ButtonHead

HEADED ENDS FOR DEVELOPMENT AND EXTENSION OF REINFORCING BARS

BarSplice PRODUCTS INC.

SUBSIDIARY OF FC INDUSTRIES, INC.

BPI® BUTTONHEAD

COLD SWAGED HEADED REBAR DEVICE

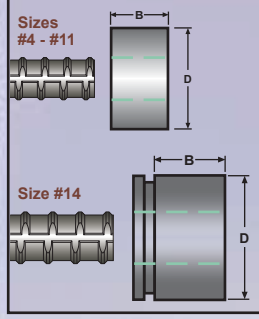
- ***5Ab HEAD –*** for transmitting bond force from the reinforcing bar to concrete by a combination of head bearing and development length.* A 'standard' head size for most applications.
- ***SHOP INSTALLATION –*** Attaches directly to the reinforcing bar – no thread cutting required. Shop swaged quickly and efficiently.
- ***HIGH STRENGTH –*** Connections to bar exceed the specified yield strength of the bar, f_y, for ASTM A 615 and A 706, Grades 60 and 75 as required by ACI 318 section 12.6. Confirming in-air tensile tests develop the specified tensile strength of uncoated Grade 60 bars, ASTM A 615 and A 706.
- ***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 EXTENDER

COLD SWAGED HEADED REBAR DEVICE FOR FUTURE EXPANSION

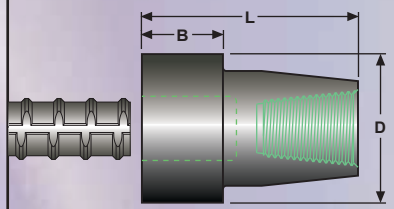
- ***DUAL USE –*** behaves as a headed reinforcing bar device by itself, ***AND OR*** as a full mechanical splice when connected to a standard *GRIP-TWIST®* male coupler.
- ***5Ab HEAD –*** has the same bearing area as the standard BPI ButtonHEAD.
- ***POSITIVE INTERNAL STOP*** – for easy control of rebar insertion before shop-swaging.
- ***TAPER THREAD –*** for self locating and quick assembly when extending the reinforcing bar into the next phase of construction. Plastic thread protection is included.
- ***TYPE 1 STRENGTH –*** as a full mechanical splice per ACI 318 Chapter 12, 1.25 x specified yield, f_y, ASTM A 615 or A 706 Grade 60.
- ***TYPE 2 CAPACITY –*** as confirmed by in-air testing to 90,000 psi minimum for uncoated ASTM A 615 Grade 60. 80,000 psi minimum for uncoated ASTM A 706 Grade 60.

BPI® ButtonHead, 5Ab (Before Swaging)



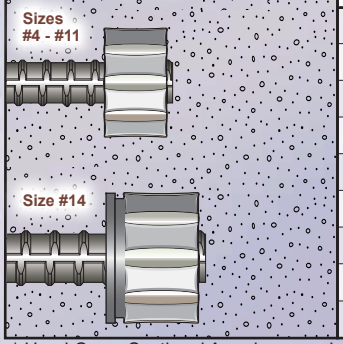
Rebar Size US [Metric]	Swage Length B (in.)
#4 [13]	7/8
#5 [16]	15/16
#6 [19]	1 1/8
#7 [22]	1 3/8
#8 [25]	1 1/2
#9 [29]	1 5/8
#10 [32]	1 7/8
#11 [36]	2 1/8
#14 [43]	2 7/8

BPI® ButtonHead Extender, 5Ab (Before Swaging)



Rebar Size US [Metric]	Swage Length B (in.)	Length L (in.)
#4 [13]	7/8	2
#5 [16]	15/16	2 5/8
#6 [19]	1 1/8	2 15/16
#7 [22]	1 3/8	3 1/2
#8 [25]	1 1/2	4
#9 [29]	1 5/8	4 1/4
#10 [32]	1 7/8	5
#11 [36]	2 1/8	5 11/16

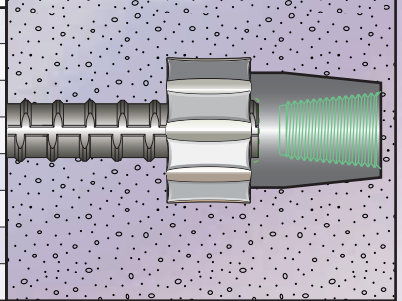
BPI® ButtonHead, 5Ab (After Swaging)



	Head Diameter and Weight * 5Ab Series D (in.)	Wt (lb.)
#4	1 3/8	0.31
#5	1 3/4	0.54
#6	1 15/16	0.71
#7	2 3/8	1.34
#8	2 3/4	2.04
#9	2 7/8	2.35
#10	3 3/8	3.84
#11	3 7/8	6.00
#14	3 15/16	9.60

	Head Diameter and Weight * 5Ab Series D (in.)	Wt (lb.)
#4	1 3/8	0.46
#5	1 3/4	0.96
#6	1 15/16	1.23
#7	2 3/8	2.34
#8	2 3/4	3.63
#9	2 7/8	4.30
#10	3 3/8	6.91
#11	3 7/8	11.0

BPI®ButtonHead Extender, 5Ab (After Swaging)



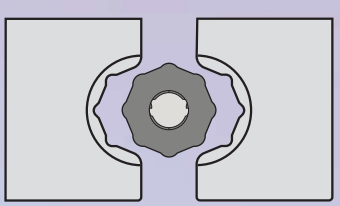
* Head Cross Sectional Area is approximately 5 x Rebar Area

** 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 Head size.***
BAR-TO-HEAD EXTENSION	**BPI® ButtonHead Extender** *by* **BarSplice Products, Inc., Dayton OH**	***Headed Ends for reinforcing bars with provision for Future Extension shall be the cold-swaged head type, installed by octagonal dies to produce a 5Ab 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 seamless steel that meets the chemistry and grade requirements of ASTM A 519 or A 576. Installed performance satisfies the **CLASS A** requirements of ASTM A 970.



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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