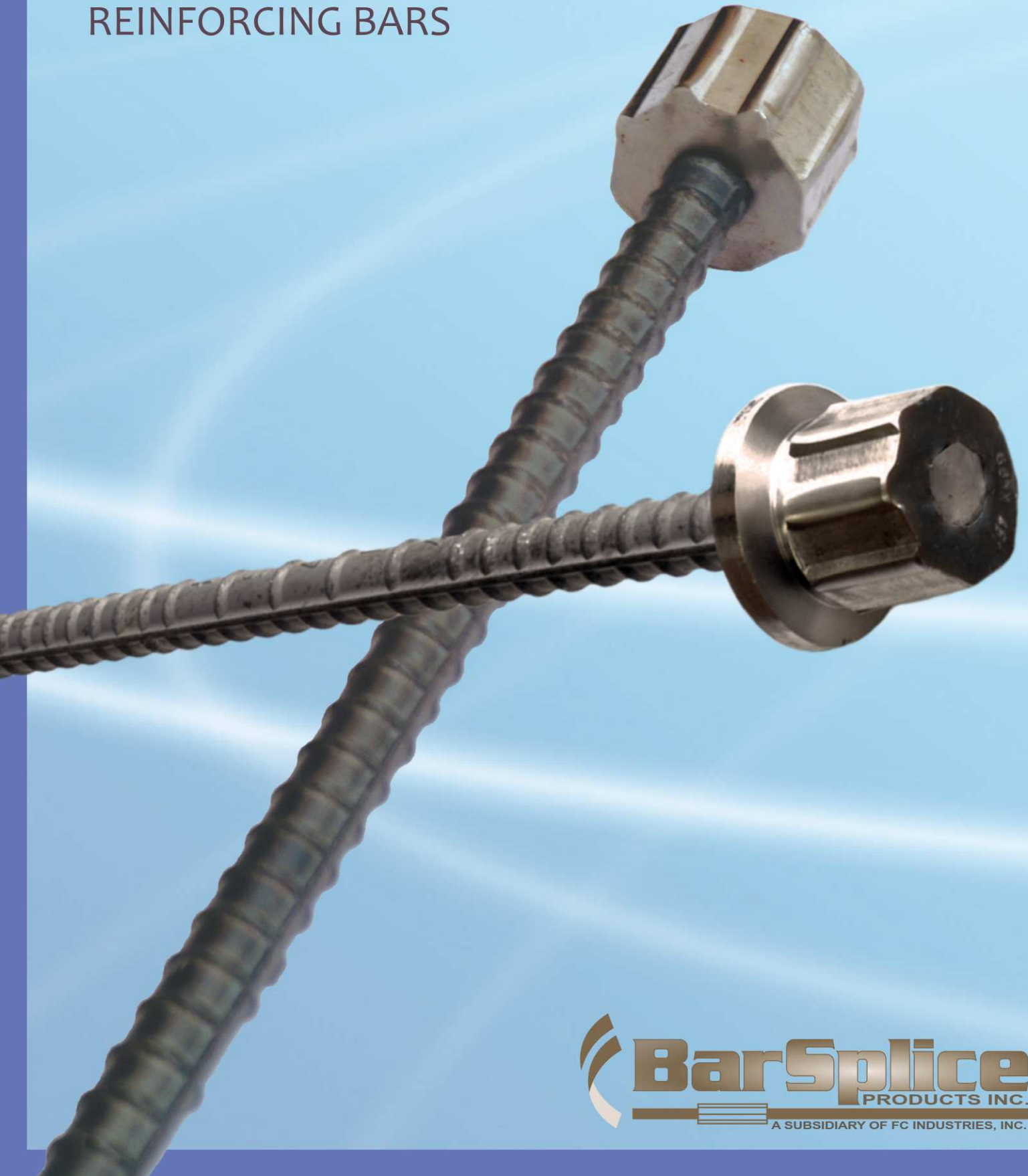
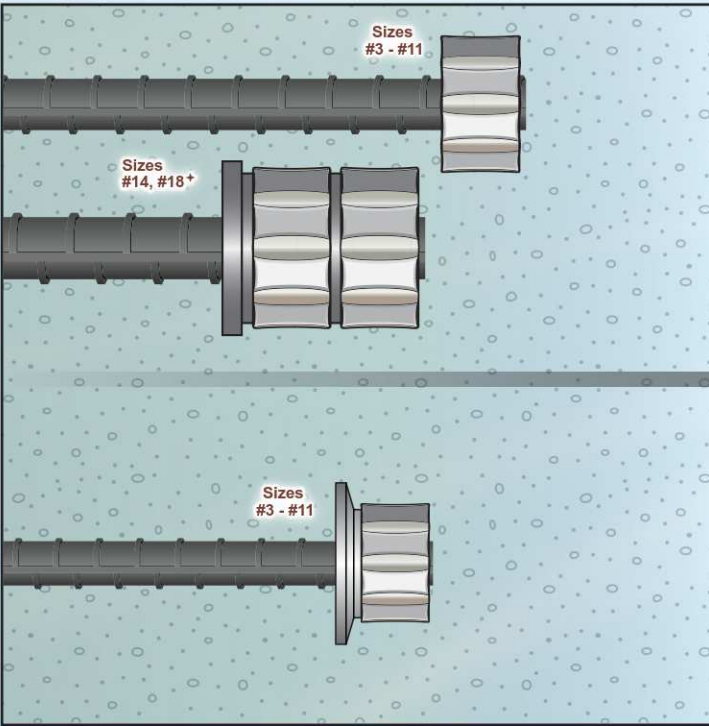


ButtonHead

HEADED ENDS FOR DEVELOPMENT
AND EXTENSION OF
REINFORCING BARS



BPI® BUTTONHEAD MECHANICAL END ANCHORAGE FOR REINFORCING BARS



BPI® BUTTONHEAD, BNH, 5Ab COLD SWAGED HEADED REBAR DEVICE

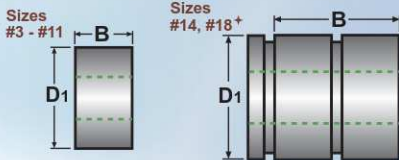
- **BNH 5Ab HEAD** – for transmitting bond force from the reinforcing bar to concrete by a combination of head bearing & development length.* A 'standard' head size for most applications. CALTRANS Reduced Size Head Approved.
- **IBC Evaluation Report Approved** – shows compliance with IBC, IRC, ACI 318, ASTM A970. IAPMO UES Evaluation Report # 0331.
- **SHOP INSTALLATION** – Attaches directly to the reinforcing bar - no thread cutting required. Shop swaged quickly and efficiently.
- **HIGH STRENGTH** – Connections to bar exceed the specified yield strength of the bar, f_y , for ASTM A615 and A706, Grades 60, 75 and 80 as required by ACI 318. Confirming in-air tests meet ASTM A970 Class A and Class HA for uncoated Grade 60, 75, 80, 100 and 120 reinforcing bars.
- **REPLACES HOOKS** – No special bend direction – alleviates congestion – for beam-column joints, knee joints, pile caps, column roof slab connections; replaces stirrup bars used as confinement steel.
- **KEY ADVANTAGES** – Avoids lengthy hook extensions / complex stress patterns. No heat, welding or hot forging – no special chemistry or rebar grade requirements, no bending or cracking of rebars.

BPI® BUTTONHEAD, BNX, 10Ab COLD SWAGED HEADED REBAR DEVICE

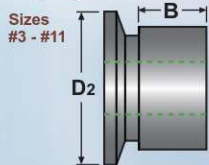
- **BNX 10Ab HEAD** – has larger area to transmit full force in bar by head bearing alone. Generally used in sections that may be required to withstand higher forces. CALTRANS Full Size Head Approved.
- **IBC Evaluation Report Approved** – shows compliance with IBC, IRC, ACI 318, ASTM A970. IAPMO UES Evaluation Report # 0331.
- **SHOP INSTALLATION** – Attaches directly to the reinforcing bar - no thread cutting required. Shop swaged quickly and efficiently.
- **HIGH STRENGTH** – Connections to bar exceed the specified yield strength of the bar, f_y , for ASTM A615 and A706, Grades 60, 75 and 80 as required by ACI 318. Confirming in-air tests meet ASTM A970 Class A and Class HA for uncoated Grade 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.

* SIZE #18 REQUIRES THREE (3) SWAGING CRIMPS FOR FULL ASSEMBLY

ButtonHead BNH, 5Ab (Before Swaging)



ButtonHead BNX, 10Ab (Before Swaging)



Rebar Size US [Metric]	ButtonHead Swaging Die Color Code	BNH Head Product Code	BNX Head Product Code	Swage Length B (in.)	Head Diameter & Weight *		Head Diameter & Weight **	
					BNH Series [5Ab] D1 (in.)	Wt (lb.)	BNX Series [10Ab] D2 (in.)	Wt (lb.)
#3 [10]	RED	3BNH	3BNX	3/4	1 1/16	0.16	1 3/8	0.25
#4 [13]	YELLOW	4BNH	4BNX	7/8	1 3/8	0.31	1 3/4	0.50
#5 [16]	BLACK	5BNH	5BNX	1 1/16	1 3/4	0.61	2 3/16	0.96
#6 [19]	RED	6BNH	6BNX	1 5/16	1 7/8	0.77	2 3/8	1.23
#7 [22]	BLUE	7BNH	7BNX	1 1/2	2 3/8	1.53	2 7/8	2.37
#8 [25]	BLACK	8BNH	8BNX	1 3/4	2 3/4	2.38	3 1/4	3.64
#9 [29]	PINK	9BNH	9BNX	1 15/16	2 7/8	2.86	3 9/16	4.41
#10 [32]	GRAY	10BNH	10BNX	2 3/16	3 3/8	4.50	4	6.80
#11 [36]	RED	11BNH	11BNX	2 7/16	3 13/16	6.80	4 1/2	10.1
#14 [43]	RED	14BNH	14BNX	2 7/8	3 7/8	9.55		
#18 [57]	YELLOW	18BNH	18BNX	4 3/8	5	18.6		

* Head Cross Sectional Area is approximately 5 x Rebar Area

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

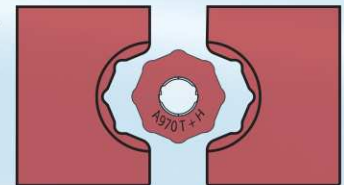
*** HOW TO SPECIFY BPI® BUTTONHEAD HEADED DEVICES

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

*** 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 A970-15 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.

While the information contained in this document is believed to be accurate at the time of publication, BPI reserves the right to make changes, design modifications, corrections and other revisions as it sees fit, without notice. All products described herein are supplied in accordance with BPI's standard Terms and Conditions of Sale. This document is of a promotional nature only. Aspects of structural design, evaluation of product fitness for use, suitability or similar attributes are the responsibility of others.



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