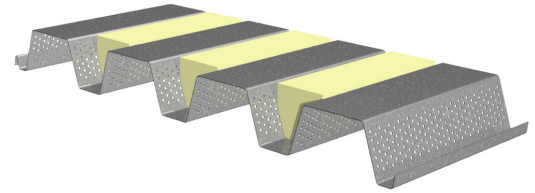


# 3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS GRADE 80 STEEL

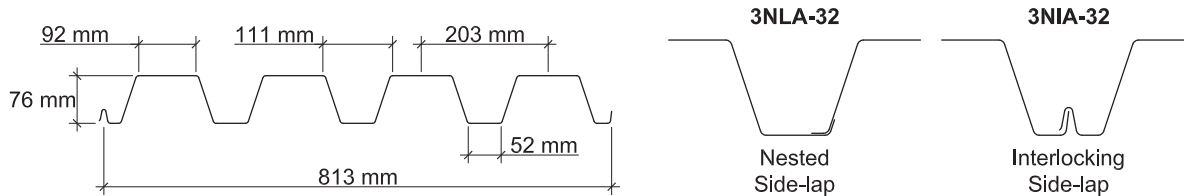
Metric  
LSD

## 32" WIDE 3N ACOUSTICAL ROOF DECKS

- 3NLA-32 Deck used with Side-lap Screws
- 3NIA-32 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 $F_y = 414$ 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	8.30	0.75	414	824.8	917.7	17.10	17.69	6365	6586	30
20	10.25	0.91	414	1029.7	1136.2	22.15	23.66	8247	8807	55
18	13.66	1.20	414	1431.1	1551.3	32.53	33.66	12110	12531	101

\*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	12.3	13.3	15.3	17.0	26.9	31.5	10.3	10.9	12.2	13.3	30.4	35.9
20	17.9	19.2	22.0	24.4	38.6	48.0	16.2	17.1	19.0	20.7	44.6	56.3
18	30.6	32.7	37.3	41.1	64.8	81.1	30.5	32.1	35.5	38.4	76.8	97.8

## Standard Features

- ASTM A653/A653M SS GR80, 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

# 3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS

## GRADE 80 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	$\phi W_n$	15.8	11.6	8.9	7.0	5.7	4.7	3.9	3.4	2.9	2.5	2.2
		L/240	9.2	5.8	3.9	2.7	2.0	1.5	1.2	0.9	0.7	0.6	0.5
	Double	$\phi W_n$	14.0	10.7	8.4	6.7	5.5	4.6	3.9	3.3	2.9	2.5	2.2
		L/240	24.7	15.6	10.4	7.3	5.3	4.0	3.1	2.4	1.9	1.6	1.3
	Triple	$\phi W_n$	16.5	12.7	10.1	8.2	6.7	5.6	4.8	4.1	3.6		
		L/240	19.4	12.2	8.2	5.7	4.2	3.1	2.4	1.9	1.5		
20	Single	$\phi W_n$	20.4	15.0	11.5	9.1	7.3	6.1	5.1	4.3	3.7	3.3	2.9
		L/240	11.5	7.3	4.9	3.4	2.5	1.9	1.4	1.1	0.9	0.7	0.6
	Double	$\phi W_n$	19.9	15.0	11.6	9.3	7.6	6.3	5.3	4.5	3.9	3.4	3.0
		L/240	30.6	19.3	12.9	9.1	6.6	5.0	3.8	3.0	2.4	2.0	1.6
	Triple	$\phi W_n$	24.0	18.2	14.2	11.4	9.3	7.8	6.6	5.6	4.9		
		L/240	24.0	15.1	10.1	7.1	5.2	3.9	3.0	2.4	1.9		
18	Single	$\phi W_n$	30.0	22.0	16.9	13.3	10.8	8.9	7.5	6.4	5.5	4.8	4.2
		L/240	16.0	10.1	6.8	4.7	3.5	2.6	2.0	1.6	1.3	1.0	0.8
	Double	$\phi W_n$	29.3	21.9	16.9	13.4	10.9	9.1	7.6	6.5	5.6	4.9	4.3
		L/240	41.8	26.3	17.6	12.4	9.0	6.8	5.2	4.1	3.3	2.7	2.2
	Triple	$\phi W_n$	35.8	26.9	20.8	16.6	13.5	11.3	9.5	8.1	7.0		
		L/240	32.8	20.6	13.8	9.7	7.1	5.3	4.1	3.2	2.6		

**Note:**

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

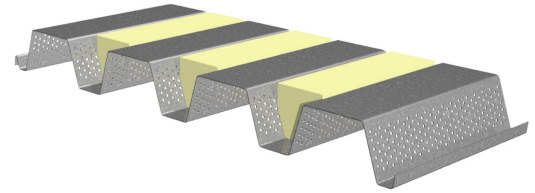
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# 3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS GRADE 80 STEEL

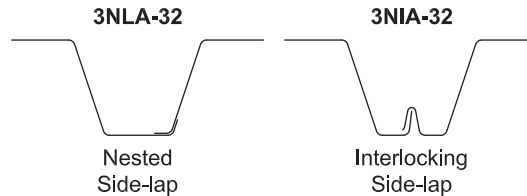
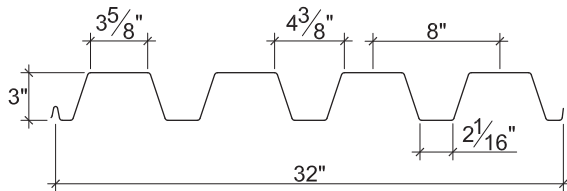
Imperial  
LSD

## 32" WIDE 3N ACOUSTICAL ROOF DECKS

- 3NLA-32 Deck used with Side-lap Screws
- 3NIA-32 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 $F_y = 60$ 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	1.7	0.0295	60	0.604	0.672	0.318	0.329	1431	1481	2089
20	2.1	0.0358	60	0.754	0.832	0.412	0.440	1854	1980	3743
18	2.8	0.0474	60	1.048	1.136	0.605	0.626	2723	2817	6938

## 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	833	915	1053	1170	1855	2156	694	748	838	914	2096	2459
20	1210	1325	1519	1683	2658	3292	1094	1175	1310	1424	3071	3856
18	2067	2254	2567	2832	4462	5589	2066	2207	2443	2642	5293	6737

## Standard Features

- ASTM A653/A653M SS GR80, 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

# 3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS

## GRADE 80 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	$\phi W_n$	716	318	179	141	114	95	80	58	45	35	29
		L/240	619	183	77	54	40	30	23	14	10	7	5
	Double	$\phi W_n$	554	283	169	136	112	93	79	59	45	36	29
		L/240	1658	491	207	146	106	80	61	39	26	18	13
	Triple	$\phi W_n$	634	336	204	165	136	114	97	72			
		L/240	1300	385	162	114	83	62	48	30			
20	Single	$\phi W_n$	927	412	232	183	148	123	103	76	58	46	37
		L/240	772	229	97	68	49	37	29	18	12	8	6
	Double	$\phi W_n$	826	403	235	188	153	127	107	79	61	48	39
		L/240	2053	608	257	180	131	99	76	48	32	23	16
	Triple	$\phi W_n$	969	486	288	231	189	157	133	99			
		L/240	1609	477	201	141	103	77	60	38			
18	Single	$\phi W_n$	1361	605	340	269	218	180	151	111	85	67	54
		L/240	1073	318	134	94	69	52	40	25	17	12	9
	Double	$\phi W_n$	1256	593	341	271	221	183	154	114	87	69	56
		L/240	2803	831	350	246	179	135	104	65	44	31	22
	Triple	$\phi W_n$	1504	725	421	336	274	227	192	142			
		L/240	2197	651	275	193	141	106	81	51			

#### Note:

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

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