Buckling	$\phi_{db}$	$\Omega_{db}$
	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
5	6	7	8	9	10	11	12	13		
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup> Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf} / \Omega_{df}, S_{nb} / \Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df} S_{nf}, \phi_{db} S_{nb}\}$

## 2" Floor Deck Diaphragm Load Table – 18 Gauge 50 ksi (Pneutek K66)

Composite Deck Design thickness = 0.0474 in. Support fastening: Pneutek K66 Side-lap fastening: Bulidex, Elco, Hilti, or Simpson Strong-Tie #10 screws 0.281" and thicker Support Steel	$F_u =$	60 ksi	Bare Deck Diaphragm			Filled Diaphragm		
	$F_y =$	50 ksi	Loading	$\phi_{df}$	$\Omega_{df}$	Loading	$\phi_{df}$	$\Omega_{df}$
	Seismic	0.65	2.50	Seismic	0.50	3.25	Wind	0.50
	Wind	0.70	2.35	Other	0.65	2.50	Other	0.50

Type of Fill	Fastener Layout	Side-lap Conn/Span	Nominal Shear Strength, $S_{nf}$ , plf <sup>1,2</sup>									$K_1$ 1/ft
			5	6	7	8	9	10	11	12	13	
1 1/2" x 6" No Fill (Bare Deck)	36/4	0	855									2.409
		1	1055	875								1.133
		2	1215	1040	885	765	675					0.741
		3	1370	1175	1030	895	790	705	635	585		0.551
		4	1510	1305	1145	1020	900	805	730	670	615	0.438
		5	1640	1430	1260	1125	1015	905	820	755	695	0.364
		6	1760	1545	1370	1225	1110	1010	915	840	775	0.311
		8	1965	1750	1565	1415	1285	1175	1080	1000	930	0.241
2" x 12" No Fill (Bare Deck)	36/4	0	835									2.409
		1	1040	855								1.133
		2	1215	1025	865	750	665					0.741
		3	1370	1175	1010	875	780	700	635	585		0.551
		4	1510	1305	1145	1005	890	800	730	670	615	0.438
		5	1640	1430	1260	1125	1005	905	820	755	695	0.364
		6	1760	1545	1370	1225	1110	1005	915	840	775	0.311
		8	1965	1750	1565	1415	1285	1175	1080	1000	930	0.241
2 1/2" NW Conc. (Above Deck)	36/4	0	5820									2.409
		1	6025	5835								1.133
		2	6230	6005	5850	5730	5640					0.741
		3	6430	6175	5995	5860	5750	5665	5595	5540		0.551
		4	6535	6345	6140	5985	5865	5770	5690	5625	5570	0.438
		5	6535	6515	6285	6110	5980	5870	5780	5710	5645	0.364
		6	6535	6535	6430	6240	6090	5970	5875	5795	5725	0.311
		8	6535	6535	6535	6495	6315	6175	6060	5965	5880	0.241
2 1/2" LW Conc. (Above Deck)	36/4	0	4380									2.409
		1	4585	4395								1.133
		2	4615	4565	4410	4290	4200					0.741
		3	4615	4615	4555	4420	4310	4225	4155	4100		0.551
		4	4615	4615	4615	4545	4425	4330	4250	4185	4130	0.438
		5	4615	4615	4615	4615	4540	4430	4340	4270	4205	0.364
		6	4615	4615	4615	4615	4615	4530	4435	4355	4285	0.311
		8	4615	4615	4615	4615	4615	4615	4525	4440	4440	0.241

<sup>1</sup>Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

	$\phi_{db}$	$\Omega_{db}$
Buckling	0.80	2.00

Deck Profile	I in <sup>4</sup> /ft	Nominal Shear Due to Panel Buckling, $S_{nb}$ , plf <sup>2</sup>								
		Span, ft								
5	6	7	8	9	10	11	12	13		
1.5" x 6"	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680
2" x 12"	0.500	18190	12630	9280	7105	5610	4545	3755	3155	2690

<sup>2</sup>Design Strengths:

ASD Required strength (Service Applied Load)  $\leq \min\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$

LRFD Required strength (Factored Applied Load)  $\leq \min\{\phi_{df}S_{nf}, \phi_{db}S_{nb}\}$

## Fastener Patterns

### 1.5 WR Fastener Patterns

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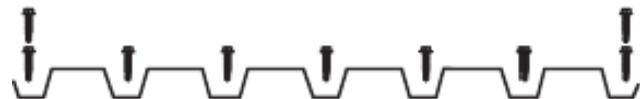
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### 2" Composite Deck Fastener Patterns

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