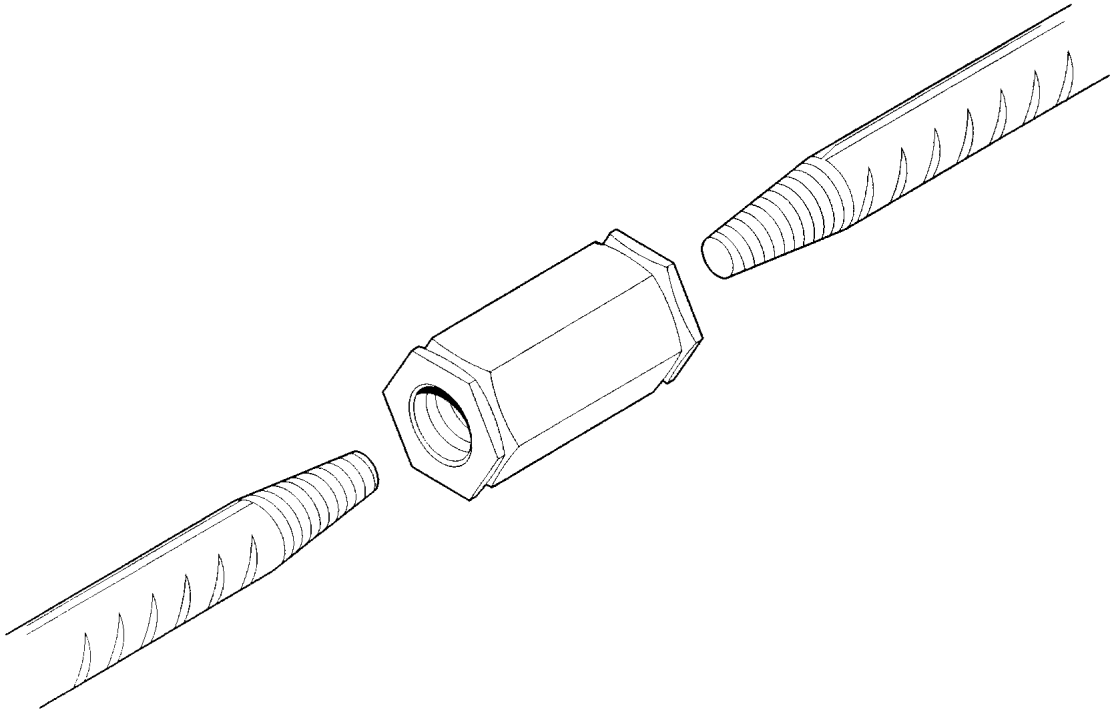
LENTON®

reinforcing bar splicing

COUPLER INSTRUCTION MANUAL



ERICO®

copyright © 2004 Erico BV

EBV - 039700 - CRP1 - GB

0. CONTENTS

PAR	SUBJECT	PAGE
0.	CONTENTS	0-1
1.	LENTON COUPLER TYPE OVERVIEW	1-1
2.	TORQUE WRENCHES	2-1
	2.1. Available types	2-1
	2.2. Calibration	2-2
3.	INSTALLATION OF COUPLERS	3-1
	3.1. LENTON coupler type A12	3-1
	3.2. LENTON coupler type P13	3-2
	3.3. LENTON coupler type P14	3-3
	3.4. LENTON coupler type P15	3-4
	3.5. LENTON P13-P15 coupler combination	3-5
	3.6. LENTON coupler type S13	3-6
	3.7. LENTON coupler type D14	3-7
	3.8. LENTON coupler type C12	3-8

We reserve the right to make any alterations to the information contained in this brochure which we consider to be either necessary or advantageous. This brochure is designed to provide only preliminary in information on the products and is not a contract. The Company does not accept any liability for loss or damage arising from failure to follow its instructions to products not agreed by it.

WARNING
1. These products shall be used only as illustrated and recommended in product instruction sheets (additional instruction sheets are available at www.erico.com). Misuse or misapplication may cause failure resulting in possible property damage or bodily injury.
2. These products must be used only in the manner depicted in the illustrations that accompany them and must not exceed load ratings.
3. Failure to observe these specifications may cause product malfunction resulting in property damage or bodily injury. ERICO products at the time of shipment are warranted to conform to any applicable written description furnished to the Buyer by ERICO, and to be free from defects in material and workmanship. NO OTHER WARRANTY, WHETHER EXPRESSED OR IMPLIED, (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS), SHALL EXIST IN CONNECTION WITH THE SALE OR USE OF ANY ERICO PRODUCT.
4. All instructions must be completely followed to ensure proper and safe operation.

The buyer and/or installer is responsible for:
a. Application in conformance to all governing codes.
b. The integrity of structures to which the products are attached, including their capability of safely accepting the loads imposed, as evaluated by a qualified engineer.
c. Using appropriate industry standard hardware as noted above.
SAFETY WARNING:
SAFETY INSTRUCTIONS: All governing codes and regulations and those required by the job site must be observed. Always use appropriate safety equipment such as eye protection, hard hat, and gloves as appropriate to the application.

CADDY, CADWELD, CRITEC, ERICO, ERIFLEX, ERITECH and LENTON are registered trademarks of ERICO International Corporation.

copyright © 2004 ERICO. Inc.

1. LENTON COUPLER TYPE OVERVIEW

LENTON coupler type A12 EL - .. - A12

Coupler type A12 for use in situations where one or both of the bars to be joined are free to turn.

LENTON coupler type P13 EL - .. - P13

Connection onto a bent bar or a bar that cannot be rotated and has limited movement in axial direction.

LENTON coupler type P14 EL - .. - P14

Connection onto a bent bar or a bar that cannot be rotated.

LENTON coupler type P15 EL - .. - P15

The P15 is constructed in a way that avoids a fixed pitch relationship between one end of the coupler and the other. This feature, used in combination with the adjustability of the P13, facilitates the forming of a ‘closer’ suitable for column erection or precision coupling of elements with multiples of bars to be joined over a short span.

LENTON coupler type D14 EL - .. - D14

The D14 coupler provides an anchor- or stop nut.

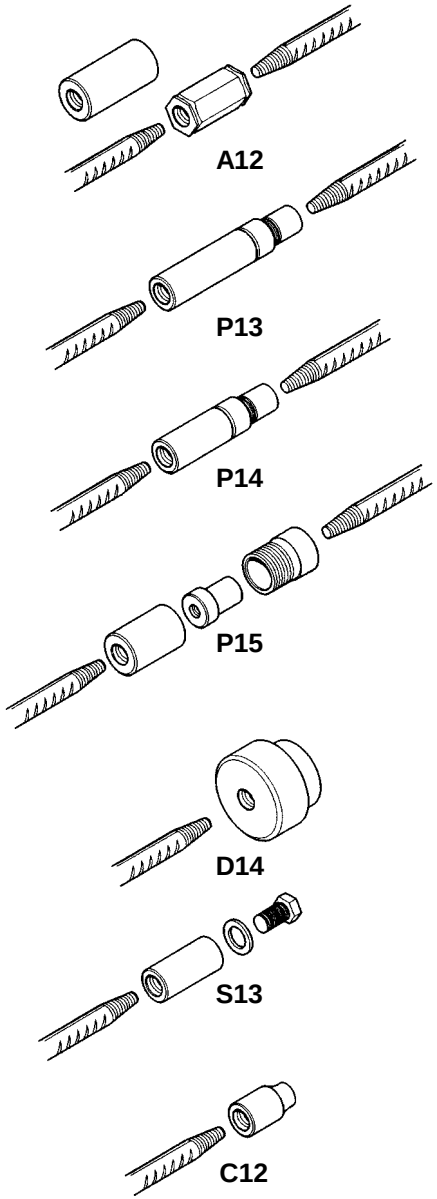
LENTON coupler type S13 EL - .. - S13

The S13 couplers provide a full strength joint between a reinforcing bar and a metric threaded bolt.

LENTON coupler type C12 EL - .. - C12

The C12 coupler is made for joining reinforcing bars to structural steel sections or plates. The coupler is made from a weldable steel and formed with a ‘J’ groove to facilitate a full-penetration weld.

For more detailed information, see LENTON catalogue.



copyright © 2004 Erico BV

2. TORQUE WRENCHES

2.1. Available types

LENTON torque wrenches are manufactured to perform within the tolerance limits of ISO standard no. 6789.

To set torque value required

1. Depress ‘tongue’ inside end of handgrip - this will release the scale lock.
2. Slide scale by pushing red knob in required direction until correct value is on ‘set’ position.
3. Release tongue to lock the new setting.

In practice it is found that installers tend to overshoot the click of the torque wrench witch results in a degree of over tightening. The values of torque recommended take this into consideration (see table 1.1).

Bar size Ø	mm	10-12	14	16	18	20	22	24-28	30	32-36	38-57
torque setting + 20 % - 20 %	Nm	40	80	120	150	180	220	270	300	300	350

Table 1.1 Torque setting Table

Type	Range	kg	A max	B	C	D	E	F max	T max Nm	Part No.
275	Ø 10-28	2.5	630	25	175	75	40	60	275	148010
850	Ø 24-57	3.0	825	30	210	90	45	90	350	148030

Table 1.2 Dimensions Torque wrench

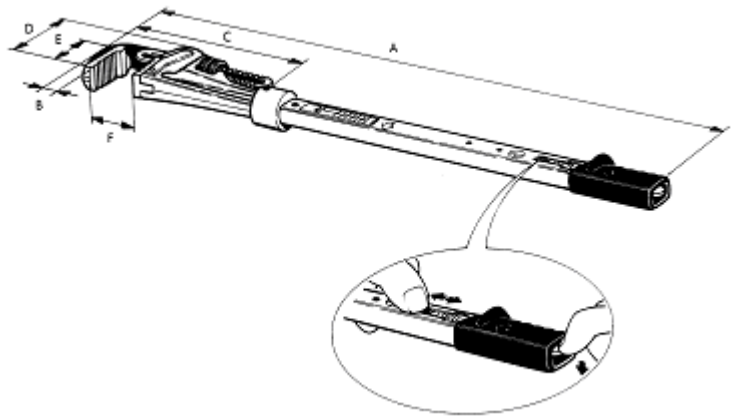


Fig. 2.1
Torque wrenches Type 275 / 850

copyright © 2004 Erico BV

ERICO®

2.2. Calibration

Each LENTON torque wrench is checked to ensure correct operations and has its own serial number and calibration certificate.
Recalibration of the torque wrench is the responsibility of the user. It is recommended to recalibrate the torque wrench at least once a year.
Calibration check apparatus is available to order.

Art.No. 148050	Calibrator Torque wrench	Fig. 2.2
Art.No. 148060	Adaptor Torque wrench	Fig. 2.3

The calibration tolerance is +/- 10% of the set value. If the wrench performance is outside this range the wrench must not be used anymore. For further information, please contact ERICO.

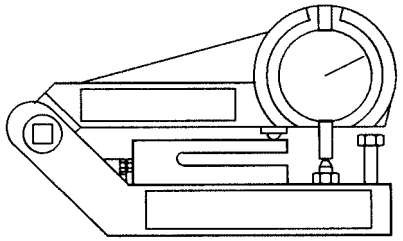


Fig. 2.2
Calibrator torque wrench

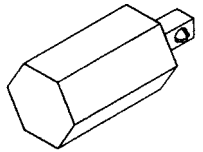


Fig. 2.3
Adaptor torque wrench

copyright © 2004 Erico BV

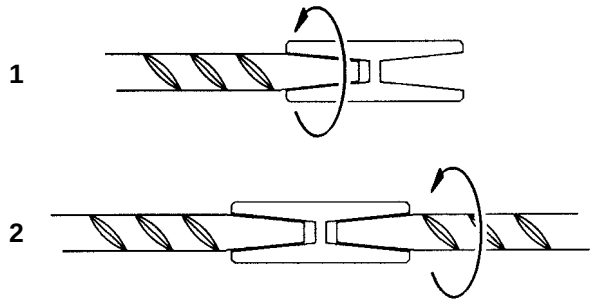
3. INSTALLATION OF COUPLERS

All threads should be clean and free from oil or grease. Screw the parts together by hand - approximately four and a half turns are required - after which the tightening should be completed using the LENTON torque wrench set at the appropriate value taken from the torque setting table 1.1, or from the label on the wrench.
The torque values recommended have been selected to provide uniformity of installation and positive restraint against effects of vibration during concrete placing. These values should not be exceeded. Each LENTON torque wrench is checked to ensure correct operation and has its own serial number and calibration certificate. Recalibration is responsibility of the user.

3.1. LENTON coupler type A12

STEP 1

Ensure coupler is tightened onto first bar. Use Prescribed torque according to table 1.1.



STEP 2

(Coupler can be in concrete or not)
Ensure second bar is tightened into the coupler. Use Prescribed torque according to table 1.1.

copyright © 2004 Erico BV

3.2. LENTON coupler type P13

Either step 1A or 1B will be applicable

STEP 1a
Ensure coupler is fully screwed together and tightened onto first bar.
Use Prescribed torque according to table 1.1 for all steps.

STEP 1b
When female coupler part is cast in 1st concrete section, fully re-assemble the coupler with male part and lock nut.

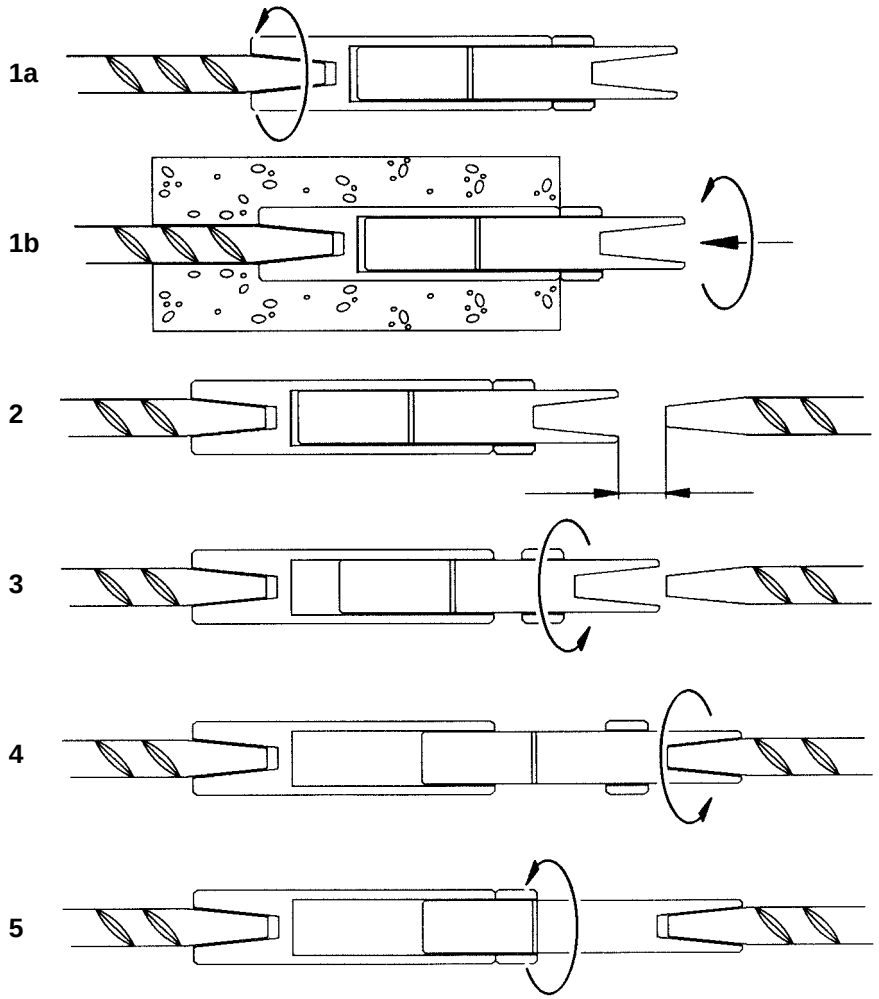
STEP 2
Bring cage or other bar into fix position and ensure gap between coupler and bar is not greater than extension possibility of the coupler (see LENTON catalogue).

STEP 3
Screw out male part to meet the taper thread of the ongoing bar.

STEP 4
Tighten male part fully onto ongoing bar.

STEP 5
Spin back lock-nut and fully tighten against body of coupler. Ensure limit groove is not fully visible above lock-nut.

IMPORTANT NOTE:
P13 and P14 couplers have a limited amount of allowable extension and so are manufactured with easy seen groove cut into the thread of the male part. After full assembly of the coupler this groove should not be fully visible above the lock-nut. If the groove is fully clear above the lock-nut it indicates that there is insufficient thread engagement to ensure full design strength of the coupler. This feature makes inspection of the completed joint very simple and very positive.



copyright © 2004 Erico BV

3.3. LENTON coupler type P14

Either step 1A or 1B will be applicable.

STEP 1a
Ensure coupler is fully screwed into female and tighten female onto first bar. Use Prescribed torque according to table 1.1 for all steps.

STEP 1b
When female coupler part is cast in 1st concrete section, fully re-assemble the coupler with male part and lock nut.

STEP 2
Insert LENTON taper threaded bent bar into mouth of coupler as far as it will go.

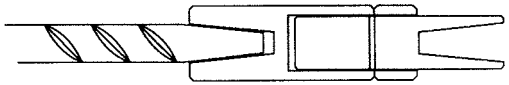
STEP 3
Screw male part out of female and onto taper threaded bar.

STEP 4
Tighten male part fully onto bent bar and spin lock-nut back to coupler body.

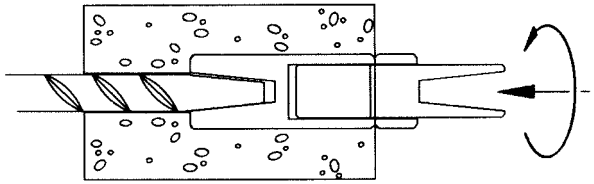
STEP 5
Fully tighten lock-nut against coupler body after setting bent bar to required position. Ensure limit groove is not fully visible above the lock-nut.

IMPORTANT NOTE:
P13 and P14 couplers have a limited amount of allowable extension and so are manufactured with easy seen groove cut into the thread of the male part. After full assembly of the coupler this groove should not be fully visible above the lock-nut. If the groove is fully clear above the lock-nut it indicates that there is insufficient thread engagement to ensure full design strength of the coupler. This feature makes inspection of the completed joint very simple and very positive.

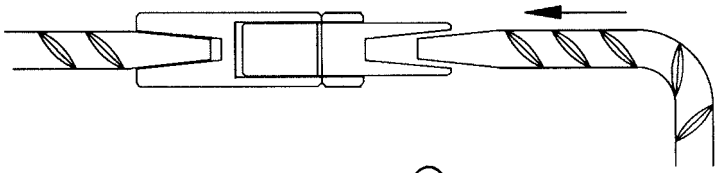
1a



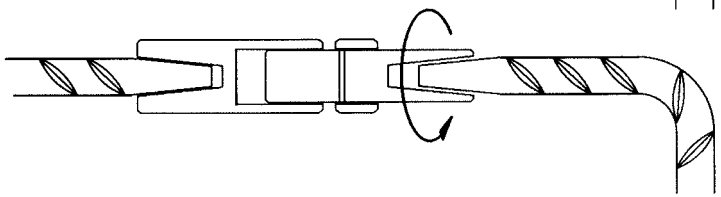
1b



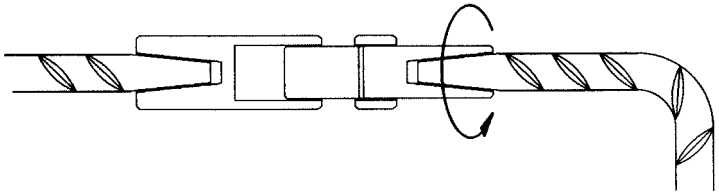
2



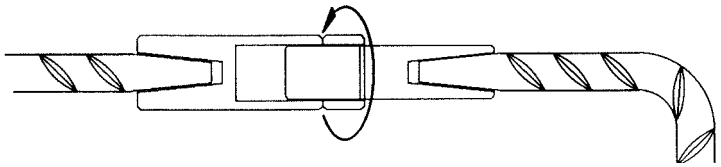
3



4



5



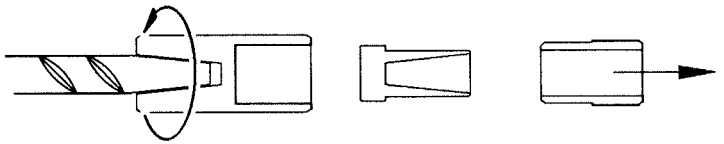
copyright © 2004 Erico BV

ERICO®

3.4. LENTON coupler type P15

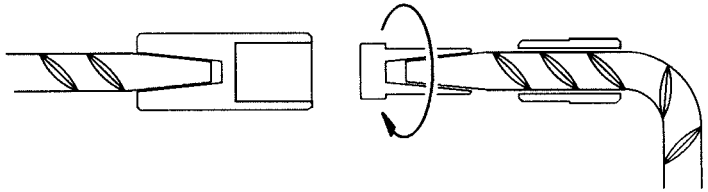
STEP 1
Fully tighten body of coupler to first bar and remove male parts.
Use Prescribed torque according to table 1.1 for all steps.

1



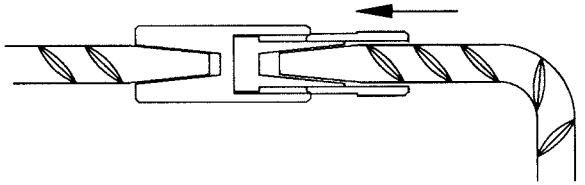
STEP 2
Slide locking ferrule onto ongoing bar and tighten insert-end fully onto ongoing bar.

2



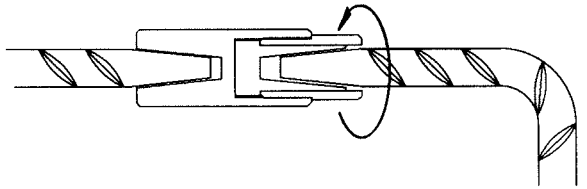
STEP 3
Push insert-end into body and screw in locking ferrule.

3



STEP 4
Fully tighten locking ferrule into body after placing ongoing bar into required position.

4



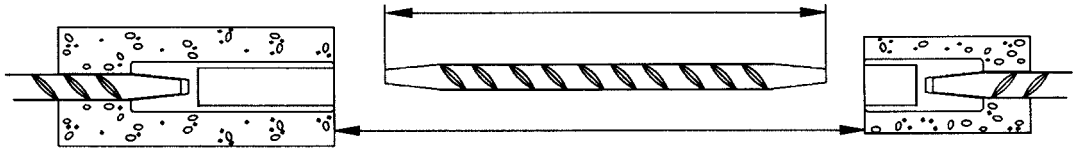
copyright © 2004 Erico BV

3.5. LENTON P13 - P15 coupler combination

Used to connect bars across access ways or between fixed elements including precast column erection. (Female coupler parts may also not be cast in concrete).

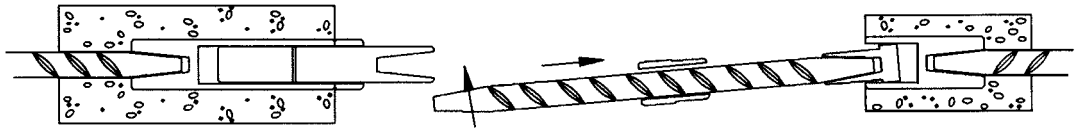
STEP 1
Expose couplers.

1



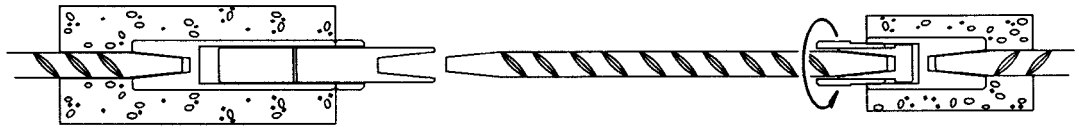
STEP 2
Install male part of P13 and offer joining bar with P15 parts mounted.
Use torque according to table 1.1 for all steps.

2



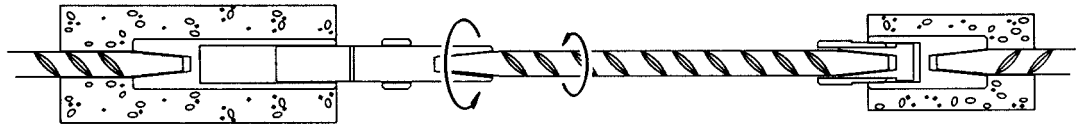
STEP 3
Screw in ferrule loosely.

3



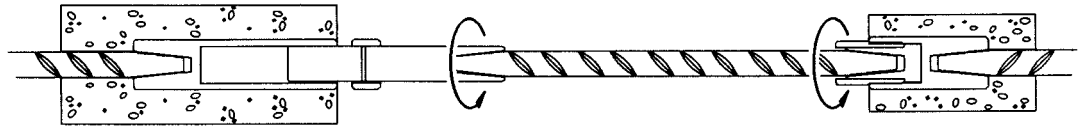
STEP 4
Screw out P13 male to engage bar and tighten using 2 wrenches.

4



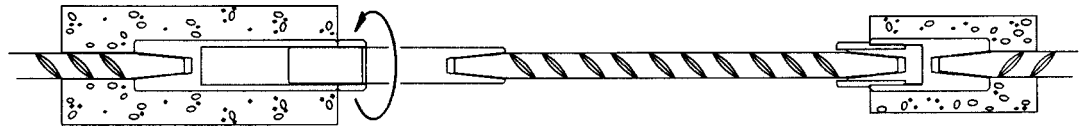
STEP 5
Screw P13 male out - by hand - until bar is set fully into P15.
Tighten ferrule fully.

5



STEP 6
Run back lock-nut of P13 and tighten fully.

6



copyright © 2004 Erico BV

ERICO®

3.6. LENTON coupler type S13

STEP 1

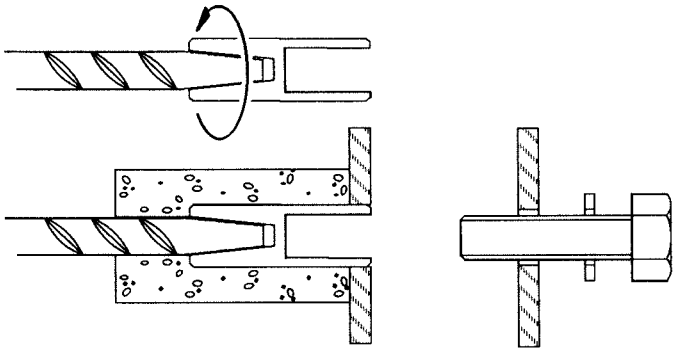
Ensure coupler is tightened onto the bar. Use Prescribed torque according to table 1.1.

STEP 2

Fix metric bolt with/without construction element into coupler. Minimum insertion depth of bolt for full strength connection can be found in LENTON catalogue.

1

2



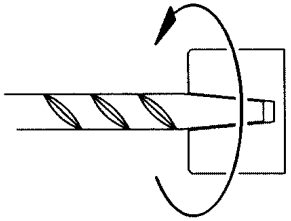
copyright © 2004 Erico BV

3.7. LENTON coupler type D14

STEP 1

Ensure coupler is tightened onto the bar with the Prescribed torque according to table 1.1.

1



copyright © 2004 Erico BV

ERICO®

3.8. LENTON coupler type C12

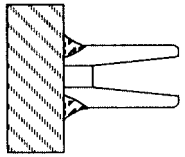
STEP 1

The coupler is made from a weldable steel and formed with a 'J' groove to facilitate a full-penetration weld. Welding should be carried out by a skilled welder and the recommendations of the local Welding Institute and relevant Standards should be followed. When necessary for protection, please fit plastic plug afterwards.

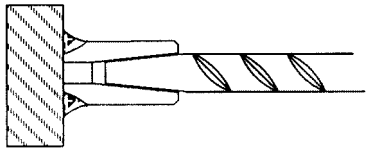
STEP 2

Ensure bar is tightened into coupler with the prescribed torque according to table 1.1.

1



2



copyright © 2004 Erico BV

ERICO®