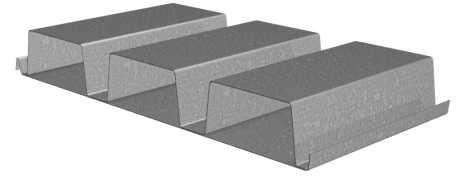


# 3NP-24 CELLULAR DECK GRADE 40 STEEL

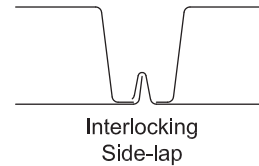
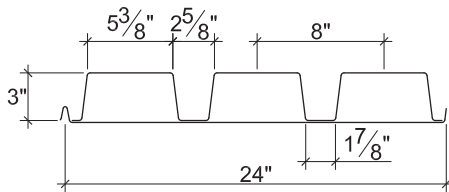
LRFD

## 24" WIDE 3NP CELLULAR ROOF DECK

- 3NP-24 Deck used with TSWs or BPs
- 3NPLP-24 Deck used with PunchLok® II System



## Nominal Dimensions



Plant	Cover Width	Pan Connection Method
VNY	24"	Flush Rivets (Underside)
VNE	24"	Resistance Welds

## 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 $F_y = 40$ ksi		Design 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)	
20/20	3.9	0.0358/0.0358	40	1.754	1.420	0.528	0.543	1584	1629	5455
20/18	4.5	0.0358/0.0474	40	1.897	1.564	0.528	0.628	1584	1884	5455
18/20	4.7	0.0474/0.0358	40	2.246	1.774	0.821	0.707	2463	2121	8721
18/18	5.2	0.0474/0.0474	40	2.455	1.938	0.841	0.791	2523	2373	8721
18/16	5.8	0.0474/0.0598	40	2.641	2.136	0.858	0.921	2574	2763	8721
16/18	6.0	0.0598/0.0474	40	3.019	2.323	1.156	0.952	3468	2856	10951
16/16	6.6	0.0598/0.0598	40	3.259	2.543	1.180	1.082	3540	3246	10951

## Design 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"
20/XX	1021	1119	1282	1420	2158	2672	1050	1127	1257	1366	2577	3236
18/XX	1729	1886	2148	2369	3619	4532	1942	2074	2296	2483	4414	5618
16/XX	2670	2899	3284	3609	5543	6878	3191	3395	3736	4024	6856	8651

## Standard Features

- ASTM A653 SS GR40 Min., with G60
- Standard lengths – 6'-0" to 42'-0"
- IAPMO UES ER-0652 and FM Listed
- Tables conform to ANSI/SDI RD-2017

## Optional Features

- Inquire regarding cost and lead times for:
  - Short Cuts < 6'-0"
  - Sheet Lengths > 42'-0"
  - Alternative metallic finishes
- Cellular Acoustical Versions

NOTICE: Design defects that could cause injury or death may result from relying on the information in this document without independent verification by a qualified professional. The information in this document is provided "AS IS". Nucor Corporation and its affiliates expressly disclaim: (i) any and all representations, warranties and conditions and (ii) all liability arising out of or related to this document and the information in it.