



## Product Description

All BARTEK SYSTEMS Couplers are produced according to ISO9001

Rebar couplers can simplify the design and construction of reinforced concrete and reduce the amount of reinforcement required by avoiding overlaps, this in turn could reduce congestion within the concrete and avoid all its related disadvantages.

**BARTEK SYSTEMS Standard Couplers** are produced from Carbon Steel which have tensile strength more than 600 MPa; for higher requirement of tensile strength **BARTEK SYSTEMS Super Couplers** can be customized to 800 to 900 Mpa according to any project special requirements.

Bartek systems is suitable for mechanical splices with reinforcing bars made according to DIN488:86, BS4449:1997, ASTM A615.

Bartek coupler complies with the following bldg. codes & standards:

The Deutches Institut für Normung in its standard DIN 1045 (2001)

The British standards Institution, in its standard BS 8110-1: 1997, section 3, chapter 3.12.8.

The Association Francaise de Normalisation (AFNOR), in its standard NF A 35-020 (1999).

The American Concrete Institute (A.C.I.), in its standard ACI 318 (Chapter 12: Development and splices of reinforcement)

The International conference of Building Officials (I.C.B.O.), in its Uniform Building Code (UBC), Section 1912.

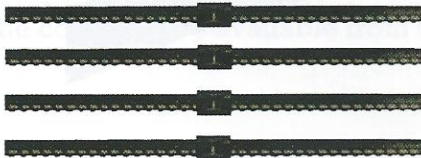
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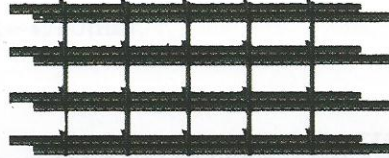




Lapped joints are dependent upon the concrete for load transfer. For this reason, any degradation in the integrity of the concrete could significantly affect the performance of the joint. The strength of a mechanical splice is dependent on the concrete in which is located.



STEEL REBAR CONGESTION IN CONCRETE WITH COUPLERS



STEEL REBAR CONGESTION IN CONCRETE WITHOUT COUPLERS

## BARTEK SYSTEMS® COUPLER SPLICING SYSTEM

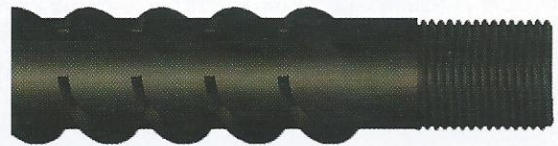
Bartek coupler splicing system is designed for the connection of steel rebars without torque wrench.

Fast and simple installation to promote productivity and safety of the connection.

The Bartek coupler spliced connection has a higher breaking load capacity than the steel rebar: Bar Break System.

Bar break couplers are recommended in areas with seismic activities. The couplers are available in the diameters of 12mm to 50mm.

The high strength of the coupler connection is being achieved by cold forging. The upsetted bar end has a larger core diameter than the bar to ensure that the joint is stronger than the bar itself. Parallel metric threads are cut on the enlarged ends.



## FEATURES

Full strength joint allowing full ductile elongation of reinforcing bars.

Manual assembly. No torque wrench required.

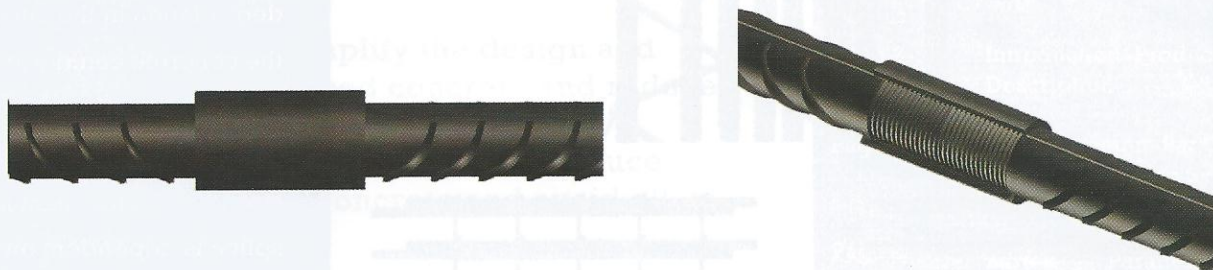
No risk of cross threading quality control is just by visual inspection.

Reduce congestion of bars.





## BARTEK SYSTEMS® COUPLER SPLICING SYSTEM



## BARTEK SYSTEMS® COUPLER DIMENSIONS

Product Codes	Bar Dia. (mm)	Coupler External Dia. (mm)	Coupler Internal Dia. (mm)	Coupler Length (mm)	Thread Size (mm)	Thread Pitch (mm)
CCBK12160M	12	20.0	11.9	30.0	M14	2.0
CCBK16200M	16	26.0	17.4	40.0	M20	2.5
CCBK20240M	20	32.0	20.9	48.0	M24	3.0
CCBK25300M	25	40.0	26.3	60.0	M30	3.5
CCBK28330M	28	44.5	29.3	66.0	M33	3.5
CCBK32360M	32	50.0	31.8	72.0	M36	4.0
CCBK36420M	36	56.0	34.8	80.0	M39	4.0
CCBK40450M	40	62.0	40.3	90.0	M45	4.0

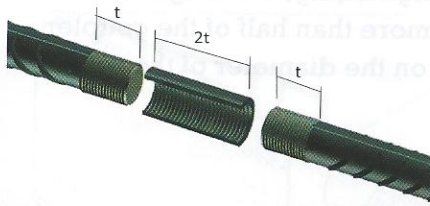
Table 1.0

- Other sizes are available upon request

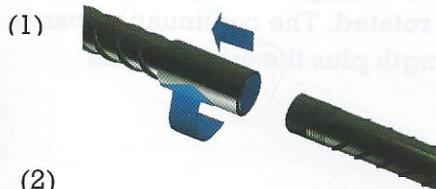


## Bartek Systems® Threading - Types

### Bartek Systems® Type-A



This is used where the continuation bar can be rotated. The end of the bars are upset and threaded for half length of the coupler.



Screw the coupler to the rear of the thread on the fixed bar and lock tight. The bar end should be central within the coupler.

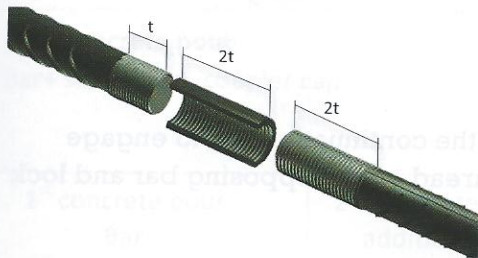


Remove the plastic cap from the coupler. Position and rotate the continuation bar in the coupler.



Tighten the joint using wrench on the continuation bar. After tightening there should be more than 2-4mm of the thread exposed, depending on the diameter of the rebar.

### Bartek Systems® Type-B



This is used where it is not possible to rotate the continuation bar. Therefore the thread of the continuation bar is extended to full coupler length.



Screw the coupler to the rear of the thread on the continuation bar.



Position the continuation bar with the coupler against the end of the first bar.

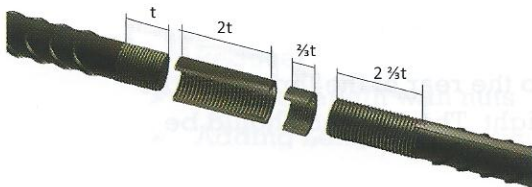


Rotate the coupler from the continuation bar to engage against the rear of the tread on the opposing bar and lock tight.

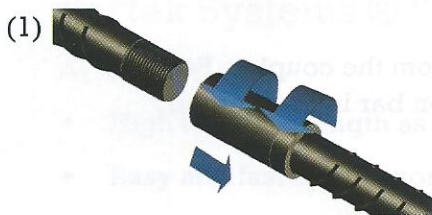


Using wrench, rotate the continuation bar to lock the two bar ends against each other. After tightening, the length of exposed thread should not be more than half of the coupler length plus 2-4mm depending on the diameter of the rebar.

## Bartek Systems® Type-C



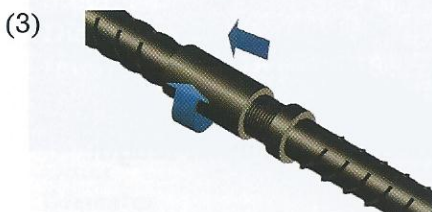
This type has an additional locknut and is used where the continuation bar cannot be rotated. The continuation bar is threaded for full coupler length plus the length of the locknut.



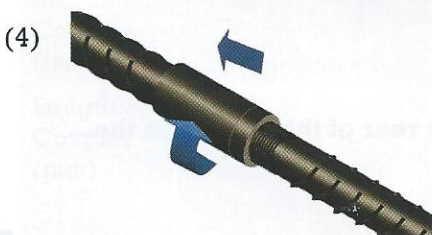
Screw the locknut followed by the coupler to the rear of the thread on the continuation bar.



Position the continuation bar with the coupler against the end of the first bar.



Rotate the coupler from the continuation bar to engage against the rear of the thread on the opposing bar and lock



Rotate the locknut along the continuation bar.



Hold the rebar in its required orientation and with a wrench tighten the locknut against the coupler.



## BARTEK SYSTEMS® COUPLERS

The procedure consists of three steps:

### STEP-1 FORGING

- The bars to be joined are cut to the required size
- All machines to be prepared for operation & the supervisor must ensure that all safety measures are implemented
- The surface of the edge must be vertical to the axial line of the steel bar therefore it could be ground flat & straight by disc cutter.
- Remove any flexure & inspect the bar for any defect or burr.
- Insert the end of the bar into the cold forging machine, the machine to be operated as per the instruction in the Bartek machine manuals, (The operator has to read and understand the instructions & troubleshooting guide before starting the operation, the same is applicable prior to the operation of the threading machine)
- Inspection of the forged end has to be carried out as per the following procedures:
  1. The size of the ends should be checked against the following table.

Steel Bar Diameter (mm)	16	18	20	22	25	28	32	36	40
Outer Diameter of Coupler (mm)	25	28	30	32	38	42	48	54	59
Length of Coupler (mm)	45	50	55	60	65	70	80	90	95

Table 1.3



COLD FORGED BAR



THREADED FORGED BAR

II. The concentricity between the end and the steel bar  $<0.3\sim 1$ ;

III. Out of roundness of ends, circumference  $<1/3$ ; unfilled corner  $3\times 1.5$ ;

IV. Loss of end (middle, root), circumference  $<1/3$ ; unfilled corner  $5\times 1$ ;

V. The axial crack in the end is allowable, no more than 3 strips.

VI. No transverse crack is allowed.

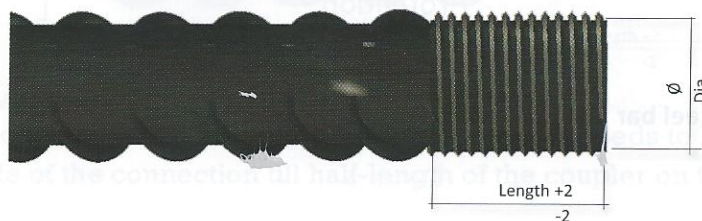


## STEP-2 THREADING

- The forged steel bar is now ready for threading by clamping the forged side of the bar in the gripping mechanism of the threading machine.
- By operating the machine, the cutting head will cut the thread into the end of the forged steel bar.
- Release the threaded bar from the gripping mechanism.
- Inspection according to the following.

Steel Bar Diameter (mm)	12	14	16	18	20	22	25	28	32	36	40
Size (m)	14 x 2	16 x 2	20 x 2.5	22 x 2.5	24 x 3	27 x 3	30 x 3.5	33 x 3.5	36 x 4	39 x 4	45 x 4
Length (mm)	14	16	20	22	24	27	30	33	36	39	45
Teeth Height (H)	1.083	1.083	1.353	1.353	1.624	1.624	1.895	1.895	2.165	2.165	2.165

Table 1.4

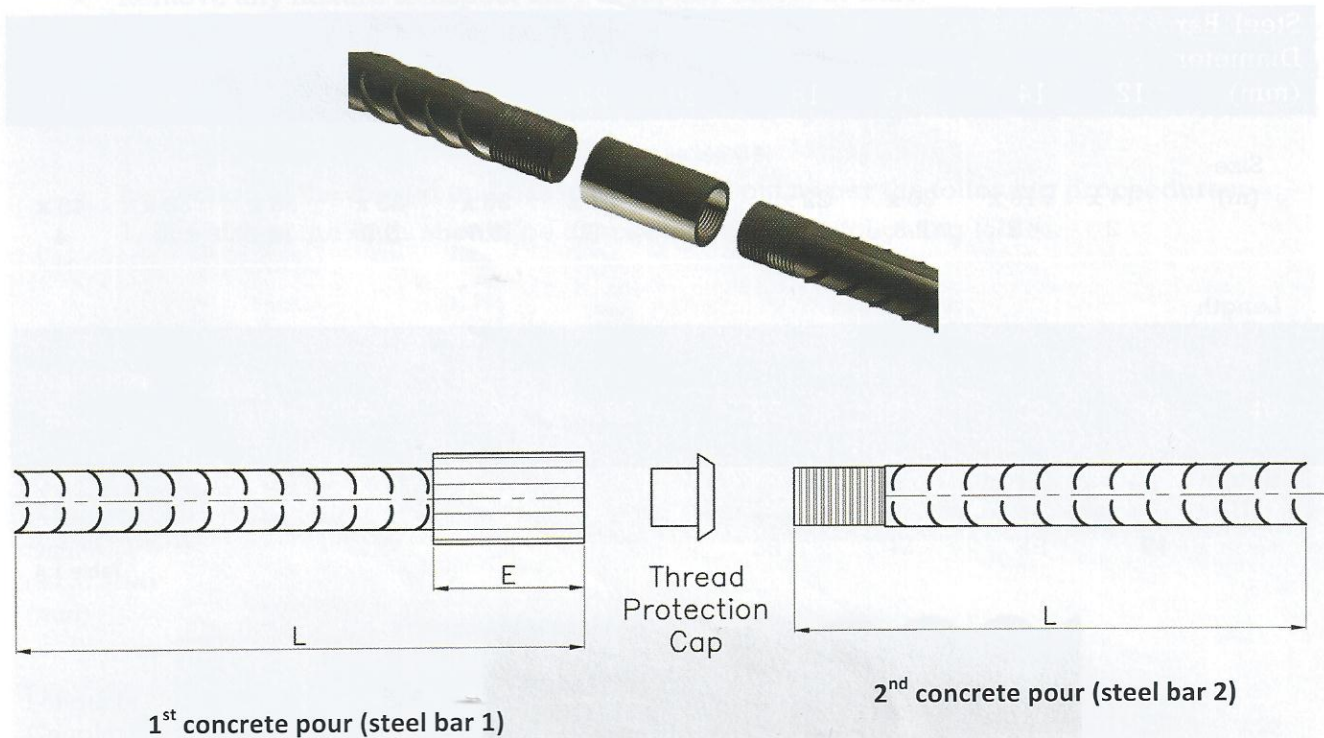


- The concentricity between the end of rebar <0.3 of half finished product.
- The out of roundness of end <1/3, unfilled corner <3x1.5 of half finished product.
- Loss of end <1/3, loss of middle <5x1 of half finished product.
- The bias between rebar end thread axes and rebar end axes is less than 0.5mm
- The length of thread end of rebar is half of the relative size of rebar coupler.
- The thread if rebar end can be used to connect with the relative size of coupler, try whether it can pass through smoothly, tight or loose.
- Crosswise fissure or striation of the thread end of rebar can be accepted <0.015d+0.1, maximum 0.4mm. The crosswise fissure or striation is not allowed more than three;
- On the thread end of rebar, it is allowed that there is lack of teeth.
  - a. The circle of the end face can allowed lack of teeth.
  - b. The diameter of thread head allowed less of  $\geq 0.15H \times 2$
  - c. The circumference of thread head <1/5 length, 1/2 length of thread head <0.25H



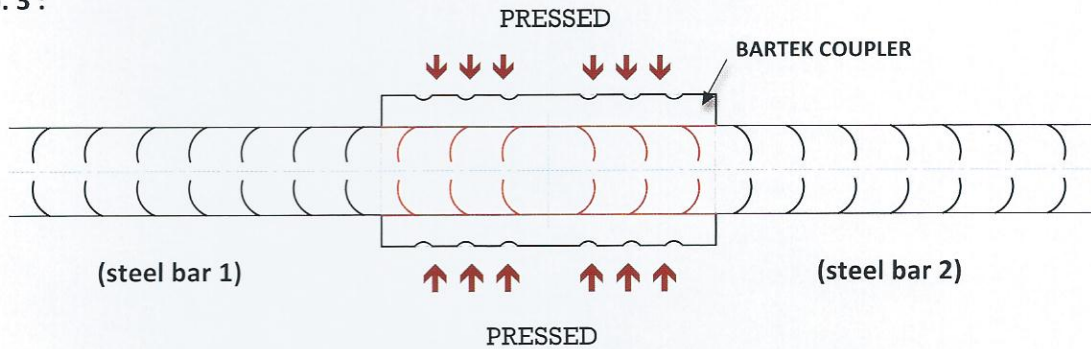
## STEP-3 ASSEMBLY

- A coupler needs to be fixed by hand from one side till half length of the coupler on the designated threaded bar & protected with the coupler cap.
- The other threaded rebar to be protected by rebar cap.
- Later the protective caps can be removed from both sides & other bar can be as well connected by hand.

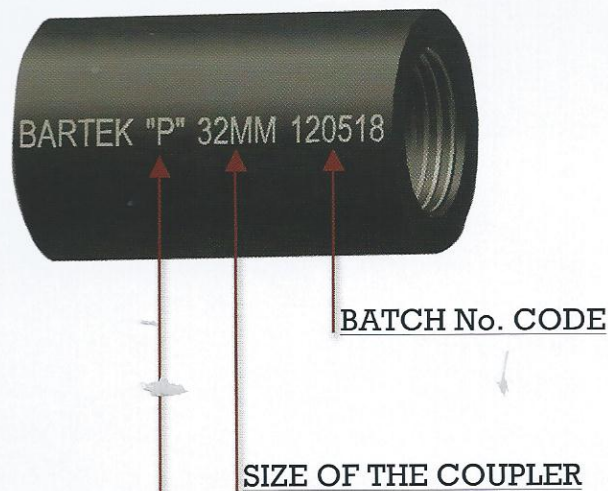




No. 3 :



## How to check and identify your Bartek Coupler



### BARTEK COUPLER TYPES

Bartek "No Marking" standard Bartek Coupler

Bartek "S" Super Coupler

Bartek "P" Rib Peeling Coupler

Bartek "H" Hydraulic Coupler