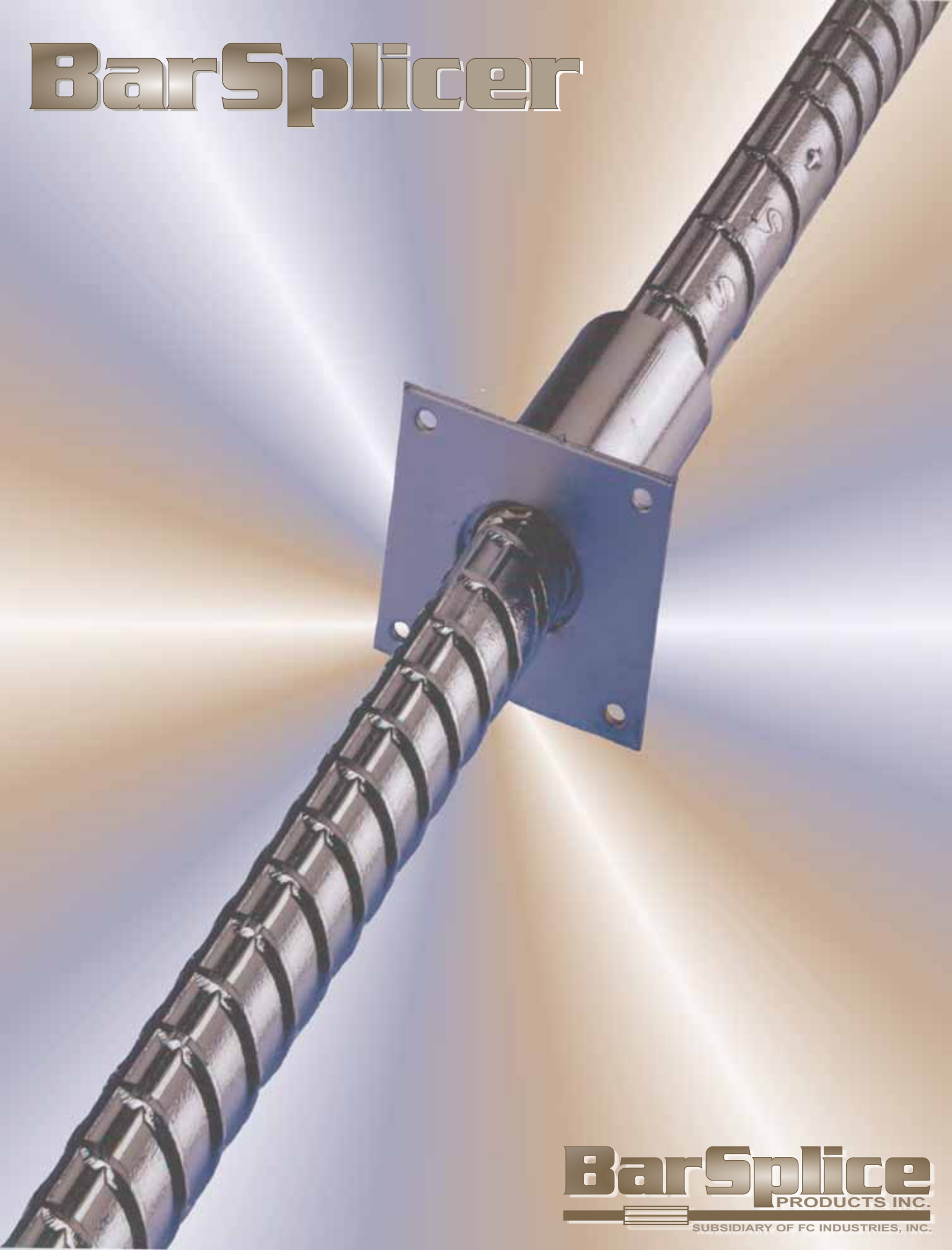


# BarSplicer



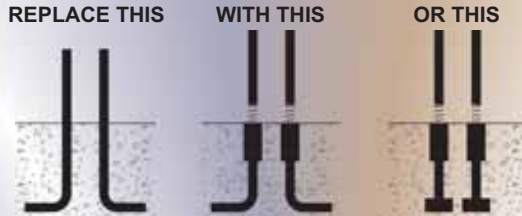
**BarSplice**  
PRODUCTS INC.  
SUBSIDIARY OF FC INDUSTRIES, INC.

# BPI® BARSPLICER SYSTEM

## A simple concept — a better solution

**BPI® BARSPLICER** dowel bar replacements have the advantage of permitting continuity of reinforcement across construction joints without formwork penetration. Because flanged couplers are typically fully embedded in concrete, their use eliminates projecting bars, thereby relieving constructability problems and potential worker injuries.

*Dowel bars at construction joints transfer tension and compression loads between reinforcing bars on both sides of the joint. A common headache for contractors and placers is that one-piece bars projecting from the concrete get damaged, interfere with other construction activities and can be a cause of accidents.*



**BPI SETTING BARS and SPLICE BARS** are supplied to your dimensional specifications, straight or bent or can be headed with a Barsplicer DoughNUT™. When fully assembled, splices across construction joints achieve the full tension-compression requirements of ACI 318 Chapter 12.

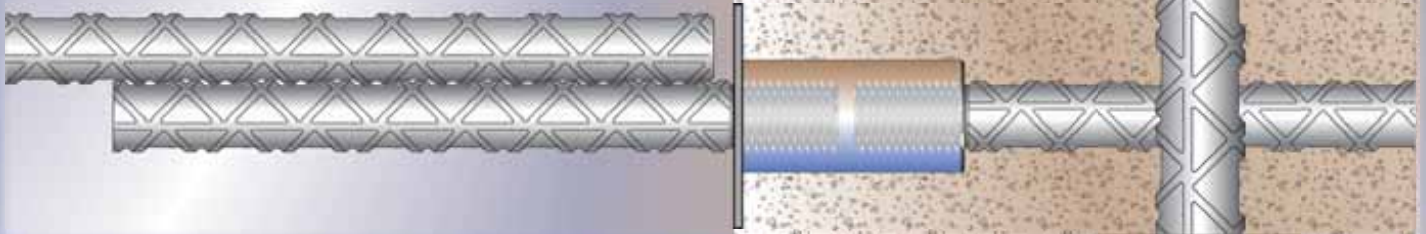
**Flanged couplers** used on setting bars have holes that permit nailing them to the sides or ends of the formwork. BPI Barsplicer couplers have internal threads that permit the attachment of dowel splice bars or long lengths of reinforcing bar. These couplers are made from steel conforming to ASTM A 108. *Although mostly used for splicing reinforcing bars to dowel splice bars, nothing precludes their use as standard tension-compression mechanical splices.*

**Bar sizes No. 4 through 11** (No. 13 through 36) Grade 60 (420) can be spliced by the BPI® Barsplicer method. **The system uses standard Unified American national coarse threads – the same as those utilized in the familiar nuts and bolts you know and trust.** Threaded couplers are used with bars that have matching exterior threads cut or rolled directly onto the ends of the reinforcing bars. There is no requirement for pre-forging or for a bar end upsizing operation so the system is simple and highly cost-effective. The thread length on the bars is controlled by BPI to ensure proper thread engagement. Precautions are taken by BPI to protect the threaded ends of the bars during shipping and handling.

**In the field**, reinforcing bars are cast in concrete with the flanged coupler attached to the form face. After the formwork is removed, straight or bent splice bars are installed into the coupler to extend the reinforcing bar. A simple pipe wrench can be used to snug and secure the splice assembly. No torque wrench is required for this operation.

**Epoxy-coated couplers** are used for splicing epoxy coated bars that comply to ASTM A 775/A 775M.

Specialty manufacturing includes hot-dipped galvanized couplers for mechanically splicing ASTM A 767/A 767M galvanized bars and stainless steel threaded couplers for splicing stainless steel reinforcing bars.



## BPI STANDARD BARSPLICER

### COUPLER WITH STANDARD NATIONAL COARSE THREADS AND FLANGE



- **PRE-FABRICATED SETTING AND SPLICE BARS** – Made to your dimensions, straight, hooked 90 – 180°, single or double-ended connections and other configurations.
- **STANDARD GRADE 60 REINFORCING BARS** – Each heat lot from BPI is controlled, tested and certified, ASTM A 615 black deformed or ASTM A 775 epoxy coated reinforcing bars.
- **DOWEL BAR REPLACEMENT** – No drilling holes through forms – No protruding rebar when concrete is poured. Continuity across construction joint is established upon engaging splice bar.
- **AASHTO Standard Specifications for Highway Bridges** – Meets the full mechanical connection requirements of 8.32.2.3 (17<sup>th</sup> Ed) for 125% of the specified yield strength of the bar.
- **DOT PROJECTS and COMMERCIAL APPLICATIONS** – Bridge decks, piers, ramps, walls, mats, tanks, parking garages – where specifications are 125% x specified yield Grade 60.
- **ACI 318 Chapter 12 FULL MECHANICAL SPLICE** – Standard BPI Barsplacers are pre-tested to develop at least 1.25  $f_y$  of the bar. For Xtra Performance, use the Barsplicer XP series.

## BPI BARSPLICER POSITION

### COUPLER WITH STANDARD NATIONAL COARSE THREADS



- **NO ROTATION OF BARS** – Assembly is completed in the field by unwinding a pre-assembled coupler from a long thread on the splice bar onto the adjoining thread on the setting bar.
- **OPTIONAL LOCK NUT** – To lock a pre-bent splice bar in a specific alignment or a specific orientation after engaging a position coupler onto the setting bar. (Extra thread length required)
- **CONVENIENCE** – Position Couplers and optional lock nuts are pre-assembled to splice bars that have been fabricated to your dimensions. This results in saved-time in the field.
- **GRADE 60 REINFORCING** – Bars used for setting and positional splice bars are controlled and certified, ASTM A 615 black deformed or ASTM A 775 epoxy coated reinforcing bars.
- **125% x SPECIFIED YIELD** – Position couplers are designed to meet the mechanical splice requirements of ACI 318 Chapter 12 and most DOT requirements for mechanical splice strength.
- **SPECIALTY APPLICATIONS** – When steel congestion is a problem and splice bars cannot be rotated to engage the threads, or when bar lengths are long and impractical to rotate.

## BPI STRUCTURAL CONNECTOR

### WELDABLE CONNECTOR WITH STANDARD NATIONAL COARSE THREADS



- **STRENGTH RATING** – Has capacity to exceed a minimum joint strength of 75,000 psi measured in the rebar; equal to 1.25  $f_y$  Grade 60.\*
- **COMPATIBILITY** – Black reinforcing bars ASTM A 615 Grade 60 or epoxy coated ASTM A 775 Grade 60 from Barsplice Products, Inc. with threaded ends.
- **VERSATILITY** – For attachment of reinforcing bars with threaded ends to plates, structural steel shapes or for creating headed anchorage. Shop or field weldable, before or after bar placement.
- **CERTIFIED LOW CARBON STEEL** – Meets chemistry AISI Grade 1018 and ASTM A 36. Suited to E7018 electrode.
- **WELDING BEVELS** – For full penetration, provided for greater strength, convenience and quality assurance.
- **LESS WELD STRESS** – Compared to direct butt welds because outside diameter of structural connector is larger than the reinforcing bar so the weld area is disposed over greater length.

\*Welder qualification, weld procedure, integrity and strength are the responsibility of others.

## BPI BARSPLICER DoughNUT™

### NATIONAL COARSE THREADED BAR HEADED ANCHORAGE



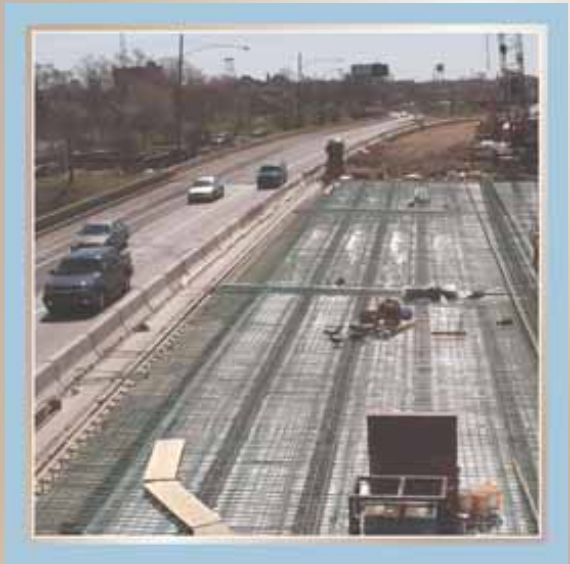
- **HEADED REINFORCING BAR MECHANICAL ANCHORAGE** – Reduces development length of bars by transmitting a proportion of force from bar to concrete via head bearing area.
- **ACI 318 MECHANICAL ANCHORAGE** – In accordance with section 12.6, BPI Barsplicer DoughNUTs develop at least the strength of the bar,  $f_y$  Grade 60. In air tests exceed 1.25  $f_y$  Gr. 60.
- **HEADED versus HOOK** – While hook bars reduce development length compared to straight, they might bring about congestion. Doughnut's alleviate this problem and facilitate bar placement.
- **APPLICATIONS** – Replaces hook bars in beam-column joints, knee joints, pile caps and column roof slab connections. Replaces stirrup bars as confinement steel.
- **BENEFITS** – Preinstalled on Grade 60 by means of standard threads – saves field labor. Easy placement – no special bend direction, minimal detailing, saves space, more design flexibility.
- **HEAD AREA** – 5A<sub>b</sub> full cross-sectional area with at least 4A<sub>b</sub> projected bearing area in tension (A<sub>b</sub> = area of reinforcement). Minimum recommended anchorage length = 12 d<sub>b</sub> \*\* (d<sub>b</sub> = bar dia).

\*\* Ref: "Headed Reinforcement A Viable Option" John W. Wallace.

# BPI® BARSPLICER SYSTEM

Cost effective and fast turn around — configured to your requirements

BPI® BARSPLICER setting and splice bars can be fabricated to almost any shape... and BPI's small compact threaded couplers allow the system to be used in tight spaces such as walls, traffic barriers, corbels, and slabs. For DOT projects, BPI can supply you fully certified epoxy coated bars and couplers, threaded, processed and tested in accordance with BPI's quality system ISO 9001:2000.



**NEW FOR 2006...SOME STATE DOT'S ARE NOW REQUIRING THE USE OF ASTM A 706 EPOXY COATED REINFORCEMENT AND DOWEL BARS... BPI IS READY TO HELP – JUST LET US KNOW YOUR PROJECT SPECIFICATIONS AND NEEDS.**

## Great value for free...

- Grade 60 controlled heat lots
- Copy of mill CMTR
- Copy of epoxy coating certification
- Heat-lot tested and SPLICE test report
- ISO 9001:2000 quality system
- Bundles and tagged to requirements
- Sales and technical support



## \*\* HOW TO SPECIFY BPI® BARSPLICERS and CONNECTORS

	By Name:	By Generic Description:
<b>DOWEL BAR SPLICE</b> <i>Dowel Bar Replacement or Dowel Bar Substitute</i>	BPI® Barsplicer Setting & Splice Bars <i>and/or</i> BPI® Barsplicer Position Setting & Splice Bars by BarSplice Products, Inc., Dayton OH	<i>Dowel bar splices at construction joints shall be procured with ISO 9001 certification, pre-tested to develop at least 1.25 f, Grade 60, and consist of threaded setting and splice bars [configured as shown on plans] having standard unified NC threads, flanged couplers and/or position couplers.</i>
<b>BAR-TO-BAR</b>	BPI® Barsplicer Couplers <i>and/or</i> BPI® Barsplicer Position Couplers by BarSplice Products, Inc., Dayton OH	<i>Reinforcing bar mechanical splices shall be tension-compression threaded couplers or position couplers with standard unified NC threads, procured with ISO 9001 certification and pre-tested to develop at least 1.25 f, Grade 60.</i>
<b>BAR-TO-HEAD</b>	BPI® Barsplicer DoughNUT™ by BarSplice Products, Inc., Dayton OH	<i>Mechanical Reinforcing Bar Anchorages shall consist of round steel heads with area 5A<sub>b</sub>, attached to the bar by means of standard unified NC threads, procured with ISO 9001 certification and pre-tested to develop at least 1.25 f, Grade 60.</i>
<b>BAR-TO-STRUCTURAL STEEL</b>	BPI® Barsplicer Structural Connectors by BarSplice Products, Inc., Dayton OH	<i>Bar-to-structural steel connections shall consist of threaded bars and weldable connectors with standard unified NC threads and weld bevels inclined 30-degrees to the rebar axis, ISO 9001 certification &amp; pre-tested to 1.25 f, Grade 60.</i>

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

Unless otherwise specified, bars shall be ASTM A 615/A 615M Grade 60; epoxy coated bars shall be ASTM A 775/A 775M Grade 60; bend diameters and standard hook dimensions shall be per ACI Detailing Manual SP-66; length tolerances shall be per the CRSI Manual of Standard Practice. Customer is responsible for notifying BPI of any special space restrictions, tolerance, bar grade, coating thickness and/or strength requirements before placing order. All fabricated and/or in-process setting bars, splice bars and parts are non-cancellable and non-returnable. 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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REV.B 3/22/07