Number: 2018

Originally Issued: 07/11/2019 Revised: 06/10/2025 Valid Through: 07/31/2026 Page 16 of 48

BADGER NUSIG CONNECTORS 1,2,8

Model	Deck Family-Slab Type ¹⁰	Applicable Load Type ³	Min. Spacing and/or Max. Load Angle for Full Capacity ^{8,9}	Strength ^{4,5}				Max. Fire Sprinkler Pipe ⁶		
				P _n (lbs)	P _n /Ω (lbs)	φP _n (lbs)	Ω	ф	Rod Size (in.)	Pipe Size (in.)
NDH3812 or MDH3812	W2	Vertical	27 1/2 in.	2119	588	953	3.60	0.45	3/8 1/2	4 5
	W3	Vertical	12 3/4 in.	1266	477	759	2.65	0.60	3/8 1/2	4 3 1/2
NDH1258 or MDH1258	W3	Vertical	19 3/8 in.	1845	658	1107	2.80	0.60	1/2 5/8	4 5
NDH4S-W3	W3	Vertical and Bracing	9 1/2 in. 40°	2946	1052	1620	2.80	0.55	3/8 1/2 5/8	4 6 6
NDH38FV-W3	W3	Vertical	-	556	182	305	3.05	0.55	3/8	1 1/2

Notes:

⁸ For Badger NUSIG Connectors at spacings less than the minimum spacing required for full capacity, the nominal strength shall be calculated using equations BN-1 through BN-3

For NDH3812 or MDH3812 in W2 deck-slabs	$P_n = 2119 \cdot \alpha_S$	$\alpha_{\rm S} = 0.014 \cdot {\rm S} + 0.601 \le 1$	$\Omega = 3.60$	$\phi = 0.45$	[BN-1]
For NDH3812 or MDH3812 in W3 deck-slabs	$P_n = 1266 \cdot \alpha_S$	$\alpha_{\rm S} = 0.013 \cdot {\rm S} + 0.833 \le 1$	$\Omega = 2.65$	$\phi = 0.60$	[BN-2]
For NDH1258 or MDH1258 in W3 deck-slabs	$P_n = 1845 \cdot \alpha_S$	$\alpha_{\rm S} = 0.016 \cdot \rm S + 0.690 \le 1$	$\Omega = 2.80$	$\phi = 0.60$	[BN-3]

⁹ For Badger NUSIG Connectors at spacings less than the minimum spacing required and/or the maximum load application angle from vertical for full capacity, the nominal strength shall be calculated using equation BN-4

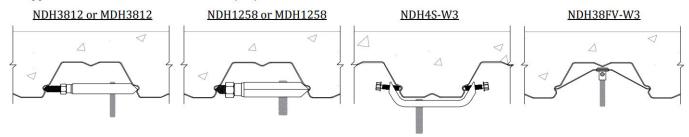
For NDH4S-W3 installed in W3 deck-slabs $P_n = 2946 \cdot \alpha_S \cdot \alpha_\Theta$ $\alpha_S = 0.030 \cdot S + 0.714 \le 1$ $\Omega = 2.80$ $\phi = 0.55$ [BN-4] Where: $\alpha_{\Theta} = 0.506 \cdot \cos\theta + 0.612 \le 1$

P_n = Nominal Strength of Badger NUSIG Connector

S = Badger NUSIG Connector spacing (in.)

 θ = load application angle from the axis of the threaded rod (deg), $\leq 60^{\circ}$

¹⁰ Applicable to deck manufactured after 06/21/2022



¹ Badger NUSIG Connectors shall be installed and inspected per the manufacturer instructions.

² Composite Deck-Slab with minimum $f_c = 3000$ psi, 110 pcf minimum LWC or NWC.

³ Vertical load assumes deck in a horizontal plane ± 5°. The bracing load may be applied in any horizontal direction.

⁴ The allowable strength, Pn/Ω , shall be equal to or greater than the governing nominal load or load combination for Allowable Stress Design (ASD) as stipulated in the IBC or ASCE/SEI 7.

⁵ The factored strength, φPn, shall be equal to or greater than the governing factored load or factored load combination for Load and Resistance Factor Design as stipulated in the IBC or ASCE/SEI 7.

⁶ Maximum fire sprinkler pipe size in accordance with NFPA 13 assuming minimum connector spacing for full capacity.

⁷ Applicable to all threaded rod sizes that can be used with Badger NUSIG Connector. The load shall not exceed the strength of the threaded rod provided by others.