



ButtonHead™

**COLD-SWAGED STEEL
HEADED REINFORCEMENT
FOR REINFORCING BARS
[METRIC]**

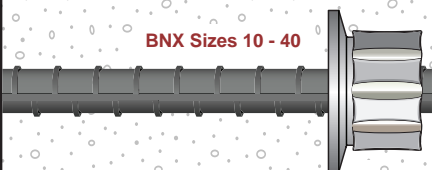
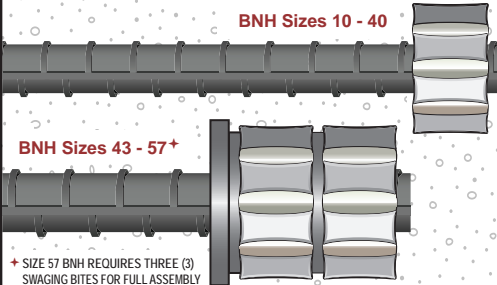
COLD-SWAGED HEADED REINFORCEMENT

- **BNH 5Ab HEAD** – For transmitting bond force from the reinforcing bar to concrete by a combination of head bearing & development length.* A 'standard' head size for most applications.
- **IAPMO UES EVALUATION REPORT #0331** – Compliance with IBC, IRC, ACI 318 and ASTM A970.
- **CALTRANS 'REDUCED SIZE HEAD'** – Approved for use on A706 Grade 60 reinforcement bar.
- **SHOP INSTALLATION** – Attaches directly to the reinforcing bar. Shop swaged quickly and efficiently.
- **HIGH STRENGTH** – Connections to bar exceed the specified yield strength (f_y) of the bar for ASTM A615 Grades 60, 75 and 80 and A706 Grades 60 and 80, as required by ACI 318. Confirming in-air tests meet ASTM A970 Class A and Class HA for uncoated Grades 60, 75, 80, 100 and 120 reinforcing bars.
- **KEY ADVANTAGES** – Replaces hooks or hook extensions – avoids complex stress patterns – alleviates congestion. No heat, welding or forging required. No special chemistry or rebar grade requirements. No bending or possible cracking of rebar. For beam-column joints, knee joints, pile caps, column roof slab connections; replaces stirrup bars used as confinement steel.
- **CONVENIENCE** – No special bar end preparation or thread cutting. For bar sizes Ø 10 – 57 mm.

BPI® BUTTONHEAD™ – BNX, 10Ab

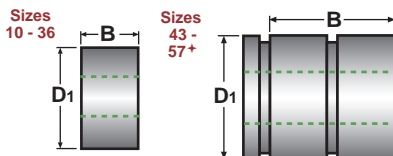
COLD-SWAGED HEADED REINFORCEMENT

- **BNX 10Ab HEAD** – has larger area to transmit full force in bar by head bearing alone. Generally used in sections that may be required to withstand higher forces.
- **IAPMO UES EVALUATION REPORT #0331** – Compliance with IBC, IRC, ACI 318 and ASTM A970.
- **CALTRANS 'FULL SIZE HEAD'** – Approved for use on A706 Grade 60 reinforcement bar.
- **SHOP INSTALLATION** – Attaches directly to the reinforcing bar. Shop swaged quickly and efficiently.
- **HIGH STRENGTH** – Connections to bar exceed the specified yield strength (f_y) of the bar for ASTM A615 Grades 60, 75 and 80 and A706 Grades 60 and 80, as required by ACI 318. Confirming in-air tests meet ASTM A970 Class A and Class HA for uncoated Grades 60, 75, 80, 100 and 120 reinforcing bars.
- **KEY ADVANTAGES** – Capable of developing the reinforcing bar at the head without the need for additional rebar development length. Alleviates congestion. Quick Assembly. Easy jobsite placement.
- **CONVENIENCE** – No special bar end preparation or thread cutting. For bar sizes Ø 10 – 36 mm.

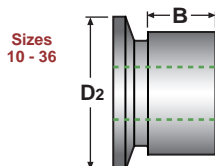


METRIC UNITS

ButtonHead BNH, 5Ab (Before Swaging)



ButtonHead BNX, 10Ab (Before Swaging)



Rebar Size Metric (US) [CAN]	BUTTONHEAD Swaging Die Color Code	BNH Product Code	BNX Product Code	Swage Length B (mm)	Head Diameter & Weight * BNH Series [5Ab]		Head Diameter & Weight ** BNX Series [10Ab]	
					D1 (mm)	Wt (kg)	D2 (mm)	Wt (kg)
10 (#3)	RED	03BNH	03BNX	19.0	28.0	0.07	35.0	0.11
[10M]	YELLOW	10M-BNH	10M-BNX	23.0	35.0	0.15	44.5	0.23
13 (#4)	YELLOW	04BNH	04BNX	23.0	35.0	0.14	44.5	0.22
16 (#5) [15M]	BLACK	05BNH	05BNX	29.0	44.5	0.28	55.5	0.44
19 (#6) [20M]	RED	06BNH	06BNX	35.5	48.0	0.35	60.5	0.56
22 (#7)	BLUE	07BNH	07BNX	40.5	60.5	0.70	73.5	1.08
25 (#8) [25M]	BLACK	08BNH	08BNX	44.5	70.0	1.08	86.0	1.69
29 (#9)	PINK	09BNH	09BNX	50.0	73.0	1.30	99.0	2.17
[30M]	PINK	30M-BNH	30M-BNX	50.0	73.0	1.26	99.0	2.12
32 (#10)	GRAY	10BNH	10BNX	56.0	85.5	2.04	102	3.08
36 (#11) [35M]	RED	11BNH	11BNX	62.5	99.0	3.10	115	4.60
38 (#12)	BNH: RED BNX: YEL.	12BNH	12BNX	68.5	99.0	4.12	121	6.40
40 (#13)		13BNH	13BNX	68.5	99.0	4.10	127	6.62
43 (#14) [45M]	RED	14BNH		73.0	99.0	3.85		
50 (#16)	YELLOW	16BNH		82.5	114	4.55		
57 (#18)	YELLOW	18BNH		110	127	7.94		

* Head Cross Sectional Area is approximately 5 x Rebar Area

** Head Cross Sectional Area is approximately 10 x Rebar Area

HOW TO SPECIFY BPI® BUTTONHEAD™ HEADED REINFORCEMENT

By Name:	By Generic Description:
BAR-TO-HEAD BPI® BUTTONHEAD™ ** by BarSplice Products, Inc., Dayton OH	Headed Reinforcement for reinforcing bars shall be the cold-swaged head type, installed by octagonal dies to produce a 5Ab or 10Ab Head. (Specify Size as required)

** Include bar size(s), bar type and grade. Include statement: "Parts shall be manufactured to the quality requirements of ISO 9001."

BPI® ButtonHead™ cold-swaged headed devices are made from high quality steel that meets the chemistry and grade requirements of ASTM A519 or A576. Installed performance satisfies the **CLASS A** and **CLASS HA** requirements of ASTM A970-17 and ACI 318-14 Section 20.2.1.6 (ACI 318-11 Section 3.5.9). Develops the specified tensile strength of uncoated Grade 60, 75, 80, 100 and 120 reinforcing bar.

Powerful hydraulically actuated presses with color-coded octagonal die sets are utilized in fabricating shops for the most efficient swaging operation. Swaging pressure is factory preset and equipment is automated to release after each swaging 'bite' or pressing. When components have been compressed onto the reinforcing bar by cold-swaging they become mechanically interlocked with the rebar deformation.

Cold swaging technology for mechanical anchorage and splicing is one of the most established, developed, and refined connection methods worldwide. Key to cold swaging success is its simplicity, low cost and adaptability. There is no loss of reinforcing bar cross-sectional area at the anchorage location so the system is a natural choice when considering the objectives of seismic design and safety related applications. BPI-Grip swaging equipment is easy to use and may be leased or purchased. Splicing manuals provided with equipment explain step-by-step installation and safety information.

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