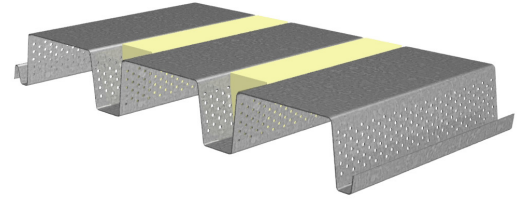


# 3NA-24/3NIA-24 ACOUSTICAL ROOF DECKS GRADE 50 STEEL

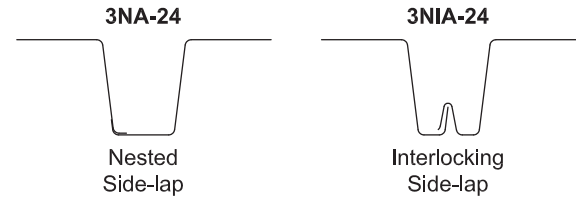
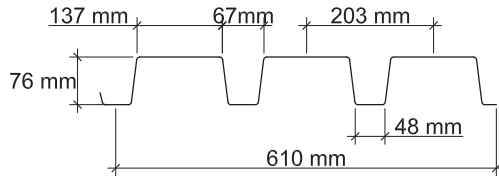
Metric  
LSD

## 24" WIDE 3N ACOUSTICAL ROOF DECKS

- 3NA-24 Deck used with Side-lap Screws
- 3NIA-24 Deck used with TSWs or BPs



## Nominal Dimensions



## Section Properties

Deck Gage	Deck Weight $w_{dd}$ (kg/m <sup>2</sup> )	Base Metal Thickness $t$ (mm)	Yield Strength $F_y$ (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e + I_g)/3$		Effective Section Modulus* at $F_y = 345$ MPa		Factored Moment*		Vertical Web Shear* $\phi V_n$ (kN)
				$I_{d+}$ (mm <sup>4</sup> x10 <sup>3</sup> )	$I_{d-}$ (mm <sup>4</sup> x10 <sup>3</sup> )	$S_{e+}$ (mm <sup>3</sup> x10 <sup>3</sup> )	$S_{e-}$ (mm <sup>3</sup> x10 <sup>3</sup> )	$\phi M_{n+}$ (N-m)	$\phi M_{n-}$ (N-m)	
22	9.28	0.75	345	910.8	1113.0	18.02	19.83	5590	6151	34
20	11.72	0.91	345	1142.0	1376.5	23.53	26.20	7300	8130	55
18	15.14	1.20	345	1605.9	1843.5	33.90	36.70	10518	11386	97
16	19.04	1.52	345	2134.4	2328.3	44.07	47.30	13674	14677	124

\*Physical Properties per meter (m) of width

## Factored Reactions at Supports Based on Web Crippling, $\phi R_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	100	200	40	50	75	100	100	200
22	11.1	11.9	13.7	15.2	24.0	28.0	9.3	9.9	11.0	12.0	27.2	32.2
20	16.1	17.3	19.8	21.9	34.4	42.8	14.6	15.4	17.2	18.7	39.9	50.4
18	27.4	29.3	33.4	36.8	57.7	72.2	27.5	28.9	32.0	34.6	68.7	87.4
16	42.5	45.3	51.3	56.3	88.4	109.6	45.6	47.8	52.6	56.7	107.1	135.0

## Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvanized
- Standard lengths – 1.83 m to 12.8 m
- FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

## Optional Features

- Inquire regarding cost and lead times for:
  - Short cuts < 1.83 m
  - Sheet Lengths > 12.8 m
  - Alternative metallic and painted finishes

# 3NA-24/3NIA-24 ACOUSTICAL ROOF DECKS GRADE 50 STEEL

Metric  
LSD

## Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm)										
			1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800
22	Single	$\phi W_n$	13.8	10.2	7.8	6.1	5.0	4.1	3.5	2.9	2.5	2.2	1.9
		L/240	10.2	6.4	4.3	3.0	2.2	1.7	1.3	1.0	0.8	0.7	0.5
	Double	$\phi W_n$	13.6	10.3	8.0	6.4	5.3	4.4	3.7	3.2	2.7	2.4	2.1
		L/240	30.0	18.9	12.7	8.9	6.5	4.9	3.7	2.9	2.4	1.9	1.6
	Triple	$\phi W_n$	16.3	12.5	9.8	7.9	6.5	5.4	4.6	3.9	3.4		
		L/240	23.5	14.8	9.9	7.0	5.1	3.8	2.9	2.3	1.9		
20	Single	$\phi W_n$	18.1	13.3	10.2	8.0	6.5	5.4	4.5	3.8	3.3	2.9	2.5
		L/240	12.8	8.1	5.4	3.8	2.8	2.1	1.6	1.3	1.0	0.8	0.7
	Double	$\phi W_n$	18.6	14.0	10.8	8.6	7.0	5.8	4.9	4.2	3.6	3.2	2.8
		L/240	37.1	23.4	15.7	11.0	8.0	6.0	4.6	3.6	2.9	2.4	2.0
	Triple	$\phi W_n$	22.6	17.0	13.3	10.6	8.7	7.2	6.1	5.2	4.5		
		L/240	29.1	18.3	12.3	8.6	6.3	4.7	3.6	2.9	2.3		
18	Single	$\phi W_n$	26.0	19.1	14.6	11.6	9.4	7.7	6.5	5.5	4.8	4.2	3.7
		L/240	18.0	11.3	7.6	5.3	3.9	2.9	2.2	1.8	1.4	1.1	0.9
	Double	$\phi W_n$	26.8	19.9	15.4	12.2	10.0	8.3	7.0	5.9	5.1	4.5	3.9
		L/240	49.7	31.3	21.0	14.7	10.7	8.1	6.2	4.9	3.9	3.2	2.6
	Triple	$\phi W_n$	32.8	24.5	19.0	15.2	12.3	10.3	8.6	7.4	6.4		
		L/240	38.9	24.5	16.4	11.5	8.4	6.3	4.9	3.8	3.1		
16	Single	$\phi W_n$	33.8	24.9	19.0	15.0	12.2	10.1	8.5	7.2	6.2	5.4	4.8
		L/240	23.9	15.0	10.1	7.1	5.2	3.9	3.0	2.3	1.9	1.5	1.3
	Double	$\phi W_n$	34.5	25.7	19.8	15.8	12.8	10.6	9.0	7.7	6.6	5.8	5.1
		L/240	62.7	39.5	26.5	18.6	13.6	10.2	7.8	6.2	4.9	4.0	3.3
	Triple	$\phi W_n$	42.3	31.6	24.5	19.5	15.9	13.2	11.1	9.5	8.2		
		L/240	49.2	31.0	20.7	14.6	10.6	8.0	6.1	4.8	3.9		

### Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

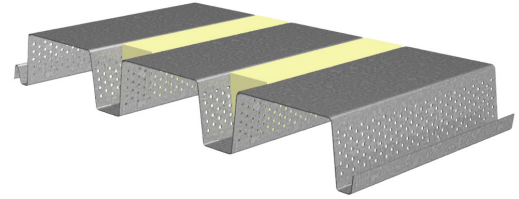
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# 3NA-24/3NIA-24 ACOUSTICAL ROOF DECKS GRADE 50 STEEL

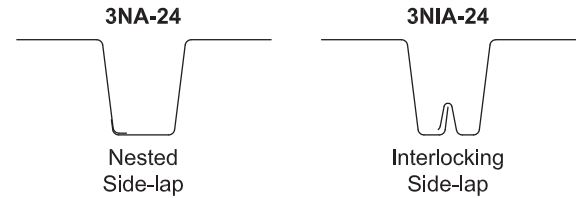
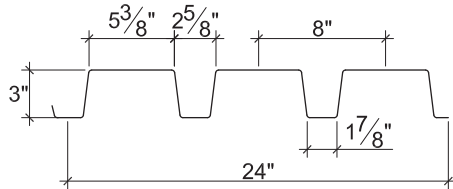
Imperial  
LSD

## 24" WIDE 3N ACOUSTICAL ROOF DECKS

- 3NA-24 Deck used with Side-lap Screws
- 3NIA-24 Deck used with TSWs or BPs



## Nominal Dimensions



## Section Properties

Deck Gage	Deck Weight $w_{dd}$ (psf)	Base Metal Thickness $t$ (in.)	Yield Strength $F_y$ (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e + I_g)/3$		Effective Section Modulus at $F_y = 50$ ksi		Factored Moment		Vertical Web Shear $\phi V_n$ (lb/ft)
				$I_{d+}$ (in <sup>4</sup> /ft)	$I_{d-}$ (in <sup>4</sup> /ft)	$S_{e+}$ (in <sup>3</sup> /ft)	$S_{e-}$ (in <sup>3</sup> /ft)	$\phi M_{n+}$ (lb-ft/ft)	$\phi M_{n-}$ (lb-ft/ft)	
22	1.9	0.0295	50	0.667	0.815	0.335	0.369	1257	1383	2357
20	2.4	0.0358	50	0.837	1.008	0.438	0.487	1641	1828	3801
18	3.1	0.0474	50	1.176	1.350	0.631	0.683	2364	2560	6666
16	3.9	0.0598	50	1.563	1.705	0.820	0.880	3074	3299	8529

## Factored Reactions at Supports Based on Web Crippling, $\phi R_n$ (lb/ft)

Deck Gage	Bearing Length of Webs											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	1 1/2"	2"	3"	4"	4"	8"	1 1/2"	2"	3"	4"	4"	8"
22	748	822	946	1051	1653	1921	630	678	760	829	1877	2203
20	1084	1188	1362	1509	2367	2931	989	1062	1184	1287	2748	3450
18	1850	2018	2298	2535	3971	4974	1861	1988	2200	2380	4730	6021
16	2870	3117	3531	3881	6086	7553	3092	3289	3620	3899	7374	9304

## Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvanized
- FM Listed
- Standard lengths – 6'-0" to 42'-0"
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

## Optional Features

- Inquire regarding cost and lead times for:
  - Short cuts < 6'-0"
  - Sheet Lengths > 42'-0"
  - Alternative metallic and painted finishes

# 3NA-24/3NIA-24 ACOUSTICAL ROOF DECKS GRADE 50 STEEL

Imperial  
LSD

## Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.)										
			4'-0"	6'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"
22	Single	$\phi W_n$	628	279	157	124	101	83	70	51	39	31	25
		L/240	683	202	85	60	44	33	25	16	11	7	5
	Double	$\phi W_n$	558	276	162	130	106	88	75	55	43	34	27
		L/240	2011	596	251	177	129	97	74	47	31	22	16
	Triple	$\phi W_n$	649	331	198	159	130	109	92	68			
		L/240	1576	467	197	138	101	76	58	37			
20	Single	$\phi W_n$	821	365	205	162	131	109	91	67	51	41	33
		L/240	857	254	107	75	55	41	32	20	13	9	7
	Double	$\phi W_n$	783	377	219	174	142	118	100	74	56	45	36
		L/240	2487	737	311	218	159	120	92	58	39	27	20
	Triple	$\phi W_n$	926	458	269	215	176	146	123	91			
		L/240	1949	578	244	171	125	94	72	45			
18	Single	$\phi W_n$	1182	525	296	234	189	156	131	97	74	58	47
		L/240	1205	357	151	106	77	58	45	28	19	13	10
	Double	$\phi W_n$	1154	542	311	247	201	167	140	104	79	63	51
		L/240	3331	987	416	292	213	160	123	78	52	37	27
	Triple	$\phi W_n$	1386	664	384	306	249	207	175	129			
		L/240	2611	774	326	229	167	126	97	61			
16	Single	$\phi W_n$	1537	683	384	304	246	203	171	125	96	76	61
		L/240	1601	474	200	141	102	77	59	37	25	18	13
	Double	$\phi W_n$	1485	698	401	319	259	215	181	133	102	81	66
		L/240	4207	1246	526	369	269	202	156	98	66	46	34
	Triple	$\phi W_n$	1784	855	495	394	321	267	225	166			
		L/240	3297	977	412	289	211	159	122	77			

### Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

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