COLD–SWAGED STEEL HEADED REINFORCEMENT FOR REINFORCING BARS
Cold-swaged headed reinforcement is one of the most established, developed, and refined connection methods worldwide. So the system is a natural choice when considering the objectives of seismic design and safety related applications. BPI-Grip swaging equipment is capable of developing the reinforcing bar at the head without the need for additional rebar development length. Alleviates congestion. Quick Assembly. Easy jobsite placement.

**BPI® BUTTONHEAD™ HEADED REINFORCEMENT**

**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 USES EVALUATION REPORT #0331** – Compliance with IBC, IRC, ACI 318 and ASTM A970.
- **CALTRANS ‘REDUCED SIZE HEAD’** – Approved for use on AT60 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 #3 – #18 (Ø 10 – 57 mm).

**INCH-POUND UNITS**

**HOW TO SPECIFY BPI® BUTTONHEAD™ HEADED REINFORCEMENT**

**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 USES EVALUATION REPORT #0331** – Compliance with IBC, IRC, ACI 318 and ASTM A970.
- **CALTRANS ‘FULL SIZE HEAD’** – Approved for use on AT60 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 #3 – #11 (Ø 10 – 36 mm).

**BPI® BUTTONHEAD™ – BNH, 5Ab**

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* Head Cross Sectional Area is approximately 5 x Rebar Area  ** Head Cross Sectional Area is approximately 10 x Rebar Area

**BPI® BUTTONHEAD™ – BNX, 10Ab**

**HOW TO SPECIFY BPI® BUTTONHEAD™ HEADED REINFORCEMENT**

**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 A907-17 and ACI 318-19 Chapter 20.2.1.6. 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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