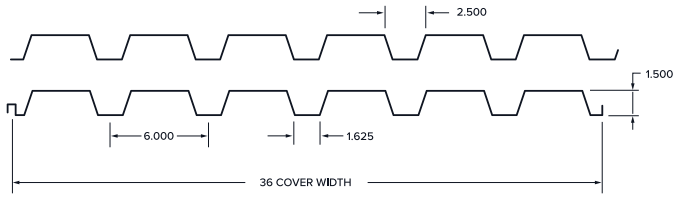
1.5" B Deck (B, BI, BV, BIV)

PROPERTIES

Gage	Thickness (in)	Cover (in)	Weight (psf)
22	0.0295	36	1.63
20	0.0358		1.98
18	0.0474		2.62
16	0.0598		3.30



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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)
22	40	0.163	0.175	0.157	0.175	0.176	0.183	4215	4391	2009	654	1181
20	40	0.205	0.213	0.201	0.213	0.224	0.235	5375	5624	2428	932	1696
18	40	0.280	0.281	0.279	0.281	0.304	0.315	7291	7553	3192	1557	2858
16	40	0.355	0.355	0.355	0.355	0.390	0.395	9332	9454	3996	2381	4396

Notes:
1. Section properties are calculated in accordance with the AISI S100-16.
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	5 - 6	6 - 0	6 - 6	7 - 0	8 - 0	9 - 0	10 - 0	11 - 0	12 - 0	
Single	22	112 / 86	93 / 64	78 / 50	67 / 39	57 / 31	-	-	-	-	-	6 - 10
	20	143 / 107	118 / 81	100 / 62	85 / 49	73 / 39	56 / 26	44 / 18	-	-	-	8 - 7
	18	194 / 147	161 / 110	135 / 85	115 / 67	99 / 54	76 / 36	60 / 25	49 / 18	40 / 14	34 / 11	11 - 3
	16	249 / 186	206 / 140	173 / 108	147 / 85	127 / 68	97 / 45	77 / 32	62 / 23	51 / 17	43 / 13	13 - 11
Double	22	115 / 221	95 / 166	80 / 128	69 / 101	59 / 81	45 / 54	36 / 38	-	-	-	8 - 4
	20	147 / 269	122 / 202	103 / 156	88 / 122	76 / 98	58 / 66	46 / 46	37 / 34	31 / 25	-	10 - 6
	18	198 / 356	164 / 267	138 / 206	118 / 162	102 / 130	78 / 87	62 / 61	50 / 44	41 / 33	35 / 26	13 - 9
	16	247 / 448	205 / 337	173 / 260	147 / 204	127 / 163	98 / 109	77 / 77	63 / 56	52 / 42	44 / 32	16 - 11
Triple	22	143 / 173	119 / 130	100 / 100	85 / 79	74 / 63	57 / 42	45 / 30	-	-	-	8 - 6
	20	183 / 211	152 / 158	128 / 122	109 / 96	94 / 77	72 / 51	57 / 36	47 / 26	39 / 20	-	10 - 8
	18	245 / 278	203 / 209	172 / 161	147 / 127	127 / 101	97 / 68	77 / 48	63 / 35	52 / 26	43 / 20	13 - 11
	16	307 / 351	255 / 264	215 / 203	183 / 160	159 / 128	122 / 86	96 / 60	78 / 44	65 / 33	54 / 25	17 - 1

Notes:
3. Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
   - ANSI/SDI RD-2017 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

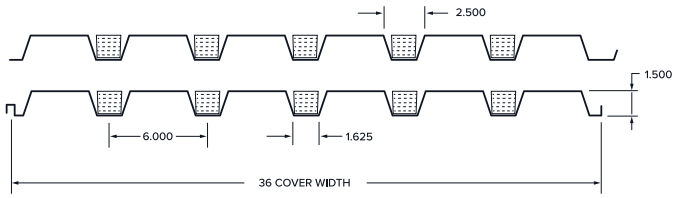
Gage	F_y (ksi)	Back-Span Condition		
		Single	Double	Triple
22	40	1 - 8	1 - 8	1 - 8
20	40	2 - 0	1 - 11	1 - 11
18	40	2 - 6	2 - 3	2 - 3
16	40	3 - 1	2 - 7	2 - 7

Notes:
7. Maximum cantilever spans shown are based on the following criteria:
   - ANSI/SDI RD-2017 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 Deck Acoustical (BA, BIA)

PROPERTIES

Gage	Thickness (in)	Cover (in)	Weight (psf)
22	0.0295	36	1.56
20	0.0358		1.89
18	0.0474		2.50
16	0.0598		3.16



ICC-ES APPROVED
REFER TO ESR-3818

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)
22	40	0.159	0.170	0.153	0.169	0.170	0.174	4073	4158	1352	627	1174
20	40	0.200	0.206	0.196	0.206	0.217	0.223	5198	5353	1631	898	1687
18	40	0.272	0.273	0.272	0.273	0.293	0.301	7013	7201	2136	1508	2845
16	40	0.344	0.344	0.344	0.344	0.373	0.376	8935	9015	2664	2314	4378

Notes:
1. Section properties are calculated in accordance with the AISI S100-16, with perforation modifiers applied in accordance with SDI white paper ''Perforated Metal Deck Design with Commentary''.
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	5 - 6	6 - 0	6 - 6	7 - 0	8 - 0	9 - 0	10 - 0	11 - 0	12 - 0	
Single	22	109 / 83	90 / 63	75 / 48	64 / 38	55 / 30	-	-	-	-	-	6 - 7
	20	139 / 105	115 / 79	96 / 61	82 / 48	71 / 38	54 / 26	43 / 18	-	-	-	8 - 4
	18	187 / 143	155 / 107	130 / 83	111 / 65	95 / 52	73 / 35	58 / 24	47 / 18	39 / 13	-	10 - 11
	16	238 / 180	197 / 136	165 / 104	141 / 82	122 / 66	93 / 44	74 / 31	60 / 23	49 / 17	41 / 13	13 - 5
Double	22	107 / 214	89 / 161	75 / 124	64 / 98	56 / 78	43 / 52	34 / 37	-	-	-	8 - 1
	20	138 / 261	114 / 196	97 / 151	83 / 119	71 / 95	55 / 64	44 / 45	35 / 33	29 / 25	-	10 - 2
	18	185 / 345	154 / 259	130 / 200	111 / 157	96 / 126	74 / 84	59 / 59	48 / 43	39 / 32	33 / 25	13 - 4
	16	231 / 435	192 / 327	163 / 252	139 / 198	120 / 159	92 / 106	73 / 75	60 / 54	49 / 41	41 / 31	16 - 4
Triple	22	132 / 168	110 / 126	93 / 97	80 / 76	69 / 61	53 / 41	42 / 29	-	-	-	8 - 2
	20	170 / 204	141 / 153	120 / 118	102 / 93	89 / 74	68 / 50	54 / 35	44 / 26	36 / 19	-	10 - 4
	18	227 / 270	190 / 203	160 / 156	137 / 123	119 / 98	92 / 66	73 / 46	59 / 34	49 / 25	41 / 20	13 - 6
	16	285 / 340	237 / 256	201 / 197	172 / 155	149 / 124	115 / 83	91 / 58	74 / 43	61 / 32	52 / 25	16 - 6

Notes:
3. Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
   - ANSI/SDI RD-2017 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
22	40	1 - 7	1 - 7	1 - 7
20	40	1 - 11	1 - 10	1 - 10
18	40	2 - 5	2 - 2	2 - 2
16	40	3 - 0	2 - 7	2 - 6

Notes:
7. Maximum cantilever spans shown are based on the following criteria:
   - ANSI/SDI RD-2017 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.