



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	φ	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:

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 $\pm 5^\circ$. The bracing load may be applied in any horizontal direction.

⁴ The allowable strength, P_n/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, ϕP_n , 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.

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

$$\text{For NDH3812 or MDH3812 in W2 deck-slabs} \quad P_n = 2119 \cdot \alpha_s \quad \alpha_s = 0.014 \cdot S + 0.601 \leq 1 \quad \Omega = 3.60 \quad \phi = 0.45 \quad [\text{BN-1}]$$

$$\text{For NDH3812 or MDH3812 in W3 deck-slabs} \quad P_n = 1266 \cdot \alpha_s \quad \alpha_s = 0.013 \cdot S + 0.833 \leq 1 \quad \Omega = 2.65 \quad \phi = 0.60 \quad [\text{BN-2}]$$

$$\text{For NDH1258 or MDH1258 in W3 deck-slabs} \quad P_n = 1845 \cdot \alpha_s \quad \alpha_s = 0.016 \cdot S + 0.690 \leq 1 \quad \Omega = 2.80 \quad \phi = 0.60 \quad [\text{BN-3}]$$

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

$$\text{For NDH4S-W3 installed in W3 deck-slabs} \quad P_n = 2946 \cdot \alpha_s \cdot \alpha_\theta \quad \alpha_s = 0.030 \cdot S + 0.714 \leq 1 \quad \Omega = 2.80 \quad \phi = 0.55 \quad [\text{BN-4}]$$

Where:

$$\alpha_\theta = 0.506 \cdot \cos\theta + 0.612 \leq 1$$

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

NDH3812 or MDH3812

NDH1258 or MDH1258

NDH4S-W3

NDH38FV-W3

