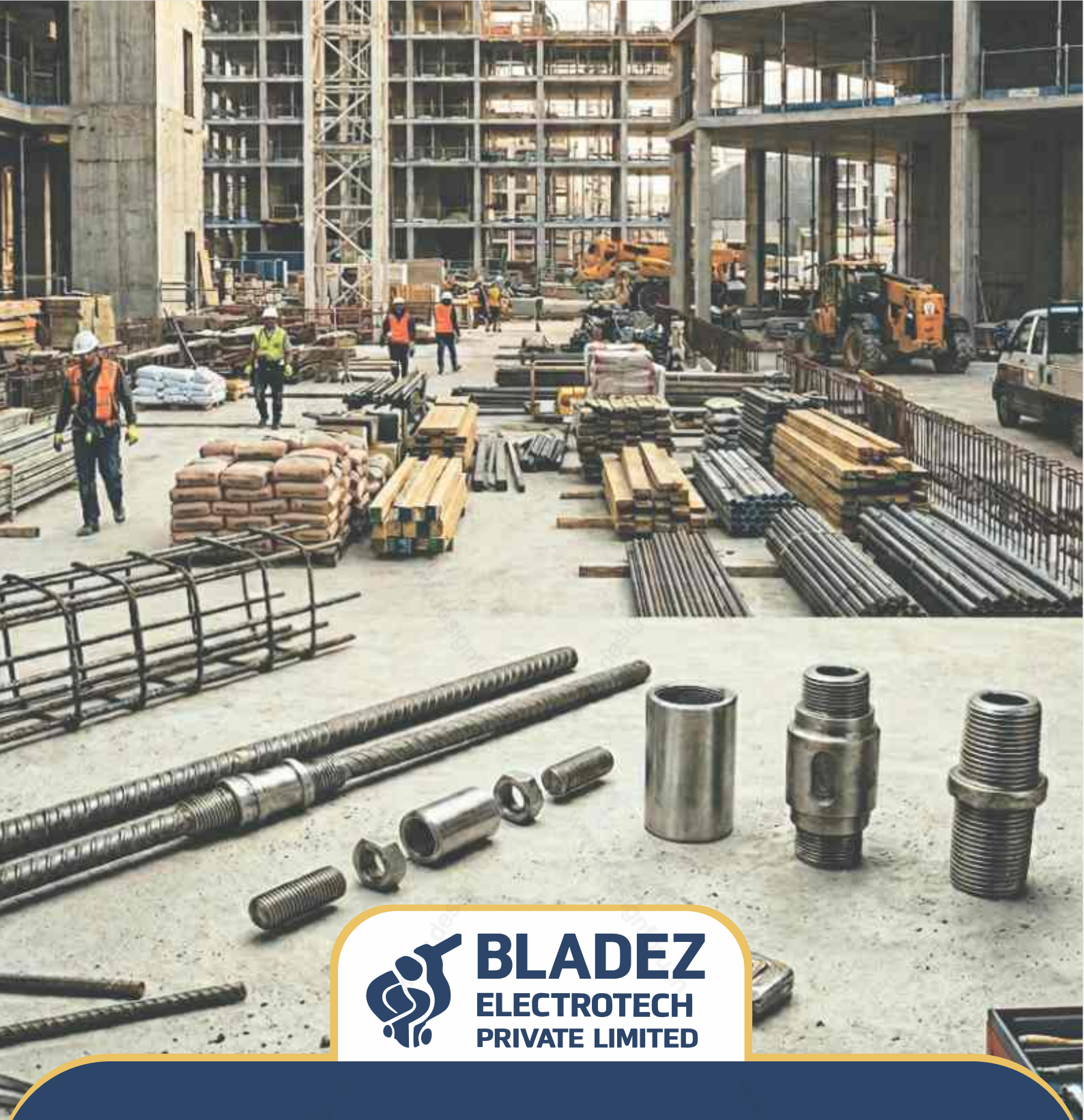


**BLADEZ**
**ELECTROTECH**
**PRIVATE LIMITED**

# Premium Scaffolding Solutions for Safer & Stronger Construction

| **Quality** | **Quantity** | **Cost** |
| --- | --- | --- |
| You Trust | You Need | You Can Afford |

www.bladeze.com

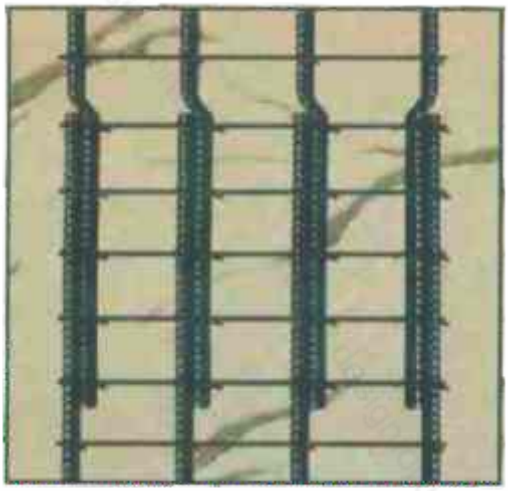
ABOUT US

# BLADEZ ELECTROTECH

BEPL established in 2009, with an objective to provide solution to construction Industries. The solution to construction industries includes Value addition for steel reinforcements, Pile Caging and Rebar Splicing. Within a short span of time, achieve laurels of accomplishments of contracts with large and esteemed clients.

## Quality Policy

BEPL shall provide to end users reliable, safe and convenient products, thanks to a through quality system that efficiently monitors and contiguously improves their mass production. We aim to provide products that pass the most stringent international technical approvals. We believe in continues improvement, and value addition to enhance the current construction techniques, and be a team.



## Reinforcement Bar Splicing

The traditional method of connecting reinforcement bars with lap joints continuity in reinforced concrete need not be always appropriate. Advantages of simplicity and economy in lap splicing is limited to smaller diameter bars. Ecofix mechanical couplers offer the solution for splicing when large diameter bars are involved. The use of laps can be time consuming in terms of design and installation which can lead to greater congestion within the concrete because of the increased amount of rebar used. Ecofix couplers can simplify the design and construction of reinforcement concrete and reduce the amount of reinforcement required.

## MECHANICAL SPLICING: A UNION RELIABILITY

### Technically Superior :

Spliced rebar performs like continuous reinforcement. Splicing develops strength mechanically, independent of concrete. Therefore provides ductility in RCC structures independent of condition of concrete. Proven cyclic performance of spliced rebar offers strength during man-made, seismic or other natural events. The continuity of spliced rebar offers excellent provision for grounding electrical current.

### Designer Friendly :

Spliced rebar performs like continuous reinforcement. Splicing develops strength mechanically, independent of concrete. Therefore provides ductility in RCC structures independent of condition of concrete. Proven cyclic performance of spliced rebar offers strength during man-made, seismic or other natural events. The continuity of spliced rebar offers excellent provision for grounding electrical current.

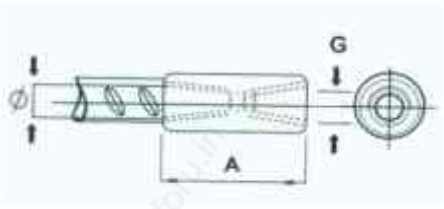
### Contractor's Preference :

Coupler offers quality, cost and time saving. Fixing couplers requires no special skills or equipments. Simple mechanical ways in adopting mechanical splicing compared to lapping, accelerates construction schedules for optimum cost and efficiency.

## TRANSITION COUPLER & THREADING EQUIPMENT

### Transition Coupler :

Transition coupler are designed to splice different diameter bars where at least one bar could be rotated. The tensile strength of the joints matches requirement for tensile failure of smaller diameter bar.

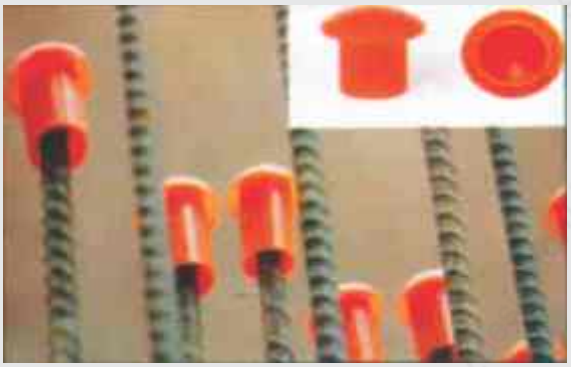



| Technical Specifications | | | | | | | |
|---|---|---|---|---|---|---|---|
| Coupler Dimesions | BARSIZE | | | | | | |
| | | 16/20 | 20/25 | 25/32 | 28/32 | 32/36 | 32/40 |
| Length | A | 70 | 85 | 105 | 105 | 110 | 125 |
| Diameter | G | 30 | 36 | 45 | 45 | 50 | 55 |
| Weight | KG | 0.28 | 0.45 | 0.85 | 0.80 | 1.00 | 1.25 |
| No. of Rebar Threads | | 10-12 | 10-13 | 13-26 | 15-18 | 17-20 | 17-20 |
| Dimensions in mm | | | | | | | |

Pipe Wrench/Torque wrench to ensure correct assembly of coupler and bar

| Tourque value to ensurecorrect assembly of coupler joint | | | | | | |
|---|---|---|---|---|---|---|
| Coupler Dimesions | BARSIZE | | | | | |
| | | | | | | |
| Touque / Bar Dia | 16 mm | 20 mm | 16 mm | 16 mm | 16 mm | 16 mm |
| Coupler (Nm) | 120 | 160 | 120 | 120 | 120 | 120 |
| Lock nut (Nm) | 30 | 50 | 30 | 30 | 30 | 30 |
| | | | | | | |

Cupler Protection Cap



Thread Protection Cap for Rebar

Branded Portable Threading Machine

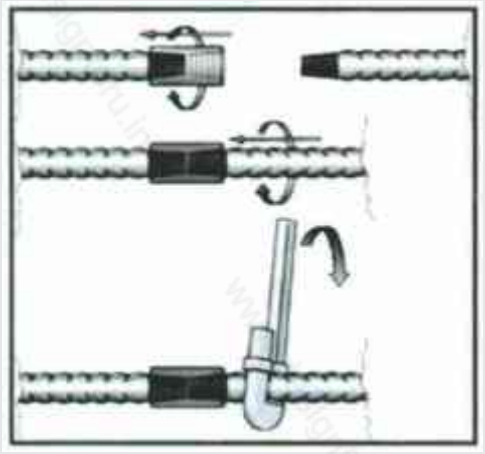
**Machines Specs :**

| | |
|---|---|
| Size | : 1.2m x 0.9 m x0.75m |
| Power | : 3 phase & 5. hp |
| Gross Weight | : 450 kg. |

## COUPLER ASSEMBLY

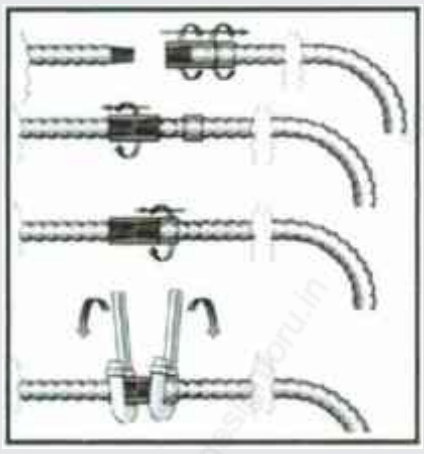
### Installation of Coupler :

- Good quality shear cut bars with sharp perpendicular cutting or saw cutting may be used. The taper threading is provided on bar ends with proprietary branded threading equipment and thread cutting tools.
- Threading of reinforcement bars must be carried out by trained operator. The thread checking gauge is used for checking the threads. The threads shall be covered by thread protection plastic cap while storing.
- The bent bars may be threaded or the threading machine provided straight length of the bent bar-end to be threaded is more than 0.5 m. If not so, The bars may be pre-bent in straight lengths, connected thoroughly and bar bending is carried out subsequently. The bent must be minimum 100mm apart from thread bar end.
- The bar is connected to coupler sleeve initially by hand tightening and then with pipe wrench.
- The mechanical splicing is full strength threaded butt splicing that achieves strength with fully engaged threading of coupler and reinforcement bars. Therefore, it is essential to ensure adequate tightening of splicing connection for effective load transfer.



## Standard Coupler

- Run the coupler to the end of the thread on the fixed bar.
- Position and rotate the continuation bar to the coupler.
- Tighten the joint using a wrench on the continuation bar.



## Position Coupler

- Run the lock nut followed by the coupler to the end of the thread on the continuation bar.
- Position the continuation bar with the coupler up to the fixed bar.
- Run the coupler from the continuation bar onto the fixed bar, to the end of thread.
- Run the lock nut along the continuation bar to the coupler.
- Using a pair of wrenches, hold the coupler firm and tighten the lock nut against it.

# STANDARD COUPLER

### Standard, Taper Threaded Coupler :

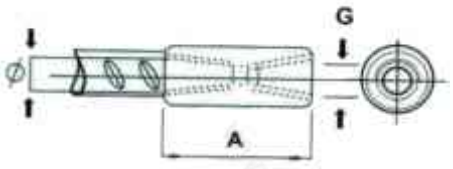
- Standard Coupler are designed to splice the reinforcement bars where at least one of the bars could be rotated. The taper threaded design of coupler helps easy engagement of the bar within the coupler with simple alignment.
- The standard taper threaded coupler comprises of internally threaded sleeve with two right handed threads tapering mid length of coupler. The bar ends to be spliced are saw cut and taper threading is provided on bar ends with proprietary branded threading equipment and thread cutting devices. The bars are connected initially by hand tightening and then with pipe wrench (torque wrench may be preferred).

**Standard butt joint of rebar coupler**

- The Splicing system provides butt joint when the bar threading is fully engaged with coupler by appropriate tightening. The Ecofix splicing complies with BS-8110 Part 1, 1998 & BS-5400 Part 4, 1990 and ACI-318.
- The couplers are supplied with internal thread protection plastic cap, The compact design of coupler ensures that no extra concrete cover is demanded for coupler protection.

**Technical Specifications**

| Coupler Dimesions | | BARSIZE | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 16 | 20 | 25 | 28 | 32 | 36 | 40 | 50 |
| Length | A | 52 | 70 | 85 | 95 | 105 | 110 | 125 | 130 |
| Diameter | G | 25 | 30 | 36 | 42 | 45 | 50 | 54 | 65 |
| Weight | KG | 0.13 | 0.26 | 0.40 | 0.64 | 0.8 | 1.00 | 1.27 | 1.65 |
| No. of Rebar Threads | | 10-12 | 10-13 | 13-16 | 15-18 | 17-20 | 18-21 | 21-24 | 22-24 |
| Dimensions in mm | | | | | | | | | |

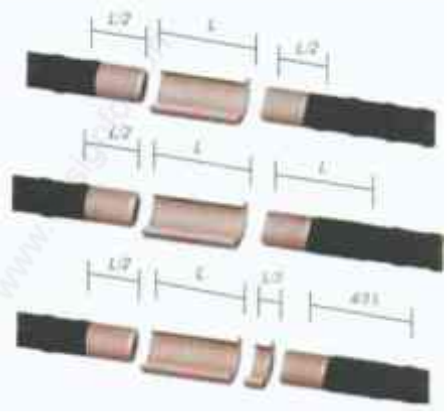



**Engagement of threads of rebar and coupler**

## (CFP) COLD FORGED COUPLER

### (CFP) Coupler-Ideal full Strength Small Size Coupler :

- Cold Forged Parallel (CFP) products a full strength joint they are amongst the smallest in our range, best suited to large scale projects requiring a high volume of couplers.
- The end of each bar to be spliced is cut square and enlarged by cold forging. This increases the core diameter of the bar to ensure that the joint is stronger than bar. Parallel metric threads are cut into the enlarged ends. The threaded ends are then proof tested to a force equal to the characteristic yield strength of the bar. A nominal allowance of +50 mm per threaded bar should be made for cutting square and cold forging.
- The threaded ends of the bars are protected by an external plastic protection cap. Ecofix (CFP) couplers are always supplied with their internal threads protected by a threaded plastic cap. For certain applications, especially where Ecofix (CFP) couplers are being used in deep pours, the couplers end caps may not prevent the ingress of concrete fines. For these applications, future protection may be required.



### (CFP) Type A Coupler :

The (CFP) Type A Coupler utilizes internally threaded coupler with a single right hand thread and is suitable for applications where either of the bar to be spliced is free to rotate. The ends of the bars are upset and threaded for half length of the coupler.

### (CFP) Type B Coupler :

The (CFP) Type B Couplers use the same coupler as the Ecofix (CFP) Types A coupler, but one of the two bar ends to be spliced is threaded for full coupler length. It is used for applications where it is difficult but not impossible to rotate the continuation bar.

### (CFP) Type C Coupler :

The (CFP) Type C Coupler has an additional lock nut and is used where the continuation bar cannot be rotated. The continuation bar is threaded for the full coupler length of the locknut.

### Dimensions

| Bar Diameter | | 12 | 16 | 20 | 25 | 28 | 32 | 36 | 40 | 50 | 57 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| External Dia | *d* | 21 | 26 | 32 | 40 | 45 | 50 | 57 | 62 | 77 | 87 |
| Coupler Length | *L* | 32 | 40 | 48 | 60 | 66 | 72 | 84 | 90 | 112 | 126 |
| Thread Size | | M16 | M20 | M24 | M30 | M33 | M36 | M42 | M45 | M56 | M63 |
| Thread Pitch | | 2.5 | 2.5 | 3.0 | 3.5 | 3.5 | 3.0/4.0 | 4.5 | 4.5 | 5.5 | 5.5 |
| Weight (Kg) | | 0.04 | 0.09 | 0.16 | 0.32 | 0.43 | 0.58 | 0.87 | 1.13 | 2.17 | 3.09 |
| Part No. Type A | | BT12/A | BT16/A | BT20/A | BT25/A | BT28/A | BT32/A | BT36/A | BT40/A | BT50/A | BT57/A |
| Part No. Type B | | BT12/B | BT16/B | BT20/B | BT25/B | BT28/B | BT32/B | BT36/B | BT40/B | BT50/B | BT57/B |
| Part No. Type B | | BT12/C | BT16/C | BT20/C | BT25/C | BT28/C | BT32/C | BT36/C | BT40/C | BT50/C | BT57/C |

**All dimensions indicated subject to changes without prior notice.**

- The BEPL splicing complies with BS-8110 Part 1, 1989 & BS-5400 Part 4, 1990 and ACI-318, 2005.
- The BEPL splicing meets the requirement of Type 2 as defined for special provision for seismic design as per ACI -318, 2005.

## (RTP) ROLL THREADED COUPLER

### (RTP) Coupler - Ideal for Fatigue Resistance :

Roll-Thread Parallel (RTP) coupler provides a cost effective, full strength joint and are amongst the most efficient & innovative mechanical splice available to the local construction industry where its applications are only limited to one's imaginations.

Unlike conventional systems available currently, where the threads are still primitively cut in to the surfaces of the reinforcement bar, often resulting in inconsistencies & uneven threads, Ecofix system employs the “Roll-Thread” technology where the threading formed is rolled on the bar. The resultant thread ends are work hardened and has consistency in quality and results.

## (RTP) Standard Coupler :

The (RTP) standard coupler utilizes internally threaded coupler with a single right hand thread and is suitable for applications where either of the bars to be joined can be rotated. The ends of the construction rebar are threaded for upto half the length of the coupler.

This method of thread formation provides the system its enhanced fatigue resistance. Where fatigue is a major consideration on a project the external surface of the coupler may be profiled.

## (RTP) Position Coupler

The (RTP) position couplers use the same coupler as the Ecofix (RTP) standard coupler, but one bar end is threaded for full coupler length and second bar end half the coupler length. This is for application where it is difficult but not impossible to rotate the continuation bar.

## (RTP) Coupler Dimensions

| Bar Diameter | | 16 | 20 | 25 | 28 | 32 | 40 | 50 |
|---|---|---|---|---|---|---|---|---|
| External Dia | *d* | 25 | 32 | 40 | 45 | 53 | 62 | 80 |
| Coupler Length | *L* | 45 | 55 | 65 | 72 | 84 | 99 | 126 |
| Thread Size | | 2.5 | 2.5 | 2.5 | 3.0 | 3.0 | 3.0 | 3.5 |
| Weight (Kg) | | 0.09 | 0.20 | 0.31 | 0.51 | 0.64 | 1.31 | 2.94 |

**All dimensions indicated subject to changes without prior notice.**

- The (RTP) splicing complies with BS-8110 Part 1, 1989 & BS-5400 Part 4, 1990 and ACI-318, 2005.
- The (RTP) splicing meets the requirement of Type 1 and on request can be modified to Type 2 as defined for special provision for seismic design as per ACI-318, 2005.
- We can provide 'Cold Forged' and 'Swaged' splicing system for projects on request.

# TAPER THREAD COUPLERS

**The tapered coupler comprises of internally threaded sleeves with two right handed threads tapering to mid length of the coupler. The bar ends to be spliced are saw cut and taper threading is provided on bar ends with proprietary branded threading equipment or thread cutting devices. The bars are connected initially by hand tightening and then with pipe wrench.**

**The couplers are supplied with internal thread protection plastic cap. The compact design of coupler ensures that no extra concrete cover is demanded for concrete protection.**

### Tapered Standard Coupler

Tapered Standard Coupler is designed to splice the reinforcement bars where at least one of the bars could be rotated. The taper threaded design of the coupler helps easy engagement of the bar within the coupler with simple alignment.

### Tapered Position Coupler

Tapered Position Couplers are used in situation where neither of the bars to be connected is free to rotate.

### Tapered Transition Coupler

Tapered Transition couplers are designed to splice different diameters bars where at least one bar can be rotated. The tensile strength of the joint matches requirement for tensile failure of smaller diameter bar.

- The taper threaded splicing complies with BS-8110 Part 1, 1989 & BS-5400 Part 4, 1990 and ACI-318, 2005.
- The taper threaded splicing meets the requirement of Type 1 and on request can be modified to Type 2 as defined for special provision for seismic design as per ACI-318, 2005.

BLADEZ
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