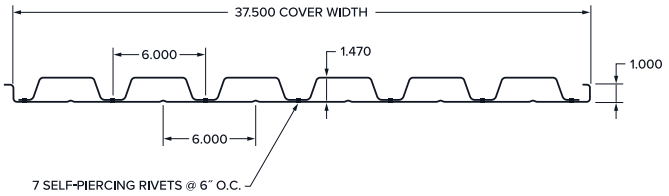
1.5" B-Dek Cellular (BDC)

PROPERTIES

Gage (Hat/Pan)	Thickness (in)	Cover (in)	Weight (psf)
20/20	0.0358/0.0358	37.5	3.41
20/18	0.0358/0.0474		3.91
18/20	0.0474/0.0358		4.01
18/18	0.0474/0.0474		4.51



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REFER TO ESR-1169

ASD

SECTION PROPERTIES

DESIGN STRENGTHS

Gage	F_y (ksi)	I_D 1 Span (in^4/ft)	I_D 2+ Span (in^4/ft)	I_p (in^4/ft)	I_n (in^4/ft)	S_p (in^3/ft)	S_n (in^3/ft)	Mn,p/Ω (in-lb/ft)	Mn,n/Ω (in-lb/ft)	Vn/Ω (lb/ft)	*Rbe/Ω (lb/ft)	*Rbi/Ω (lb/ft)
20/20	40	0.387	0.387	0.371	0.323	0.284	0.383	6793	9178	2156	917	1621
20/18	40	0.421	0.421	0.404	0.392	0.291	0.409	6976	9803	2156	917	1621
18/20	40	0.497	0.497	0.490	0.393	0.419	0.451	10032	10813	2841	1531	2746
18/18	40	0.544	0.544	0.536	0.467	0.430	0.524	10290	12559	2841	1531	2746

Notes:
1. Section properties are calculated in accordance with the AISI S100-16 with Supplement 3.
2. Web crippling design strengths* are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing.

ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

Span Condition	Gage	Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) Center to Center Span (ft - in)									SDI Max. Constr. Span (ctr / ctr)
		5 - 0	6 - 0	7 - 0	8 - 0	9 - 0	10 - 0	11 - 0	12 - 0	13 - 0	14 - 0	
Single	20/20	139 / 108	97 / 63	71 / 39	55 / 50	49 / 35	44 / 25	37 / 19	-	-	-	10 - 4
	20/18	139 / 108	97 / 63	71 / 39	59 / 54	52 / 38	47 / 28	38 / 21	-	-	-	10 - 6
	18/20	188 / 147	131 / 85	96 / 54	78 / 64	70 / 45	63 / 33	55 / 24	46 / 19	40 / 15	34 / 12	14 - 7
	18/18	188 / 147	131 / 85	96 / 54	83 / 70	74 / 49	66 / 36	57 / 27	48 / 21	41 / 16	35 / 13	14 - 8
Double	20/20	144 / 267	100 / 155	73 / 97	56 / 65	44 / 46	36 / 33	30 / 25	-	-	-	10 - 2
	20/18	144 / 267	100 / 155	73 / 97	56 / 65	44 / 46	38 / 67	34 / 50	31 / 39	29 / 30	-	12 - 9
	18/20	190 / 355	132 / 205	97 / 129	74 / 87	59 / 61	50 / 79	46 / 59	42 / 45	39 / 36	36 / 29	17 - 7
	18/18	190 / 355	132 / 205	97 / 129	74 / 87	59 / 118	53 / 86	48 / 65	44 / 50	41 / 39	38 / 31	17 - 9
Triple	20/20	179 / 209	125 / 121	92 / 76	70 / 51	55 / 36	45 / 26	37 / 20	31 / 28	27 / 22	-	12 - 10
	20/18	179 / 209	125 / 121	92 / 76	70 / 51	55 / 36	45 / 26	37 / 20	33 / 30	30 / 24	-	12 - 11
	18/20	238 / 278	165 / 161	121 / 101	93 / 68	73 / 48	59 / 35	49 / 26	44 / 36	40 / 28	37 / 22	17 - 10
	18/18	238 / 278	165 / 161	121 / 101	93 / 68	73 / 48	59 / 35	50 / 51	46 / 39	43 / 31	39 / 25	18 - 0

Notes:
3. Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
   - ANSI/SDI SD-2022 Standard for Steel Roof Deck
   - Minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing. Check web crippling if minimums are not met.
4. Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
5. "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
6. See website at www.newmill.com for Factory Mutual approved deck types and maximum FM construction spans.

MAXIMUM CANTILEVER SPANS

Gage	F_y (ksi)	Back-Span Condition		
		Single	Double	Triple
20/20	40	2 - 0	1 - 11	1 - 11
20/18	40	2 - 0	1 - 11	1 - 11
18/20	40	2 - 6	2 - 3	2 - 3
18/18	40	2 - 6	2 - 3	2 - 3

Notes:
7. Maximum cantilever spans shown are based on the following criteria:
   - ANSI/SDI SD-2022 Standard for Steel Roof Deck
   - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
   - Bearing width at perimeter support assumed to be 3" minimum
   - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

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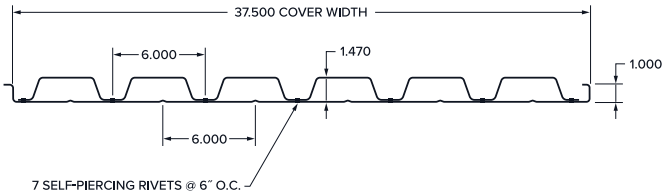
1.5" B-Dek Cellular (BDC)

PROPERTIES

Gage (Hat/Pan)	Thickness (in)	Cover (in)	Weight (psf)
18/16	0.0474/0.0598	37.5	5.04
16/18	0.0598/0.0474		5.15
16/16	0.0598/0.0598		5.68



ICC-ES APPROVED
REFER TO ESR-1169

ASD

SECTION PROPERTIES

DESIGN STRENGTHS

Gage	F_y (ksi)	I_D 1 Span (in^4/ft)	I_D 2+ Span (in^4/ft)	I_p (in^4/ft)	I_n (in^4/ft)	S_p (in^3/ft)	S_n (in^3/ft)	Mn,p/Ω (in-lb/ft)	Mn,n/Ω (in-lb/ft)	Vn/Ω (lb/ft)	*Rbe/Ω (lb/ft)	*Rbi/Ω (lb/ft)
18/16	40	0.586	0.586	0.577	0.550	0.439	0.547	10522	13104	2841	1531	2746
16/18	40	0.658	0.658	0.657	0.544	0.592	0.643	14189	15398	3566	2338	4234
16/16	40	0.711	0.711	0.710	0.636	0.606	0.671	14504	16060	3566	2338	4234

Notes:
1. Section properties are calculated in accordance with the AISI S100-16 with Supplement 3.
2. Web crippling design strengths* are based on minimum bearing lengths of 1 1/2'' for end bearing and 3'' for interior bearing.

ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

Span Condition	Gage	Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf)										SDI Max. Constr. Span (ctr / ctr)
		Center to Center Span (ft - in)										
		5 - 0	6 - 0	7 - 0	8 - 0	9 - 0	10 - 0	11 - 0	12 - 0	13 - 0	14 - 0	
Single	18/16	188 / 147	131 / 85	102 / 112	89 / 75	79 / 53	70 / 38	58 / 29	49 / 22	42 / 17	36 / 14	14 - 9
	16/18	240 / 185	167 / 107	127 / 126	111 / 84	99 / 59	89 / 43	78 / 32	66 / 25	56 / 20	48 / 16	19 - 0
	16/16	240 / 185	167 / 107	135 / 136	118 / 91	105 / 64	95 / 47	80 / 35	67 / 27	57 / 21	49 / 17	19 - 0
Double	18/16	190 / 355	132 / 205	97 / 129	74 / 87	59 / 61	48 / 93	42 / 70	37 / 54	33 / 42	30 / 34	17 - 9
	16/18	240 / 446	167 / 258	123 / 163	94 / 109	79 / 143	71 / 104	65 / 78	59 / 60	55 / 47	51 / 38	22 - 9
	16/16	240 / 446	167 / 258	123 / 163	95 / 220	84 / 154	76 / 112	69 / 84	63 / 65	58 / 51	54 / 41	22 - 9
Triple	18/16	238 / 278	165 / 161	121 / 101	93 / 68	73 / 48	59 / 35	49 / 26	41 / 42	37 / 33	34 / 26	18 - 0
	16/18	300 / 349	208 / 202	153 / 127	117 / 85	93 / 60	75 / 44	67 / 61	62 / 47	57 / 37	53 / 30	23 - 1
	16/16	300 / 349	208 / 202	153 / 127	117 / 85	93 / 60	79 / 88	72 / 66	66 / 51	61 / 40	56 / 32	23 - 1

Notes:
3. Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
   - ANSI/SDI SD-2022 Standard for Steel Roof Deck
   - Minimum bearing lengths of 1 1/2'' for end bearing and 3'' for interior bearing. Check web crippling if minimums are not met.
4. Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
5. ''Load that Produces L/240 Deflection'' values shown in RED exceed the ''Allowable Uniform Total Load''. These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the ''Allowable Uniform Total Load'' be exceeded.
6. See website at www.newmill.com for Factory Mutual approved deck types and maximum FM construction spans.

MAXIMUM CANTILEVER SPANS

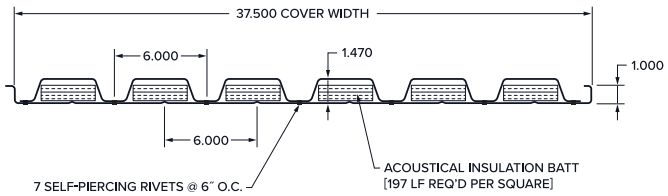
Gage	F_y (ksi)	Back-Span Condition		
		Single	Double	Triple
18/16	40	2 - 6	2 - 3	2 - 3
16/18	40	3 - 11	3 - 9	3 - 8
16/16	40	4 - 3	4 - 1	4 - 0

Notes:
7. Maximum cantilever spans shown are based on the following criteria:
   - ANSI/SDI SD-2022 Standard for Steel Roof Deck
   - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
   - Bearing width at perimeter support assumed to be 3'' minimum
   - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

1.5" B-Dek Cellular Acoustical (BDCA)

PROPERTIES

Gage (Hat/Pan)	Thickness (in)	Cover (in)	Weight (psf)
20/20	0.0358/0.0358	37.5	3.28
20/18	0.0358/0.0474		3.74
18/20	0.0474/0.0358		3.88
18/18	0.0474/0.0474		4.34



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ASD

SECTION PROPERTIES

DESIGN STRENGTHS

Gage	F_y (ksi)	I_D 1 Span (in^4/ft)	I_D 2+ Span (in^4/ft)	I_p (in^4/ft)	I_n (in^4/ft)	S_p (in^3/ft)	S_n (in^3/ft)	Mn,p/Ω (in-lb/ft)	Mn,n/Ω (in-lb/ft)	Vn/Ω (lb/ft)	*Rbe/Ω (lb/ft)	*Rbi/Ω (lb/ft)
20/20	40	0.364	0.364	0.350	0.323	0.280	0.383	6698	9178	2156	917	1621
20/18	40	0.397	0.397	0.381	0.378	0.287	0.409	6884	9787	2156	917	1621
18/20	40	0.466	0.466	0.460	0.393	0.413	0.451	9881	10813	2841	1531	2746
18/18	40	0.510	0.510	0.503	0.455	0.423	0.524	10142	12554	2841	1531	2746

Notes:
1. Section properties are calculated in accordance with the AISI S100-16 with Supplement 3.
2. Web crippling design strengths* are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing.

ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

Span Condition	Gage	Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) Center to Center Span (ft - in)									SDI Max. Constr. Span (ctr / ctr)
		5 - 0	6 - 0	7 - 0	8 - 0	9 - 0	10 - 0	11 - 0	12 - 0	13 - 0	14 - 0	
Single	20/20	139 / 108	97 / 63	71 / 39	58 / 47	52 / 33	45 / 24	37 / 18	-	-	-	10 - 3
	20/18	139 / 108	97 / 63	71 / 39	62 / 51	55 / 36	46 / 26	38 / 20	-	-	-	10 - 5
	18/20	188 / 147	131 / 85	96 / 89	84 / 60	75 / 42	66 / 31	54 / 23	46 / 18	39 / 14	34 / 11	14 - 5
	18/18	188 / 147	131 / 85	101 / 98	88 / 65	78 / 46	68 / 33	56 / 25	47 / 19	40 / 15	34 / 12	14 - 7
Double	20/20	144 / 267	100 / 155	73 / 97	56 / 65	44 / 46	36 / 33	30 / 25	25 / 33	-	-	12 - 6
	20/18	144 / 267	100 / 155	73 / 97	56 / 65	44 / 46	40 / 63	36 / 47	33 / 36	30 / 29	-	12 - 8
	18/20	190 / 355	132 / 205	97 / 129	74 / 87	60 / 101	54 / 74	49 / 55	45 / 43	42 / 34	37 / 27	17 - 5
	18/18	190 / 355	132 / 205	97 / 129	74 / 87	63 / 111	56 / 81	51 / 61	47 / 47	43 / 37	40 / 29	17 - 7
Triple	20/20	179 / 209	125 / 121	92 / 76	70 / 51	55 / 36	45 / 26	37 / 20	31 / 26	27 / 20	-	12 - 8
	20/18	179 / 209	125 / 121	92 / 76	70 / 51	55 / 36	45 / 26	38 / 37	34 / 28	32 / 22	-	12 - 10
	18/20	238 / 278	165 / 161	121 / 101	93 / 68	73 / 48	59 / 35	51 / 43	47 / 33	43 / 26	40 / 21	17 - 8
	18/18	238 / 278	165 / 161	121 / 101	93 / 68	73 / 48	59 / 35	53 / 47	49 / 37	45 / 29	42 / 23	17 - 10

Notes:
3. Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
   - ANSI/SDI SD-2022 Standard for Steel Roof Deck
   - Minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing. Check web crippling if minimums are not met.
4. Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
5. "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
6. See website at www.newmill.com for Factory Mutual approved deck types and maximum FM construction spans.

MAXIMUM CANTILEVER SPANS

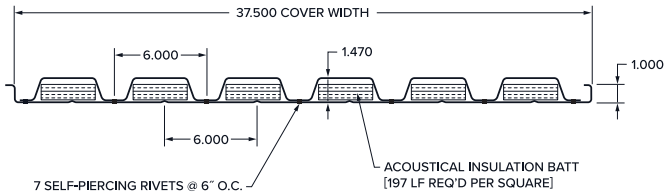
Gage	F_y (ksi)	Back-Span Condition		
		Single	Double	Triple
20/20	40	2 - 0	1 - 11	1 - 11
20/18	40	2 - 0	1 - 11	1 - 11
18/20	40	2 - 6	2 - 3	2 - 3
18/18	40	2 - 6	2 - 3	2 - 3

Notes:
7. Maximum cantilever spans shown are based on the following criteria:
   - ANSI/SDI SD-2022 Standard for Steel Roof Deck
   - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
   - Bearing width at perimeter support assumed to be 3" minimum
   - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

1.5" B-Dek Cellular Acoustical (BDCA)

PROPERTIES

Gage (Hat/Pan)	Thickness (in)	Cover (in)	Weight (psf)
18/16	0.0474/0.0598	37.5	4.83
16/18	0.0598/0.0474		4.97
16/16	0.0598/0.0598		5.46



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Available with optional plastic lath to protect acoustical properties of the deck when painting in the field.

ASD SECTION PROPERTIES DESIGN STRENGTHS

Gage	F_y (ksi)	I_D 1 Span (in^4/ft)	I_D 2+ Span (in^4/ft)	I_p (in^4/ft)	I_n (in^4/ft)	S_p (in^3/ft)	S_n (in^3/ft)	Mn,p/Ω (in-lb/ft)	Mn,n/Ω (in-lb/ft)	Vn/Ω (lb/ft)	*Rbe/Ω (lb/ft)	*Rbi/Ω (lb/ft)
18/16	40	0.551	0.551	0.543	0.521	0.433	0.543	10377	13002	2841	1531	2746
16/18	40	0.616	0.616	0.616	0.533	0.583	0.643	13969	15398	3566	2338	4234
16/16	40	0.666	0.666	0.665	0.606	0.596	0.666	14287	15959	3566	2338	4234

Notes:
1. Section properties are calculated in accordance with the AISI S100-16 with Supplement 3.
2. Web crippling design strengths* are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing.

ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

Span Condition	Gage	Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf)										SDI Max. Constr. Span (ctr / ctr)
		Center to Center Span (ft - in)										
		5 - 0	6 - 0	7 - 0	8 - 0	9 - 0	10 - 0	11 - 0	12 - 0	13 - 0	14 - 0	
Single	18/16	188 / 147	131 / 85	107 / 105	94 / 71	83 / 50	69 / 36	57 / 27	48 / 21	41 / 16	35 / 13	14 - 8
	16/18	240 / 185	167 / 107	136 / 118	119 / 79	106 / 55	93 / 40	77 / 30	65 / 23	55 / 18	48 / 15	18 - 10
	16/16	240 / 185	167 / 202	143 / 127	125 / 85	111 / 60	95 / 44	79 / 33	66 / 25	56 / 20	49 / 16	18 - 11
Double	18/16	190 / 355	132 / 205	97 / 129	74 / 87	59 / 61	49 / 87	43 / 65	38 / 50	34 / 40	31 / 32	17 - 8
	16/18	240 / 446	167 / 258	123 / 163	95 / 190	85 / 134	76 / 97	69 / 73	64 / 56	59 / 44	52 / 36	22 - 7
	16/16	240 / 446	167 / 258	123 / 163	100 / 206	89 / 145	80 / 105	73 / 79	67 / 61	62 / 48	54 / 38	22 - 8
Triple	18/16	238 / 278	165 / 161	121 / 101	93 / 68	73 / 48	59 / 35	49 / 26	43 / 39	38 / 31	35 / 25	17 - 11
	16/18	300 / 349	208 / 202	153 / 127	117 / 85	93 / 60	79 / 76	72 / 57	66 / 44	61 / 35	57 / 28	22 - 11
	16/16	300 / 349	208 / 202	153 / 127	117 / 85	93 / 113	84 / 82	76 / 62	70 / 48	64 / 38	60 / 30	22 - 11

Notes:
3. Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
   - ANSI/SDI SD-2022 Standard for Steel Roof Deck
   - Minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing. Check web crippling if minimums are not met.
4. Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
5. "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
6. See website at www.newmill.com for Factory Mutual approved deck types and maximum FM construction spans.

MAXIMUM CANTILEVER SPANS

Gage	F_y (ksi)	Back-Span Condition		
		Single	Double	Triple
18/16	40	2 - 6	2 - 3	2 - 3
16/18	40	4 - 2	3 - 7	3 - 7
16/16	40	4 - 5	3 - 11	3 - 10

Notes:
7. Maximum cantilever spans shown are based on the following criteria:
   - ANSI/SDI SD-2022 Standard for Steel Roof Deck
   - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
   - Bearing width at perimeter support assumed to be 3" minimum
   - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.