CI/SfB	(29)	Et6	
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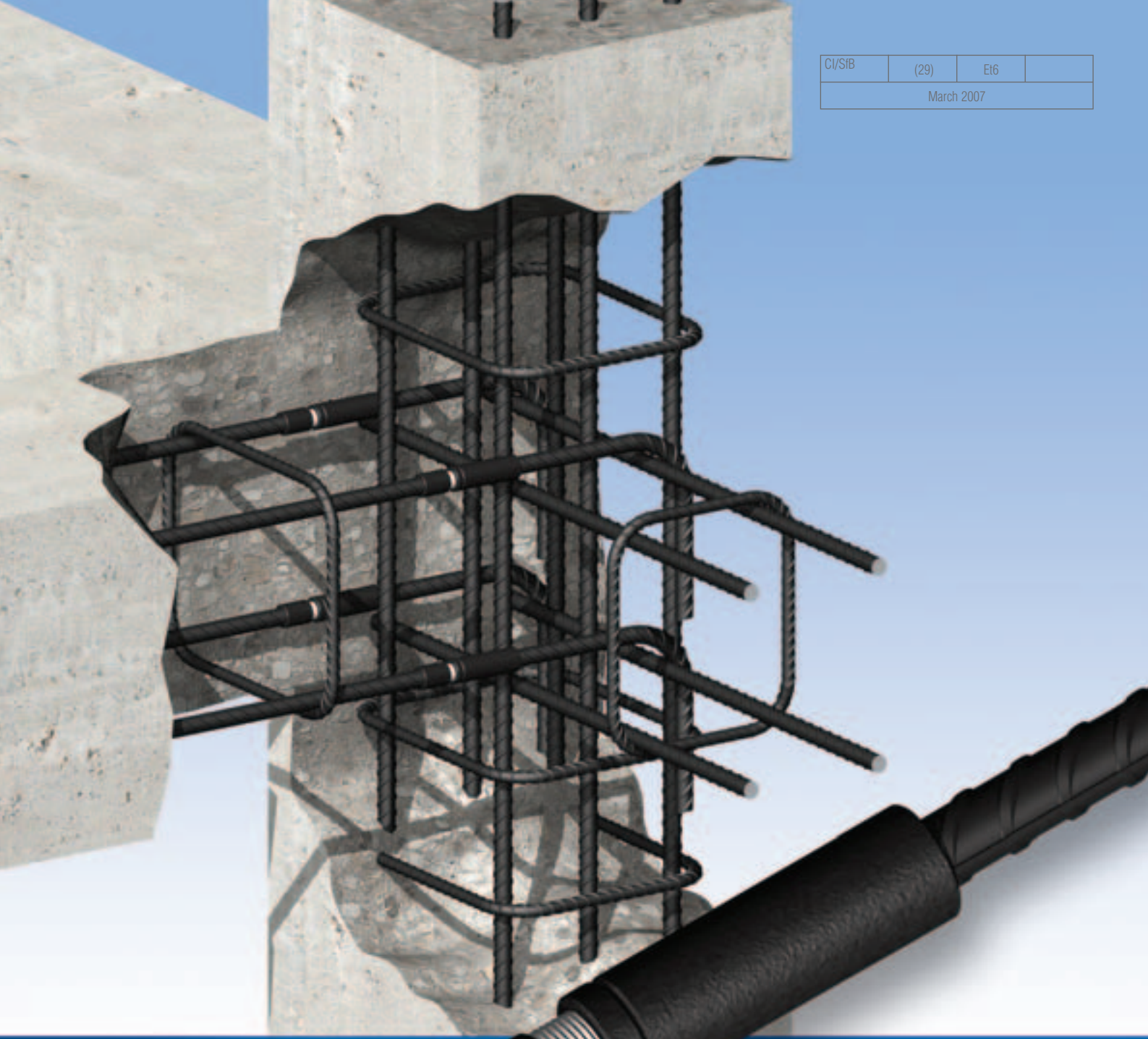


Reinforcing Bar Couplers

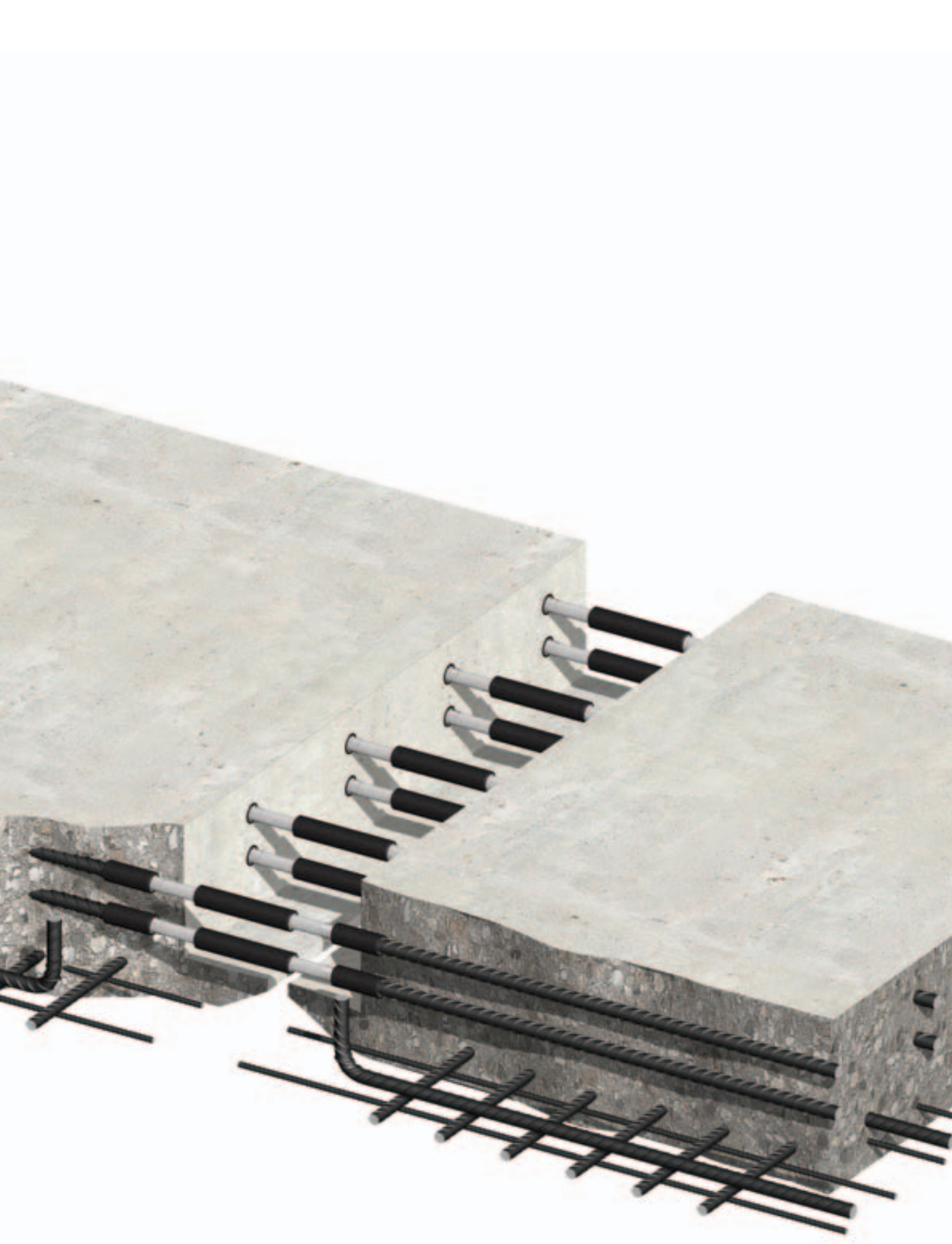
for the Construction Industry

tyco

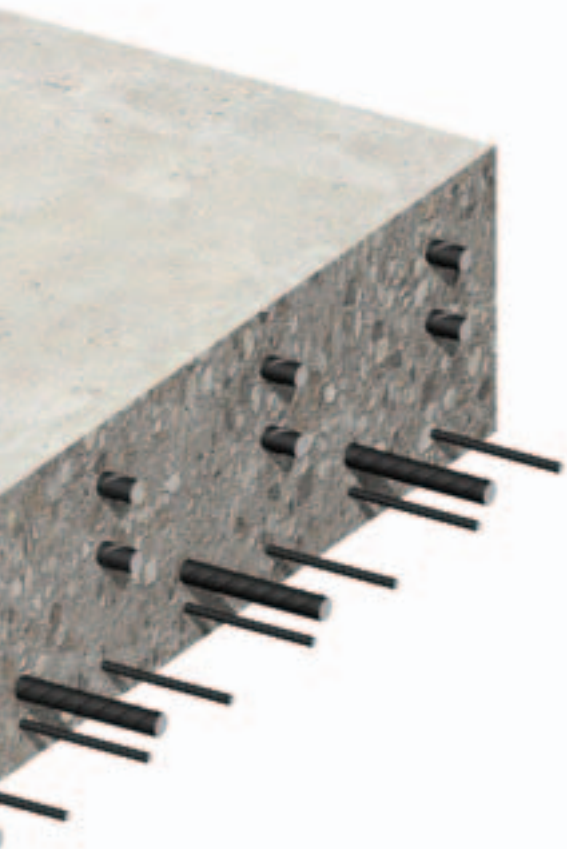
a vital part of your world

Ancon®

BUILDING PRODUCTS



Ancon designs and manufactures high integrity steel products for the construction industry. Through continuous programmes of new product development, inward investment and employee advancement, the company is committed to maintaining the highest level of customer service within a dynamic and challenging industry.



Masonry Support Systems

Windposts and Lintels

Wall Ties and Restraint Fixings

Channel and Bolt Fixings

Tension Systems

Special Fabrications

Flooring and Formed Sections

Shear Load Connectors

Reinforcing Bar Couplers

Reinforcement Continuity Systems

Punching Shear Reinforcement

Insulated Balcony Connectors

Refractory Fixings

For many years the use of mechanical couplers to join reinforcing bars has been regarded as a means of reducing the use of long bars. Engineers and contractors now recognise the benefits of using couplers to accelerate the speed of construction, increase productivity and simplify design details.

ISO 9001: 2000
FM 12226

ISO 14001: 2004
EMS 505377

Reinforcing Bar Couplers

PRODUCTS FOR STRUCTURAL CONCRETE DIVISION

The 'Products for Structural Concrete' Division provides assistance for clients who require products which are used in structural concrete construction. These include, but are not restricted to, reinforcing bar couplers, continuity reinforcement systems and shear load connectors. A dedicated team is able to offer technical advice, pricing information and guidance on the selection of the most appropriate product for a specific application. Enquiries from overseas are also dealt with by the PSC team. To contact the team please email concrete@ancon.co.uk or call +44 (0) 114 275 5224.

REINFORCING BAR COUPLERS

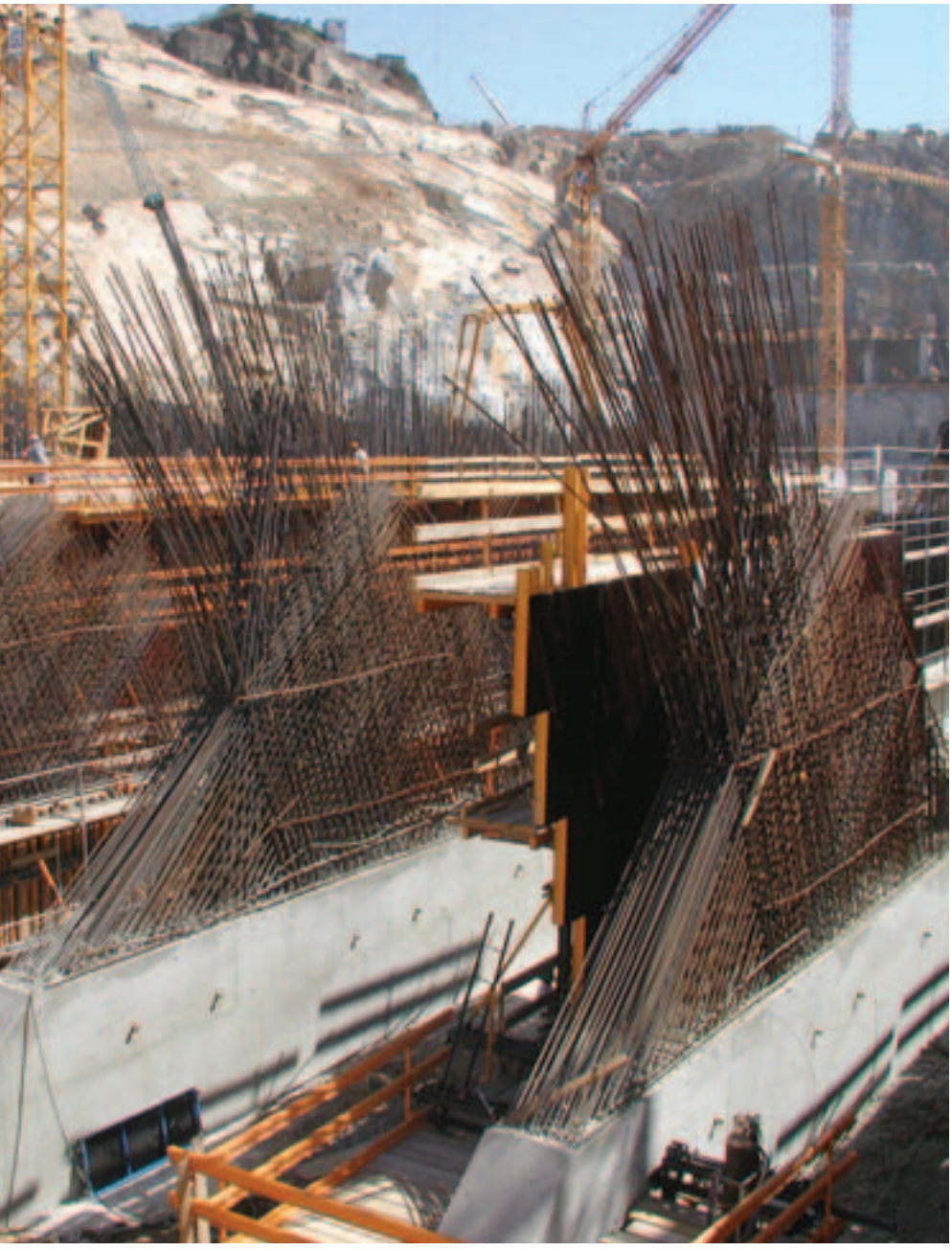
Lapped joints are not always an appropriate means of connecting reinforcing bars. The use of laps can be time consuming in terms of design and installation and can lead to greater congestion within the concrete because of the increased amount of rebar used.

Ancon couplers can simplify the design and construction of reinforced concrete and reduce the amount of reinforcement required.

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 independent of the concrete in which it is located and will retain its strength despite loss of cover as a result of impact damage or seismic event.

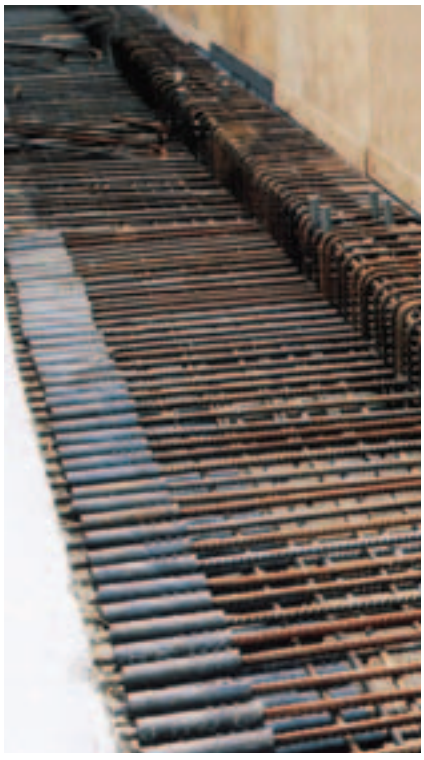
The Ancon range of reinforcing bar couplers is the most comprehensive available and includes tapered threaded, parallel threaded and mechanically bolted couplers.

Ancon reinforcing bar couplers are available through major rebar stockists and approved distributors.



Characteristic Strengths of High Yield Reinforcing Bar

Diameter (mm)	Area (mm^2)	Fy(kN) 500N/mm^2
12	113	56.5
16	201	100.5
20	314	157.0
25	491	245.5
32	804	402.1
40	1,256	628.3
50	1,963	981.7



The information in this literature is given as a guide only. Please refer to Ancon installation procedures, instructions and operating manuals for more specific details on these products.

COUPLER SELECTION

All Ancon couplers are designed to exceed the tensile strength for reinforcing bars to BS4449: 1997.

The four types of Ancon reinforcing bar couplers require different fixing methods. This, together with the quantity to be fixed and the location, will determine which is the most appropriate coupler for a particular situation.

Availability of Couplers

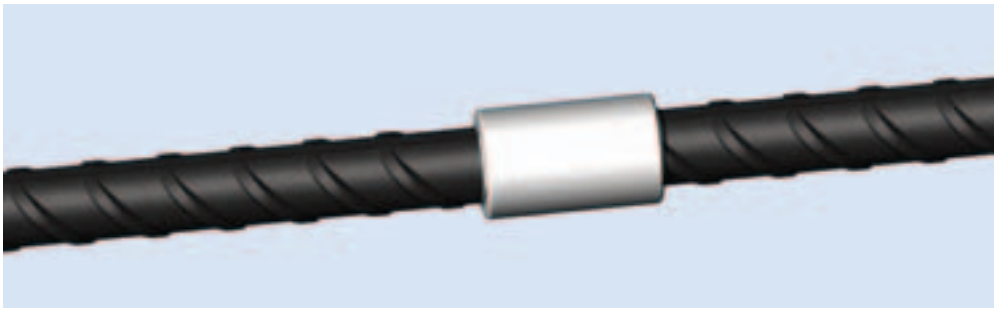
Bar Diameter	10	12	14	16	20	22	25	28	32	34	36	40	50	57
Tapered Thread Standard		✓	✓	✓	✓		✓	✓	✓			✓	✓	
Tapered Thread Positional		✓	✓	✓	✓		✓	✓	✓			✓	✓	
Tapered Thread Transition		✓	✓	✓	✓		✓	✓	✓			✓	✓	
Tapered Thread Weldable		✓	✓	✓	✓		✓	✓	✓			✓	✓	
Tapered Thread Anchor		✓	✓	✓	✓		✓	✓	✓			✓		
Bartec		✓		✓	✓		✓	✓	✓		✓	✓	✓	✓
Bar X-L		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
MBT ET	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		
MBT Transition		✓		✓	✓		✓		✓			✓		
MBT Continuity		✓		✓	✓		✓		✓			✓		
MBT Anchor	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓		

Tapered Thread

The Tapered Thread coupler is designed to suit the majority of applications which require the joining of reinforcing bars. The ends of the rebar are cut square and a tapered thread is cut onto the bar to suit the tapered thread coupler. The sleeve is tightened onto the threaded bar end using a calibrated torque wrench.

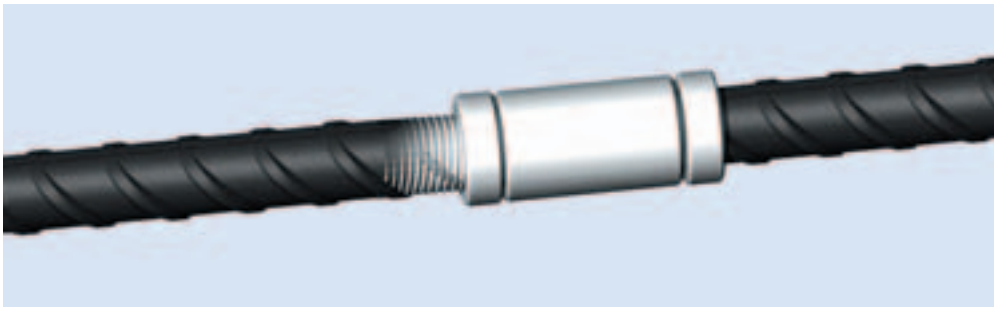
Bartec

The Bartec system is one of the smallest and the most cost-effective coupler systems in our range, when used on large scale, high coupler volume projects. The ends of the bars are enlarged and a parallel thread is cut onto the ends to suit the threaded coupler. The coupler is assembled using a pipe or chain wrench. Calibrated wrenches are not necessary.



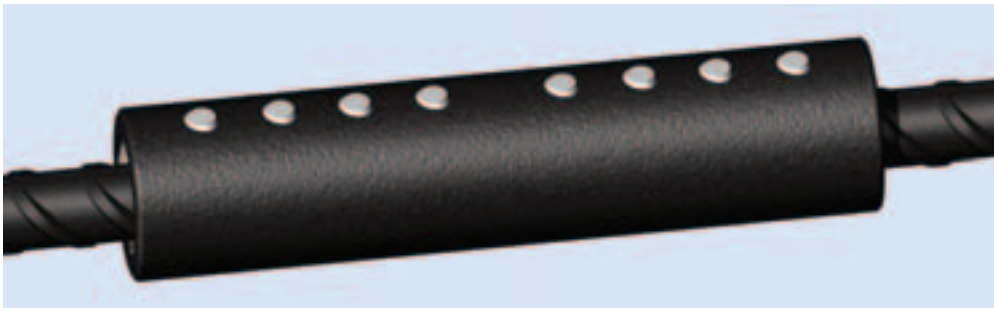
Bar X-L

Bar X-L couplers provide a cost-effective, full strength joint and are the smallest couplers in the Ancon range. They are particularly appropriate for applications where fatigue is an issue. The ends of the bars are cut square and marginally enlarged. A parallel thread is then rolled onto the ends to suit the threaded sleeve. The coupler is installed using a pipe or chain wrench. Calibrated torque wrenches are not required.



MBT

MBT couplers are suitable where it is not convenient to have the bar ends prepared for Bartec, or tapered thread couplers. The bars are supported within the coupler on two serrated saddles. Bars are locked in place by a series of special lockshear bolts, the heads of which shear off when the predetermined tightening torque is reached, providing a visual check of correct installation.



Reinforcing Bar Couplers

COUPLER SELECTION

Range	Tapered Thread					Bartec			Bar X-L			MBT			
Type	**Standard**	**Positional**	**Transition**	**Weldable**	**HA**	**Type A**	**Type B**	**Type C**	**Type A**	**Type B**	**Type C**	**ET**	**Transition**	**Continuity**	**HA**
Bar Dia. (mm)	12-50	12-50	12-50	12-50	12-50	12-57	12-57	12-57	12-57	12-57	12-57	10-40	10-40	10-40	10-40
Bar End Prep	Threaded	Threaded	Threaded	Threaded	Threaded	Threaded	Threaded	Threaded	Threaded	Threaded	Threaded	No	No	No	No
Bar Rotation	Yes	No	Yes	Yes	Yes	Yes	Limited	No	Yes	Limited	No	No	No	No	No
Installation Method	Torque Wrench					Wrench			Wrench			Wrench or Nut Runner			
Capacity	Full Strength up to 529N/mm²					Full Strength up to 650N/mm²			Full Strength up to 650N/mm²			Full Strength up to 529N/mm²			
Approvals	BS8110 CARES TA1-B {DIBt Approval No Z-1.5-179 12, 14, 16, 20, 25, 28, 32, 40} KOMO K23495/02					BS8110 ACI 349 ASME III DIV 2 (ACI 359) ACI 318 CSA CAN 3 – N2872			BS8110 DET NORSKE VERITAS (X-L 25, 32) ASME III DIV 2 (ACI 359) ACI 349 (11, 14, 18)			BS8110 BS5400 {BBA 98/R102 ET10,12,16,20,25,32,40} ACI 318 DIN 1045 German Code BBK 94 Vol 22 Swedish Code {DIBt Approval No Z-1.5-10 ET 10, 12, 14, 16, 20, 25, 28}			

COUPLER SPECIFICATION

Ancon Couplers can be specified using the part numbers which are included in the tabulated data in each section of this brochure.

The following examples show how each type of coupler should be specified when using 20mm bar.

Type of Coupler	Reference
Tapered Thread Standard	**TTS20**
Tapered Thread Positional	**TTP20**
Tapered Thread Transition	**TTT20**
Tapered Thread Starter Bar	**TTSB20**
Tapered Thread Weldable	**TTW20**
Tapered Thread Headed Anchor	**TTH20**
Bartec Type A	**BT20/A**
Bartec Type B	**BT20/B**
Bartec Type C	**BT20/C**
Bar X-L Type A	**XL20/A**
Bar X-L Type B	**XL20/B**
Bar X-L Type C	**XL20/C**
MBT ET Series	**ET20**
MBT Transition Series	**ET20/16**
MBT Continuity Series	**C20**
MBT ET Headed Anchor	**ETHA20**

If you require any further assistance please contact Ancon Building Products.

To aid the specification process, full details of the Ancon range of reinforcing bar couplers are featured in CADS Rebar Scheduling Software.

TYPICAL COUPLER APPLICATION GUIDE

The following table provides a guide when selecting the most appropriate couplers for specific applications. Recommendations are based upon typical usage. Please contact Ancon for further assistance on the correct selection and specification of couplers.

Application	Tapered Thread	Bartec	Bar X-L	MBT
Wall to slab connection	✓	✓	✓	
Wall to pre-cast beam connection	✓	✓	✓	
Column construction	✓	✓	✓	✓
Extension / repairs to existing structures				✓
Pre-cast element to pre-cast element connection	✓	✓	✓	✓
Closing of access openings	✓	✓	✓	✓
Rebar cage pre-fabrication	✓	✓	✓	✓
Hook bars to pile connection				✓
Fatigue applications		✓	✓	✓
Bar end terminations	✓			✓

Reinforcing Bar Couplers

TAPERED THREAD

The Ancon range of Tapered Thread couplers is designed to suit the majority of applications which call for the joining of reinforcing bars. Available to suit bar sizes 12mm to 50mm, the couplers are installed quickly and easily on site without the need for specially trained personnel or specialised, expensive machinery. The compact design of each coupler ensures suitability for use in confined situations where space is restricted or where the loss of cover must be minimised.

The couplers are normally supplied fitted to the end of threaded bar, requiring only the engagement and tightening of the adjoining bar on site. In order to ensure correct installation, Ancon Building Products specifies the use of a torque wrench.

The range of Tapered Thread couplers is available through major rebar suppliers. Please contact Ancon for further details.

STANDARD COUPLER

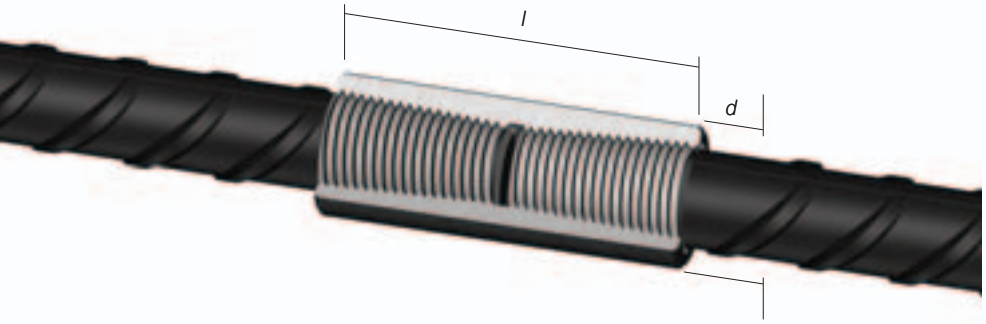
The Standard Tapered Thread coupler is suitable for connecting two bars of the same diameter, where one bar can be rotated. It comprises an internally threaded sleeve with two right hand threads which are tapered towards the middle of the coupler. The bar ends are square cut and a tapered thread is cut onto the bar. A nominal allowance of +25mm should be allowed per threaded bar end for square cutting the bar end.

The couplers are generally torqued onto the reinforcing bar in the bar threading shop, the internal threads protected by plastic end caps. The threaded ends of the continuation bar are protected by plastic thread protectors.

Engagement of the bar within the coupler is simplified by the tapered thread design which aids alignment. When the bar is fully engaged within the coupler, the continuation bar is tightened using a torque wrench.

The Ancon Standard Tapered Thread coupler is designed to meet the requirements of BS 8110 and to achieve failure loads in excess of 115% of the characteristic strength of grade 500 rebar.

Standard Coupler Dimensions



Bar Diameter		12	14	16	20	25	28	32	40	50
External Dia.	*d*	22	22	25	30	36	42	46	55	70
Coupler Length	*l*	58	64	70	74	90	100	112	138	170
Weight (kg)		0.13	0.12	0.17	0.24	0.41	0.66	0.85	1.90	2.22
Torque (Nm)		60	85	110	165	265	275	285	330	350
Part No.		TTS12	TTS14	TTS16	TTS20	TTS25	TTS28	TTS32	TTS40	TTS50

TESTING & APPROVALS

The Standard range of Tapered Thread couplers has been tested and approved by UK CARES to show compliance with the requirements of BS 8110.

5004
CARES
TECHNICAL APPROVAL

The most common sizes have been tested and approved by the DIBt and are covered by Approval No Z-1.5-179.

Ancon Tapered Thread couplers meet the requirements of KIWA document BRL 0504 “Mechanical Steel Reinforcement Couplers” and have been awarded KOMO Certificate No. K23495/02.

KOMO
Certificate No. K23495/02

INSTALLATION

Tapered Thread Standard Series

1

The coupler is normally supplied fixed to the reinforcing bar, ready to be installed and cast in concrete.

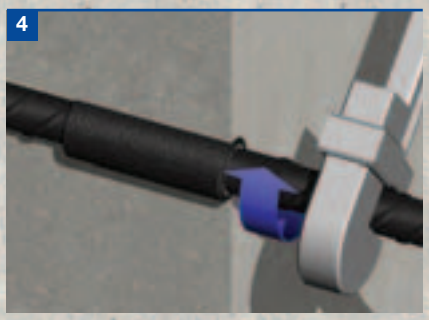
2

After casting the concrete and when ready to extend, remove the plastic end cap from the coupler. Position the continuation bar in the sleeve and rotate the bar into the coupler.

3

Continue to screw the bar into the coupler until tight.

4



To ensure correct installation, tighten the joint to the specified torque using a calibrated torque wrench on the continuation bar. Tightening torques are shown in the table opposite.

Reinforcing Bar Couplers

POSITIONAL COUPLER

The Ancon Tapered Thread Positional coupler is designed to be used in applications in which neither bar can be rotated. Having a degree of adjustability, the Positional coupler can also be used as a closer between two fixed bars.

The Positional coupler comprises three components, a male section, a female section and a locking nut. The male component has an internal tapered thread and an extended external parallel thread. The female component has a parallel thread and a tapered thread, both of which are internal. A locknut is used to secure the connection when the correct degree of adjustability has been achieved. All components, including the locknut must be tightened using a torque wrench.

Plastic thread protectors are used to prevent damage to the threaded bar ends and the internal threads of the couplers are protected by plastic end caps. A nominal allowance of +25mm should be allowed per threaded bar end for square cutting the bar end.

TESTING & APPROVALS

The Positional range of Tapered Thread couplers has been tested and approved by UK CARES to show compliance with the requirements of BS 8110.

The most common sizes have been tested and approved by the DIBt and are covered by Approval No Z-1.5-179.

Ancon Tapered Thread couplers meet the requirements of KIWA document BRL 0504 “Mechanical Steel Reinforcement Couplers” and have been awarded KOMO Certificate No. K23495/02.

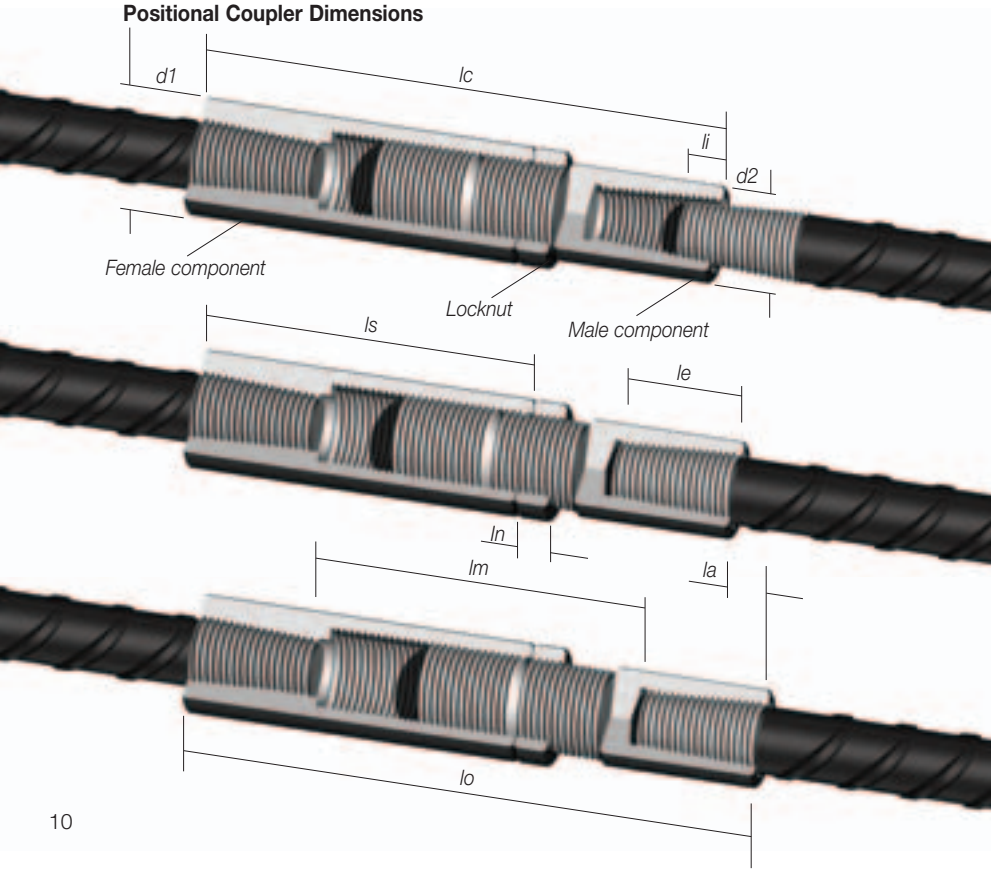
5004

CARES TECHNICAL APPROVAL

Certificate No. K23495/02

Bar Diameter		12	14	16	20	25	28	32	40	50
External Dia.	*d1*	25	25	30	36	46	50	55	70	85
External Dia.	*d2*	22	22	25	30	36	42	46	60	70
Female Sleeve Length	*ls*	84	89	95	112	132	137	153	188	233
Locknut Length	*ln*	13	13	13	13	13	13	15	15	16
Closed Length	*lc*	138	150	155	180	207	218	243	289	353
Max. Open Length	*lo*	178	190	196	231	266	274	305	366	448
Bar Insertion Prior to Engagement	*li*	9	12	15	8	16	22	28	40	54
Bar Insertion Full Engagement	*le*	26	29	32	33	42	47	53	66	82
Adjustable Length	*la*	23	23	24	26	34	34	37	52	67
Max Distance between Bar Ends	*lm*	119	124	127	157	176	174	193	228	278
Weight (kg)		0.41	0.58	0.62	1.12	2.04	2.30	2.77	6.80	11.65
Coupler Torque (Nm)		60	85	110	165	265	275	285	330	350
Locknut Torque (Nm)		20	25	30	50	70	80	90	110	130
Part No.		TTP12	TTP14	TTP16	TTP20	TTP25	TTP28	TTP32	TTP40	TTP50

Positional Coupler Dimensions



INSTALLATION

Tapered Thread Positional Series

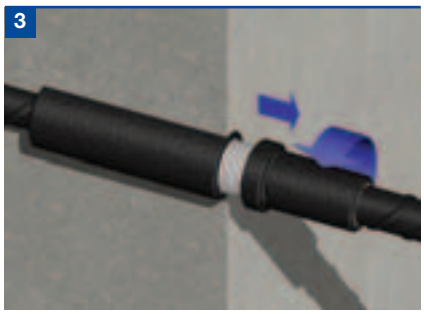
1

The female section of the positional coupler is normally cast flush in the concrete. The installer must take care to protect the internal threads and prevent the ingress of concrete. Once cast and ready to extend, the male end complete with locknut can be screwed into place.

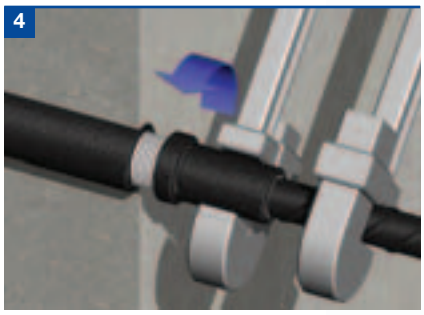
2

Position the continuation bar as near as possible to the coupler fitted to the cast-in bar.

3



Run the male component and locknut onto the continuation bar until fully engaged.

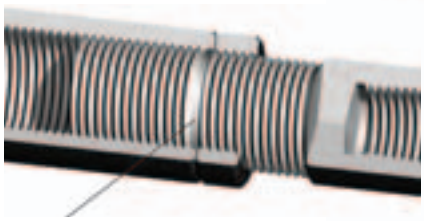


Using a torque wrench tighten the male component on the continuation bar to the specified torque, whilst holding the continuation bar with a second wrench.

Run the locknut along the threaded barrel of the male component to abut the female section. Using the torque wrench, tighten the locknut to the specified torque. Tightening torques are shown on the table opposite.

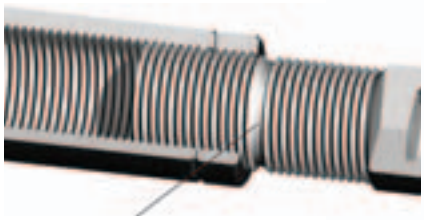
At this point the groove in the parallel threaded section of the male component must be completely covered by the locknut. If any part of the groove is visible beyond the locknut, the degree of adjustability has been exceeded and the installation is incorrect.

Correct Installation



Groove is completely hidden within locknut

Incorrect Installation



Groove is protruding from locknut

Reinforcing Bar Couplers

TRANSITION COUPLER

The Ancon Tapered Thread Transition coupler is used to join reinforcing bars of different diameters where one coupler can be rotated. With all the benefits of the Standard range, Transition couplers are designed to achieve failure loads greater than 115% of the characteristic strength of the smaller diameter grade 500 reinforcing bar.

The Transition coupler comprises an internally threaded sleeve with two right hand threads both of which are tapered towards the middle of the coupler. The diameter of each thread corresponds to the appropriate bar size. A nominal +25mm should be allowed per threaded bar end for square cutting the bar end.

TESTING & APPROVALS

The Transition range of Tapered Thread couplers has been tested and approved by UK CARES to show compliance with the requirements of BS 8110.

5004 CARES TECHNICAL APPROVAL

Tapered Thread Transition couplers have also been approved up to size 32/40 by the DIBt and are covered by Approval No Z-1.5-179.

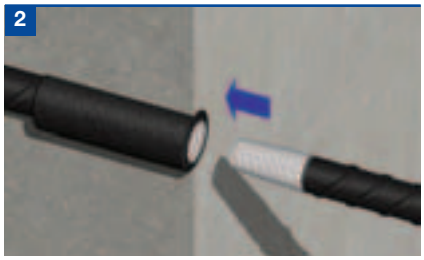
Ancon Tapered Thread couplers meet the requirements of KIWA document BRL 0504 “Mechanical Steel Reinforcement Couplers” and have been awarded KOMO Certificate No. K23495/02.

KOMO Certificate No. K23495/02

INSTALLATION

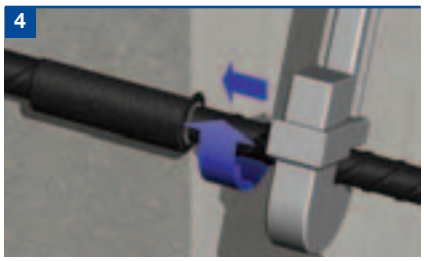
Tapered Thread Transition Series

The coupler is normally supplied fixed to a reinforcing bar, ready to be installed and cast in concrete.



After casting of the concrete and when ready to extend, remove the plastic end cap from the coupler. Position the continuation bar in the sleeve and rotate the bar into the coupler.

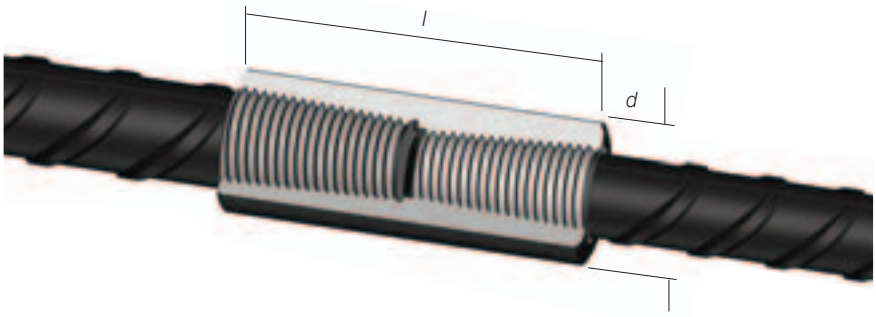
Continue to screw the bar into the coupler until tight.



To ensure correct installation, tighten the joint to the specified torque using a calibrated torque wrench on the continuation bar. Tightening torques are shown in the table below.

Note: *In the event of the coupler being supplied fixed to the smaller bar it is necessary to ensure that when tightening the larger continuation bar, the force is not transmitted through the smaller bar.*

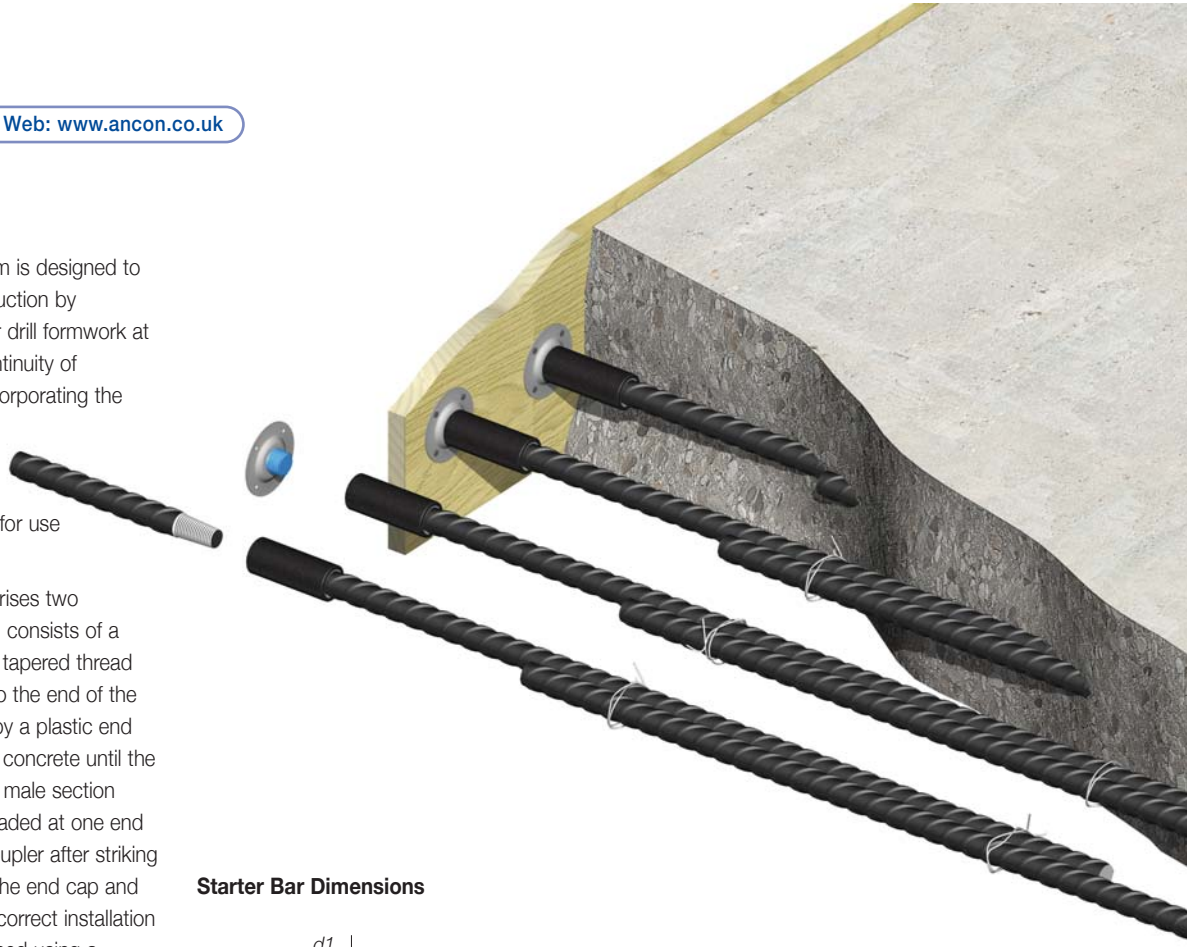
Transition Coupler Dimensions



Bar Diameter		12/14	12/16	14/16	16/20	20/25	25/28	25/32	28/32	32/40	40/50
External Dia.	*d*	22	25	25	30	36	42	46	46	55	70
Coupler Length	*l*	65	72	71	78	90	99	112	110	138	170
Weight (kg)		0.14	0.21	0.19	0.29	0.48	0.72	0.98	0.91	1.62	2.61
Torque (Nm)		60/85	60/110	85/110	110/165	165/265	265/275	265/285	275/285	285/330	330/350
Part No.		TTT12/14	TTT12/16	TTT14/16	TTT16/20	TTT20/25	TTT25/28	TTT25/32	TTT28/32	TTT32/40	TTT40/50

STARTER BAR SYSTEM

The Ancon Starter Bar system is designed to increase the speed of construction by eliminating the need to cut or drill formwork at construction joints where continuity of reinforcement is required. Incorporating the Ancon tapered thread coupler, approved by UK CARES, the system simplifies design and is ideal for use with slipforming.



The starter bar system comprises two elements. The female section consists of a threaded bar connected to a tapered thread coupler. A nail plate is fixed to the end of the coupler and is held in place by a plastic end cap. This prevents ingress of concrete until the continuation bar is fixed. The male section comprises a straight bar threaded at one end to allow connection to the coupler after striking the formwork and removing the end cap and nail plate. In order to ensure correct installation the continuation bar is tightened using a calibrated torque wrench.

Ancon also manufactures the Eazistrip Reinforcement Continuity System. Pre-bent bars are housed within a casing and cast into the concrete. After striking the formwork, the casing's cover is removed and the bars straightened, ready for joining to the main reinforcement.

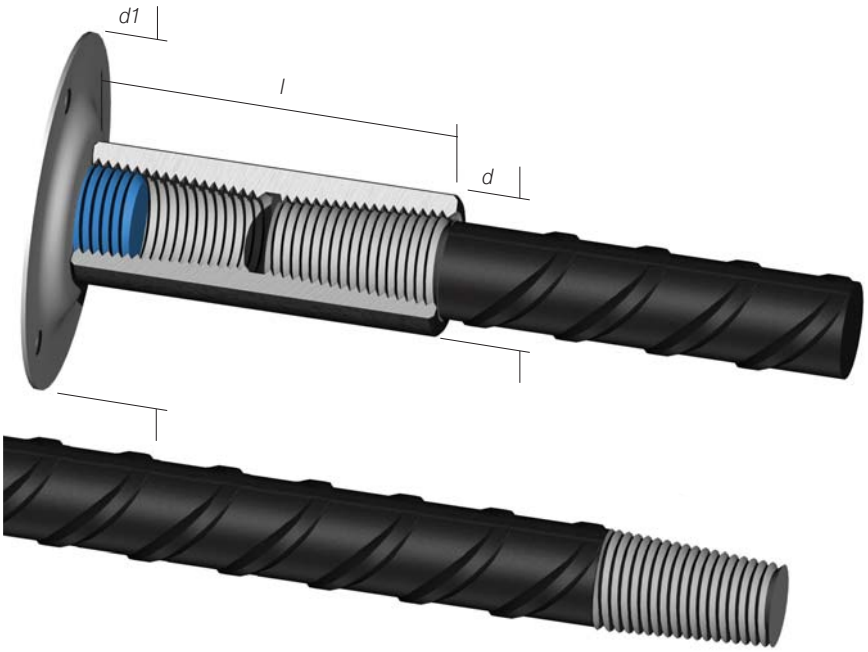
INSTALLATION

Starter Bar System

The coupler is normally supplied fixed to the reinforcing bar. Upon removal of the plastic end cap, position the nail plate, which is supplied separately, on the end of the coupler to enable it to be fixed flush to the formwork. Secure the nail plate by replacing the end cap. Tie the starter bar assembly to the fixed bar and position against the formwork. Nail the assembly to the formwork.

After casting the concrete and striking the formwork, remove the end cap and nail plate and place the continuation bar in the coupler and rotate until tight. To ensure correct installation tighten the rebar to the specified torque using a calibrated wrench on the continuation bar. Tightening torques are shown in the adjacent table.

Starter Bar Dimensions



Bar Diameter		Threaded Bar / Coupler / Nail Plate 12	16	20	25	Threaded Bar 12	16	20	25
Bar Length		600	800	1000	1250	600	800	1000	1250
Coupler length	*l*	58	70	74	90	-	-	-	-
Coupler External Dia.	*d*	22	25	30	36	-	-	-	-
Nail Plate Dia.	*d1*	70	70	70	90	-	-	-	-
Torque (Nm)		60	110	165	265	60	110	165	265
Part No.		TTSB12F	TTSB16F	TTSB20F	TTSB25F	TTSB12M	TTSB16M	TTSB20M	TTSB25M

The threaded bar lengths in the table above are minimum lap lengths. Longer bars are available upon request.

Reinforcing Bar Couplers

TAPERED THREAD WELDABLE COUPLERS

Ancon Tapered Thread Weldable couplers provide a convenient means of connecting reinforcing bars to structural steel plates or sections. Shorter than the standard coupler, it has a tapered thread at one end. The other end is welded directly to the steel.

The couplers are produced in either steel grade Type 1045 to ASTM A576 or Type 150M19 steel to BS970.

The Tapered Thread Weldable coupler is suitable for welding to structural steels, Grade S275 or Grade S355. The load conditions at the connection must be determined by the designer along with the type and size of weld required. Another important consideration is the type of electrode to be used, which must be matched to the properties of the plate and tube, and to the site conditions under which the welding will be undertaken. Welders should be qualified for the type of weld required.

For further assistance and technical information please contact Ancon Building Products.

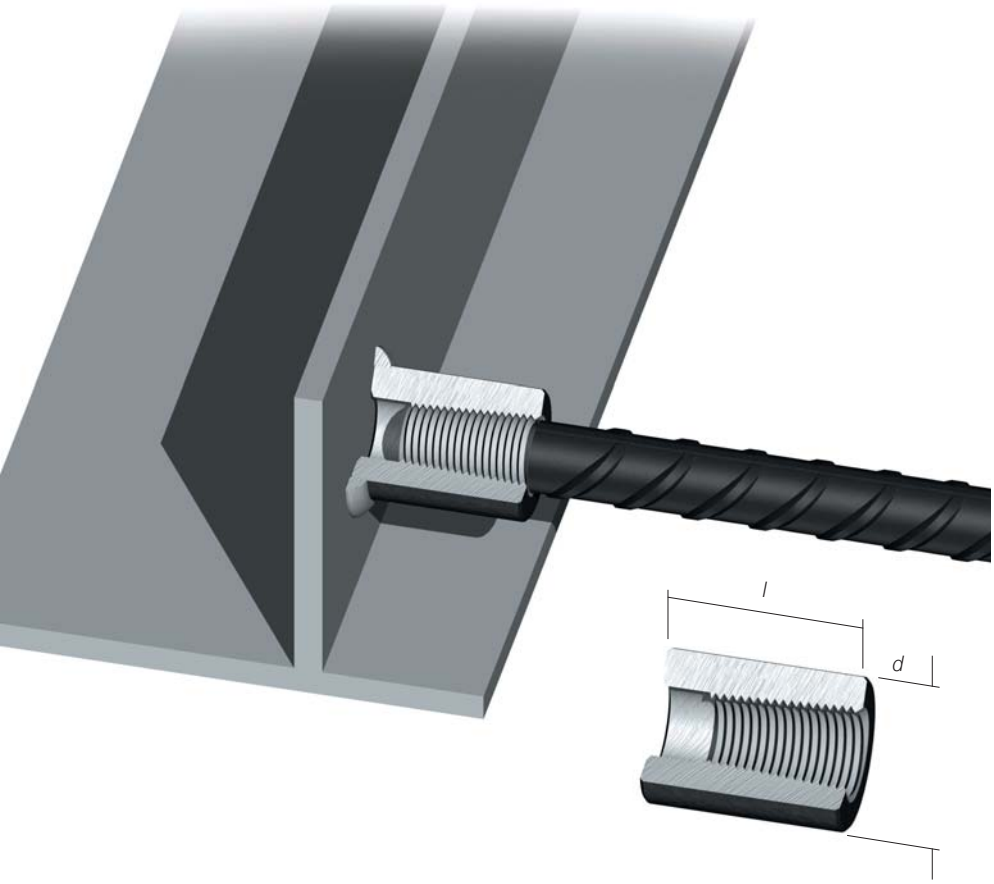
TESTING & APPROVALS

Ancon Tapered Thread Weldable couplers, sizes 12mm-40mm, have been approved by the DIBt and are covered by Approval No Z-1.5-179.

Ancon Tapered Thread couplers meet the requirements of KIWA document BRL 0504 “Mechanical Steel Reinforcement Couplers” and have been awarded KOMO Certificate No. K23495/02.

Certificate No. K23495/02

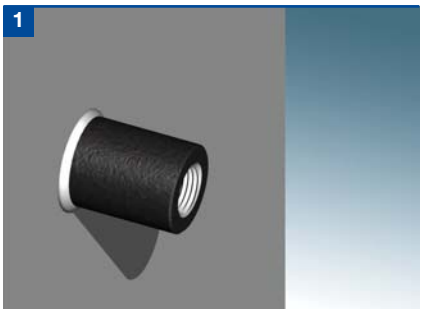
Weldable Coupler Dimensions



Bar Diameter		12	14	16	20	25	28	32	40	50
External Dia.	*d*	25	30	30	36	46	50	55	70	85
Coupler Length	*l*	35	38	42	47	57	63	72	89	110
Weight (kg)		0.11	0.17	0.18	0.28	0.56	0.72	0.97	1.97	3.51
Torque (Nm)		60	85	110	165	265	275	285	330	350
Part No		TTW12	TTW14	TTW16	TTW20	TTW25	TTW28	TTW32	TTW40	TTW50

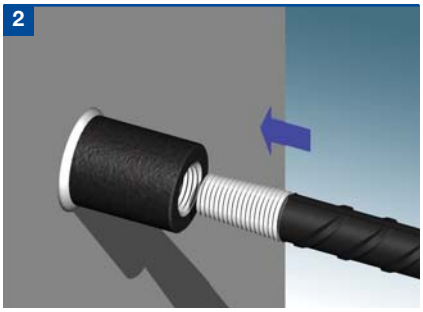
INSTALLATION

1



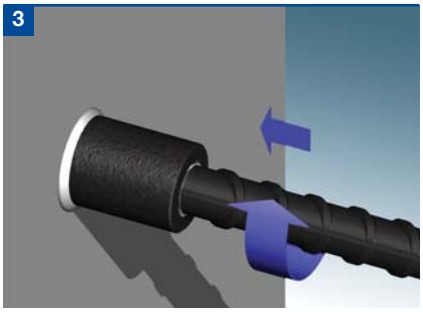
The coupler must first be welded to the steelwork.

2



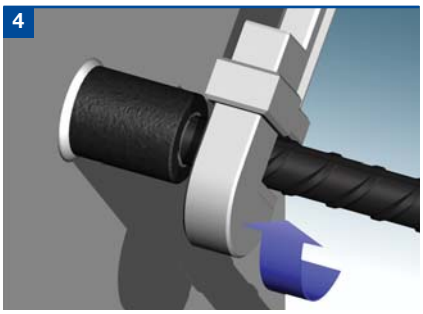
When ready to extend, remove the plastic end cap and position the continuation bar into the sleeve.

3



Rotate the bar into the coupler until tight.

4



To ensure correct installation, tighten the joint to the specified torque using a calibrated torque wrench on the continuation bar. Tightening torques are shown in the table opposite.

TAPERED THREAD HEADED ANCHORS

Anchorage of rebars within a concrete section is traditionally achieved by means of creating a long hooked end on the rebar. This can lead to problems when positioning the bar and can increase congestion. It can ultimately result in larger than necessary concrete sections at the location of the hooked ends.

The Tapered Thread Headed Anchor provides an alternative method of achieving rebar end anchorage within the concrete. Consisting of an oversized coupler, it carries the full tension load of the bar when it is bearing against the concrete. The Headed Anchor removes the need for hooked rebar and subsequently reduces congestion and simplifies bar placement. This in turn increases speed of construction and gives greater flexibility in design. Typical applications include pile caps and beam to column connections.

TESTING & APPROVALS

The most common sizes of Headed Anchors have been tested and approved by the DIBt and are covered by Approval No Z-1.5-179.

Ancon Tapered Thread couplers meet the requirements of KIWA document BRL 0504 “Mechanical Steel Reinforcement Couplers” and have been awarded KOMO Certificate No. K23495/02.

Certificate No. K23495/02

ACCESSORIES

Threading Machine

The Ancon threading machine provides a fast, simple and reliable threading operation. The machine is compact, making it completely portable and easy to locate. It is of a robust design to provide a long, low maintenance life.

Threading machines are generally located in stockists' yards. For larger projects Ancon machines can be made available for hire. Please contact Ancon for further information.

Training on the correct usage of the threading machine is provided by Ancon technicians.

Machine Consumables

The following consumables are available:

Chaser Sets

Chaser sets are available on a regrindable or disposable basis. Each set can be reground up to 3 times in order to extend cutting life. Please contact Ancon Building Products for details.

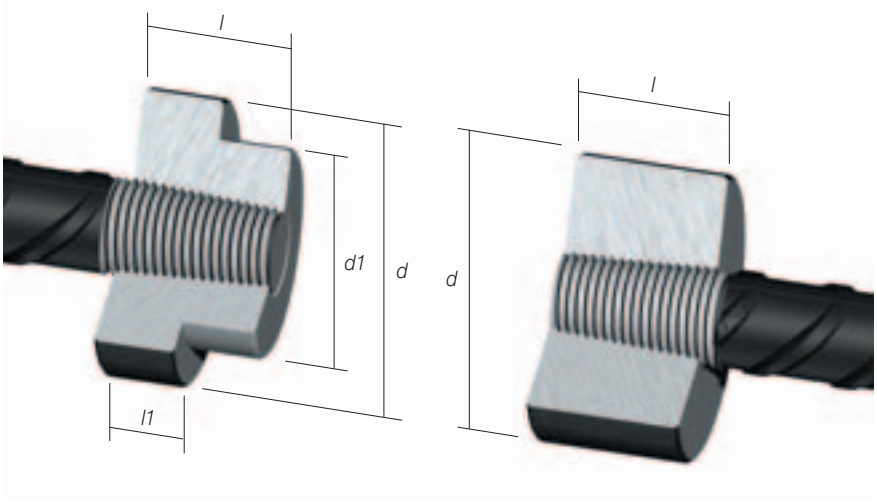
Coolant

Ancon Building Products recommends the use of Solmaster EPS or a similar water based coolant.

Thread Protectors

Plastic sleeves are available to protect the tapered threads on reinforcing bars.

Tapered Thread Headed Anchor Dimensions



Bar Diameter		12	14	16	20	25	28	32	40
External Dia.	*d*	40	45	50	65	80	90	110	135
External Dia.	*d1*	-	-	-	-	-	78	78	78
Coupler Length	*l*	27.0	30.0	33.0	35.0	43.5	46.5	53.5	67.5
Coupler Length	*l1*	-	-	-	-	-	21.5	28.5	42.5
Weight (kg)		0.25	0.34	0.46	0.83	1.57	1.86	2.81	5.17
Torque (Nm)		60	85	110	165	265	275	285	330
Part No.		TTH12	TTH14	TTH16	TTH20	TTH25	TTH28	TTH32	TTH40

Torque Wrenches

In order to ensure the correct assembly of tapered thread couplers the use of a calibrated torque wrench is essential. Details of wrenches are included in the table below. Each wrench is supplied with a certificate of calibration.

Torque Wrench

Torque Wrench Calibration

A calibration service for torque wrenches purchased from Ancon is available. Please contact Ancon for further details.

Torque Wrenches

	Torque Wrenches for Couplers and Locknuts		
Part No.	E879008	E879009	E879010
Torque (Nm)	60 - 285	85 - 350	20 - 90

Torque Values (Nm)

Bar Diameter	12	14	16	20	25	28	32	40	50
Standard Coupler	60	85	110	165	265	275	285	330	350
Positional Coupler	60	85	110	165	265	275	285	330	350
Positional Locknut	20	25	30	50	70	80	90	110	130

Bar Diameter	12/14	12/16	14/16	16/20	20/25	25/28	25/32	28/32	32/40	40/50
Transition Coupler	60/85	60/110	85/110	110/165	165/265	265/275	265/285	275/285	285/330	330/350

Reinforcing Bar Couplers

BARTEC

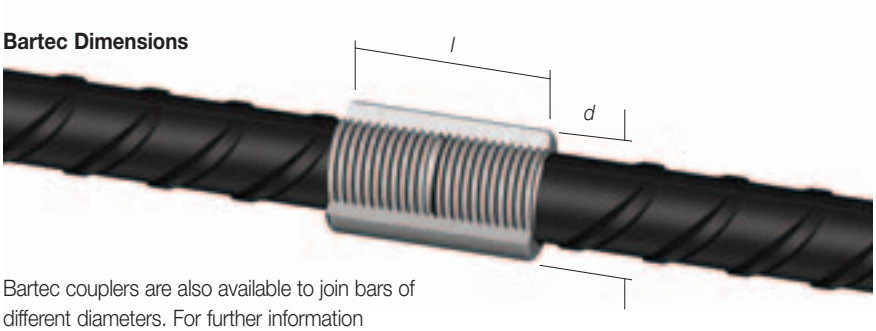
Bartec couplers produce a full strength joint yet they are among the smallest in the Ancon range, best suited to large scale projects requiring a high volume of couplers.

The end of each bar to be joined is cut square and enlarged by cold forging. This increases the core diameter of the bar to ensure that the joint is stronger than the bar.

Parallel metric threads are cut onto the enlarged ends. The threaded end is then proof tested to a force equal to the characteristic yield strength of the bar. A nominal allowance of +50mm per threaded bar end should be made for cutting square and cold forging.

The threaded ends of the bars are protected by an external plastic sheath. Couplers, which are usually supplied attached to the bar, have their internal threads protected by an internal plastic end cap. For certain applications, especially where Bartec is being used in deep pours, the coupler end caps may not prevent the ingress of concrete fines. For these applications, further protection may be required.

Bartec Dimensions

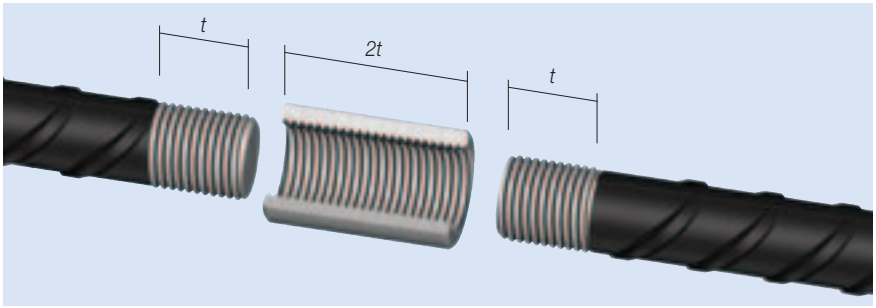


Bartec couplers are also available to join bars of different diameters. For further information please contact Ancon Building Products.

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		2.0	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 C		N/A	BT16/C	BT20/C	BT25/C	BT28/C	BT32/C	BT36/C	BT40/C	BT50/C	BT57/C

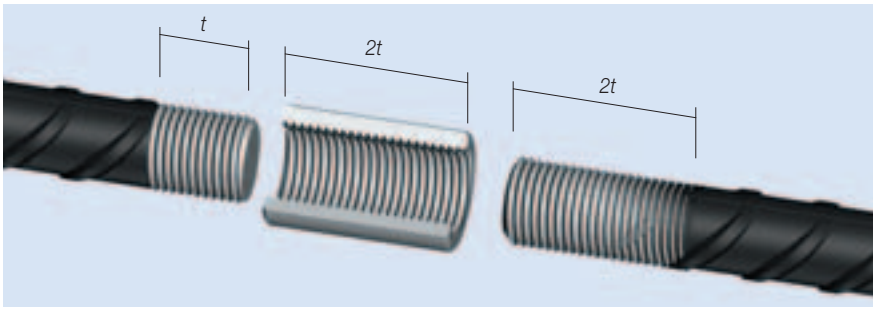
Bartec Type A

The Bartec Type A system utilises internally threaded couplers with a single right hand thread and is suitable for applications where the continuation bar can be rotated. The ends of the bars are upset and threaded for half the length of the coupler.



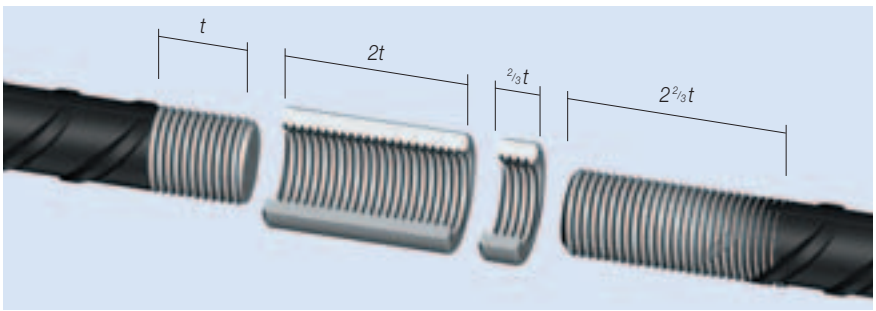
Bartec Type B

The Bartec Type B uses the same coupler as the Type A system, but one bar is threaded for a full coupler length. It is used for applications where it is difficult but not impossible to rotate the continuation bar.



Bartec Type C

The Bartec Type C system has an additional locknut and is used where the continuation bar cannot be rotated. The continuation bar is threaded for the full coupler length plus the length of the locknut.



TWO STAGE CONSTRUCTION

In two stage construction utilising Types B and C couplers, it is essential to form a pocket in the face of the first stage concrete. This will create the space for the coupler to run onto the thread of the fixed reinforcing bar.

A pocket former is screwed onto the end of the bar and cast flush with the face of the concrete.

MOBILE BAR END PREPARATION FACILITY

Bartec threading equipment is generally established in the rebar supplier's premises and couplers are usually supplied pre-fixed to the threaded bar ends.

On large contracts where bar end preparation can be carried out on site, equipment can be made available for hire. It should be noted that the hirer will need to provide sufficient power, air, rebar support tressles and crane handling facilities.

TESTING & APPROVALS

Bartec couplers are designed and manufactured in accordance with BS EN ISO 9001 and comply in all respects to BS 8110 when used with reinforcing bar to BS 4449. Full destructive tests have been carried out to show compliance with the following codes: ACI 349; ASME III DIV 2 (ACI 359); ACI 318; CSA CAN 3 - N2872.

Typical Test Results

Nominal Bar Size Dia. mm	Yield Stress (N/mm²)	Ultimate Stress (N/mm²)	Elongation %	Failure Mode
16	531	587	18	Bar Break
20	518	596	20	Bar Break
25	522	625	18	Bar Break
32	484	604	20	Bar Break
40	512	629	18	Bar Break
50	510	669	17	Bar Break

Reinforcing Bar Couplers

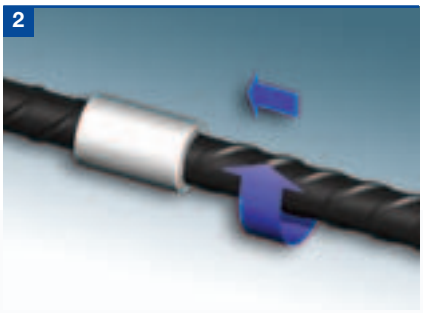
INSTALLATION

The Bartec Type A System

1

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.

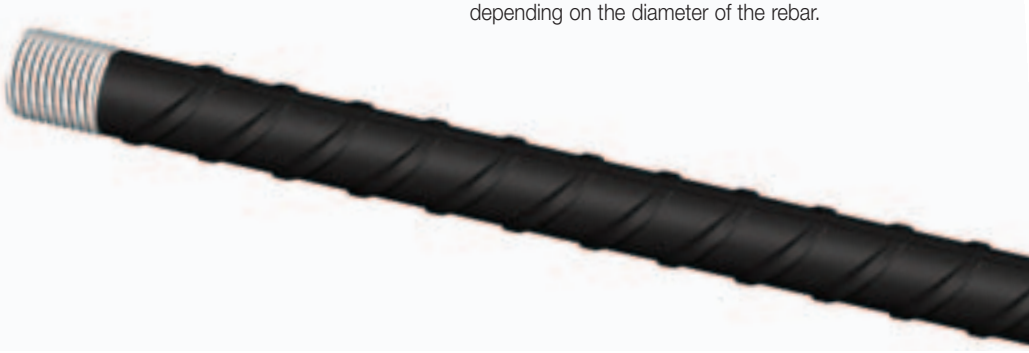
2



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

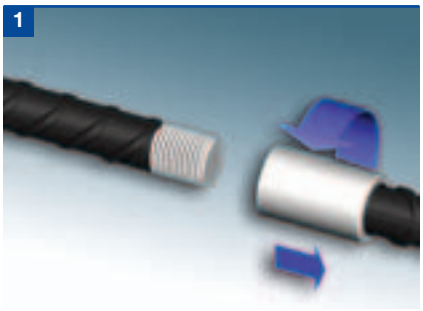
3

Tighten the joint using a wrench on the continuation bar. After tightening there should be no more than 2-4mm of thread exposed, depending on the diameter of the rebar.



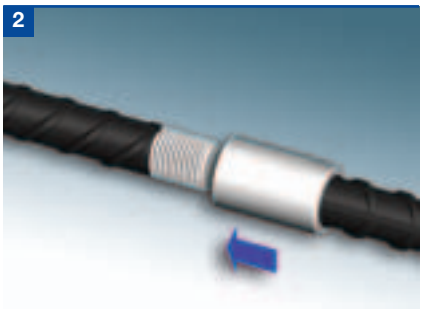
The Bartec Type B System

1



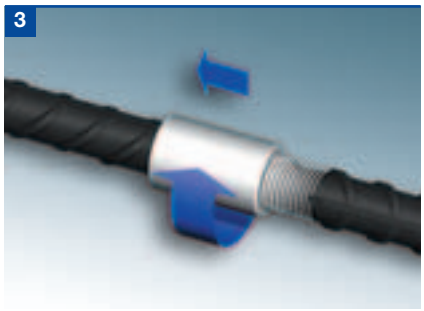
Screw the coupler to the rear of the thread on the continuation bar.

2



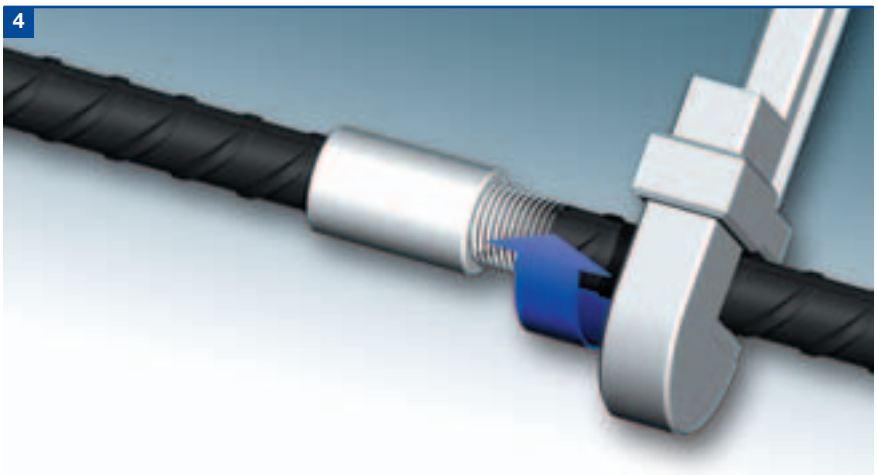
Position the continuation bar with the coupler against the end of the first bar.

3



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

4

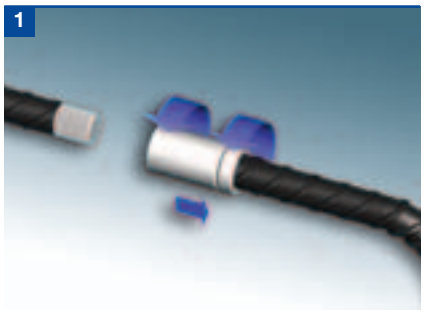


Using a wrench, rotate the continuation bar to lock the two bar ends against each other within the coupler. After tightening, the length of exposed thread should be no more than half of the coupler length plus 2-4mm depending on the diameter of the rebar.

INSTALLATION

The Bartec Type C System

1



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

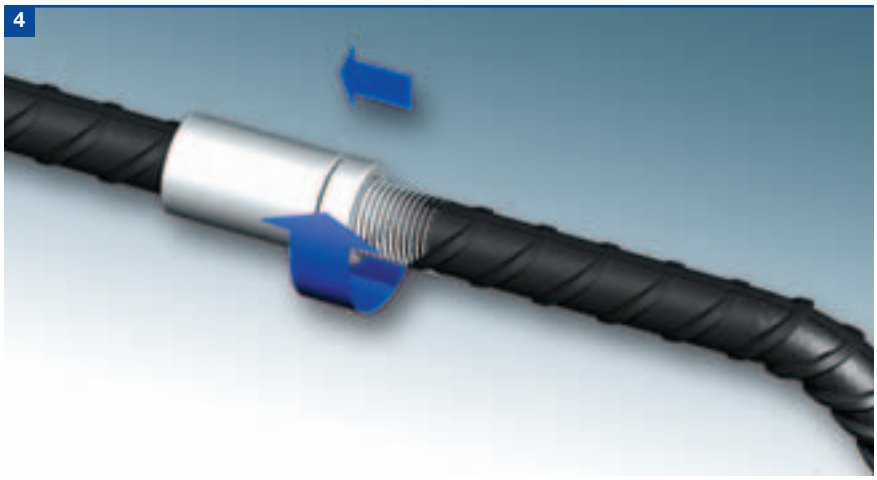
2

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

3

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

4



Rotate the locknut along the continuation bar to abut the coupler.

5

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

Reinforcing Bar Couplers

BAR X-L COUPLERS

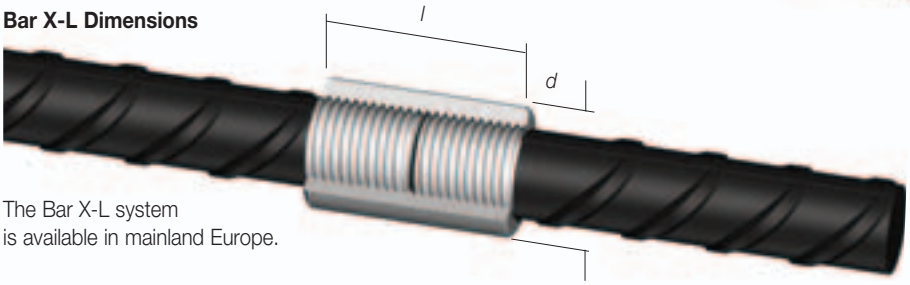
Bar X-L couplers provide a cost-effective, full strength joint and are the smallest coupler in the Ancon range. They are particularly appropriate for applications where fatigue is an issue.

Each bar to be joined is cut square and marginally enlarged by a cold forging process in order to increase the cross sectional area of the bar. This ensures that the joint is stronger than the bar. The Bar X-L system differs from the Bartec system because the thread applied to the bar is rolled onto the enlarged ends of the bar rather than cut into it. As with the Bartec system the threaded end is then proof tested to a force equal to the characteristic yield strength of the bar. This method of thread formation provides Bar X-L couplers with enhanced fatigue resistance.

Where fatigue is a major consideration on a project, the external surface of the coupler can be profiled. Plastic end sheaths protect the threaded ends of the rebar. The internal threads of the couplers, which are usually supplied fixed to the bar, are protected by internal plastic end caps. For certain applications, for example where Bar X-L is being used in deep pours, the coupler end caps may not prevent the ingress of concrete fines. In such circumstances, it may be necessary to provide additional protection.

Bar X-L couplers are also available to join bars of different diameters. For further information please contact Ancon Building Products.

Bar X-L Dimensions

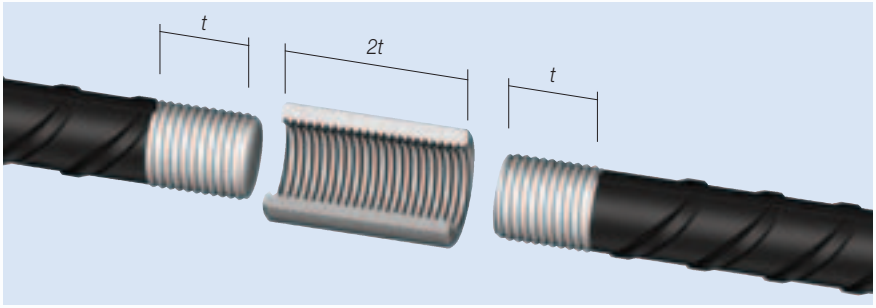


The Bar X-L system is available in mainland Europe.

Bar Diameter		12	14	16	20	22	25	28	32	36	40	50	57
External Diameter	*d*	19	22	25	31	34	40	43	49	55	60	75	86
Coupler Length	*l*	28	32	36	44	48	56	62	70	78	86	106	120
Thread Size		M14	M16	M18	M22	M24	M28	M31	M35	M39	M43	M53	M60
Thread Pitch		2.0	2.0	2.5	2.5	2.5	3.0	3.0	3.5	3.5	4.0	4.0	4.0
Weight (kg)		0.03	0.05	0.08	0.14	0.19	0.29	0.39	0.58	0.81	1.09	2.08	3.04
Part No Type A		XL12/A	XL14/A	XL16/A	XL20/A	XL22/A	XL25/A	XL28/A	XL32/A	XL36/A	XL40/A	XL50/A	XL57/A
Part No Type B		XL12/B	XL14/B	XL16/B	XL20/B	XL22/B	XL25/B	XL28/B	XL32/B	XL36/B	XL40/B	XL50/B	XL57/B
Part No Type C		XL12/C	XL14/C	XL16/C	XL20/C	XL22/C	XL25/C	XL28/C	XL32/C	XL36/C	XL40/C	XL50/C	XL57/C

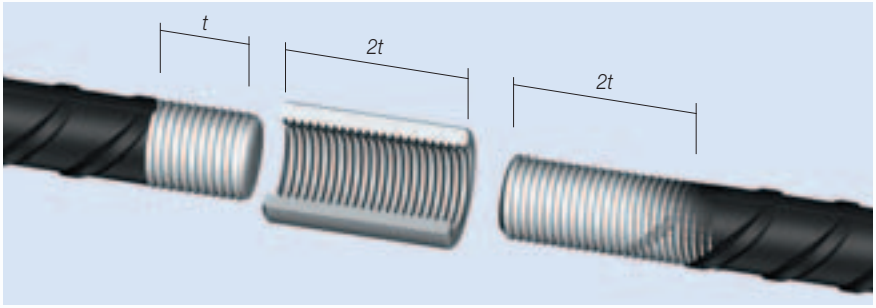
Bar X-L Type A

The Bar X-L Type A system utilises internally threaded couplers with a single right hand thread and is suitable for applications where the continuation bar can be rotated. The ends of the bar are upset and threaded for half the length of the coupler.



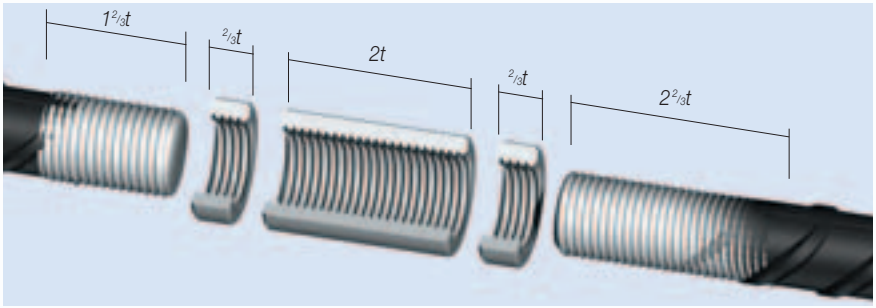
Bar X-L Type B

The Bar X-L Type B uses the same coupler as the Type A system, but one bar is threaded for a full coupler length. This is for applications where it is difficult but not impossible to rotate the continuation bar.



Bar X-L Type C

Where fatigue is a major consideration, the Bar X-L Type C system has additional locknuts and is used where the connecting bar cannot be rotated. The continuation bar is threaded for the full coupler length plus the length of the locknut.



TESTING & APPROVALS

Bar X-L couplers are designed and manufactured in accordance with BS EN ISO 9001 and comply in all respects to BS 8110 when used with reinforcing bars to BS4449. Couplers in bar sizes 11, 14 and 18 have been tested and show compliance with ASME III DIV 2 (ACI 359) and ACI 349.

TWO STAGE CONSTRUCTION

In two stage construction utilising Types B and C couplers, it is essential to form a pocket in the face of the first stage concrete. This will create the space for the coupler to run onto the thread of the fixed reinforcing bar.

A pocket former is screwed onto the end of the bar and cast flush with the face of the concrete.

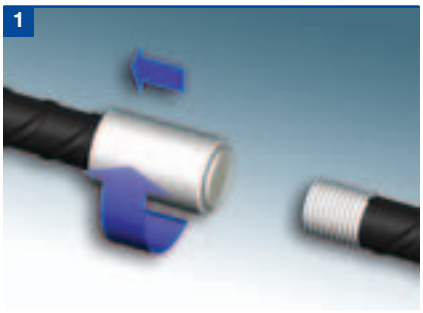
MOBILE BAR END PREPARATION FACILITY

Bar X-L threading equipment is generally established in the rebar supplier's premises and couplers are usually supplied pre-fixed to the threaded bar ends.

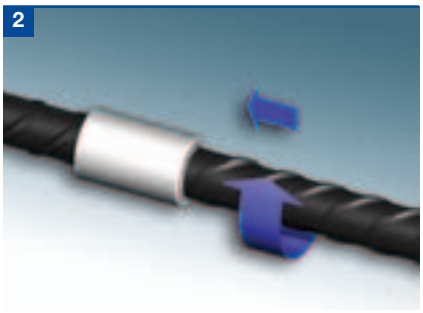
On large contracts where bar end preparation can be carried out on site, equipment can be made available for hire. It should be noted that the hirer will need to provide sufficient power, air, rebar support tressles and crane handling facilities.

INSTALLATION

The Bar X-L Type A System



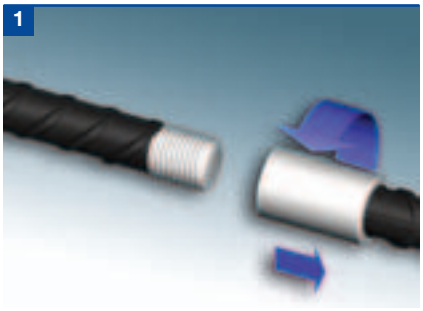
Run the coupler to the end of the thread on the fixed bar.



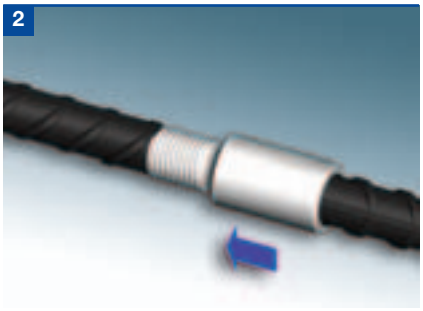
Remove the plastic cap from the coupler. Position and rotate the continuation bar in the coupler.

Tighten the joint using a wrench on the continuation bar.

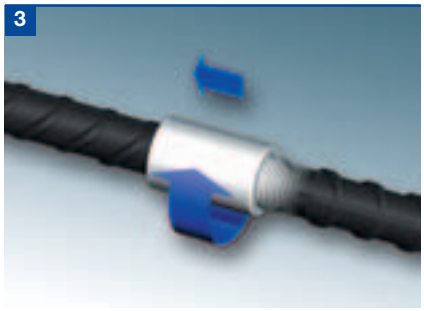
The Bar X-L Type B System



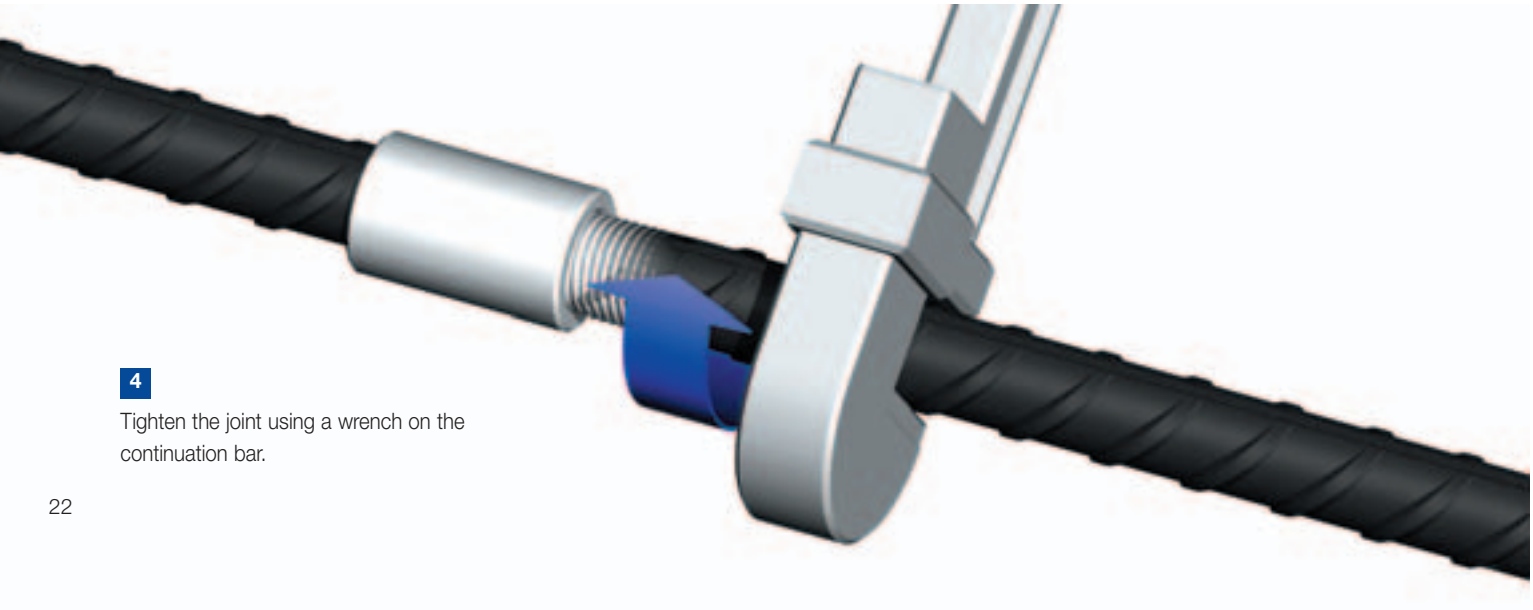
Run the coupler to the end of the thread on the continuation bar.



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



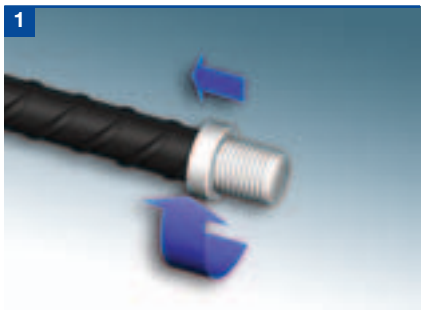
Run the coupler from the continuation bar onto the fixed bar.



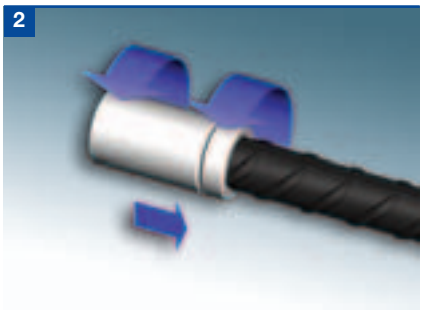
Tighten the joint using a wrench on the continuation bar.

INSTALLATION

The Bar X-L Type C System



Run the locknut onto the fixed bar.



Run the second locknut followed by the coupler to the end of the thread on the continuation bar.

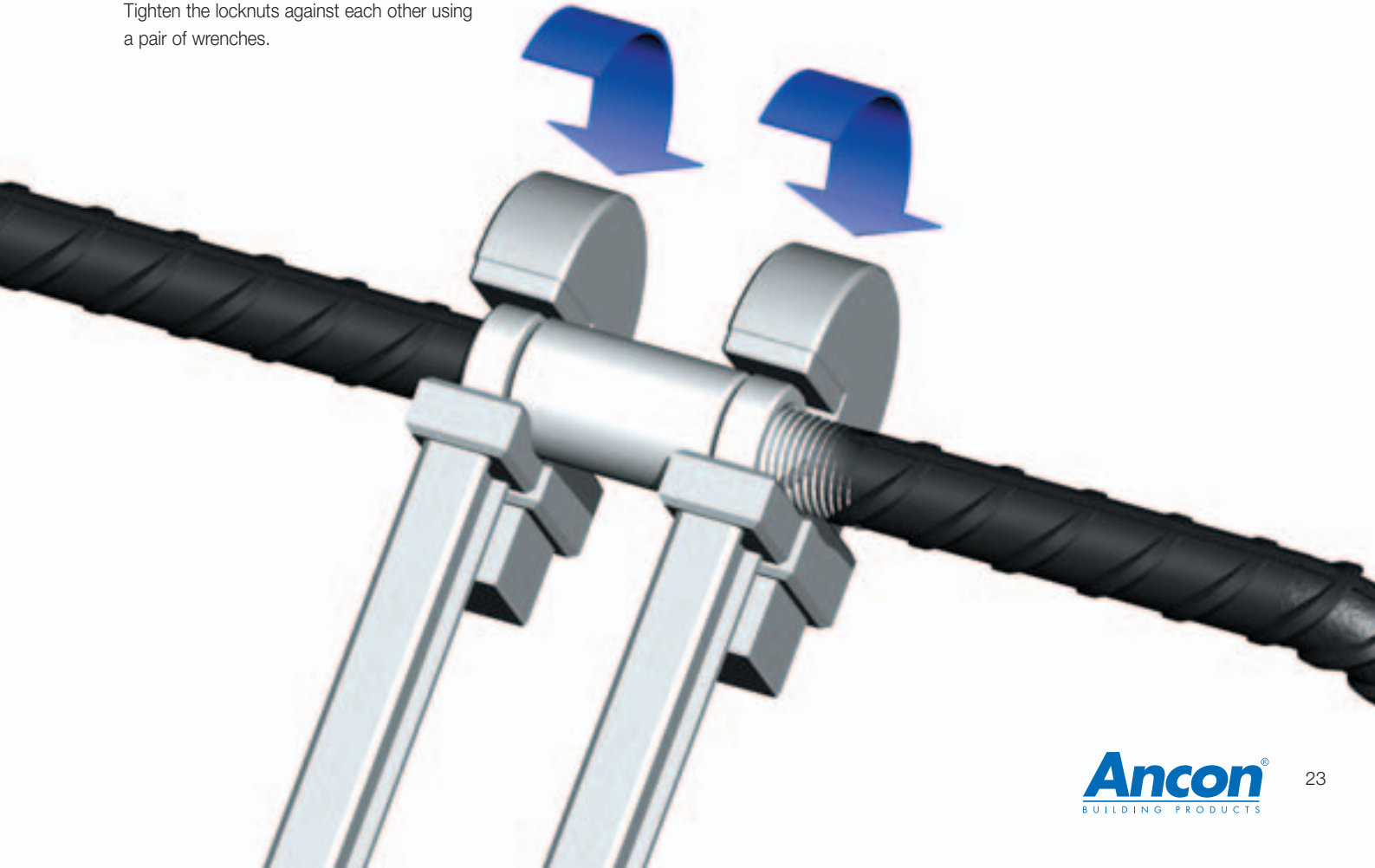
Position the continuation bar with the coupler against the end of the fixed bar.

Run the coupler from the continuation bar onto the fixed bar.

Run the locknut along the continuation bar to abut the coupler.

6

Tighten the locknuts against each other using a pair of wrenches.



Reinforcing Bar Couplers

MBT

The MBT range of couplers provides a cost-effective method of joining reinforcing bars, particularly when the fixed bar is already in place and there is insufficient space for a hydraulic swaging press. They are easy to install and achieve failure loads higher than 115% of the characteristic yield strength of grade 500 reinforcing bar. Neither bar end preparation to form threads, nor bar rotation are required. MBT couplers can also be used to join imperial, plain round or deformed reinforcing bars.

The bar ends are supported within the coupler by two serrated saddles, and as the lockshear bolts are tightened, the conical ends embed themselves into the bar. As this happens the serrated saddles bite into both the bar and the shell of the coupler. The lockshear bolts of couplers up to and including the ET20 can be tightened using a ratchet wrench. For larger couplers a nut runner is recommended.

In all cases heavy duty sockets should be used. When the pre-determined tightening torque for the bolts is reached, the heads shear off leaving the top of the installed bolt slightly proud of the coupler. This provides an instant visual check of correct installation.

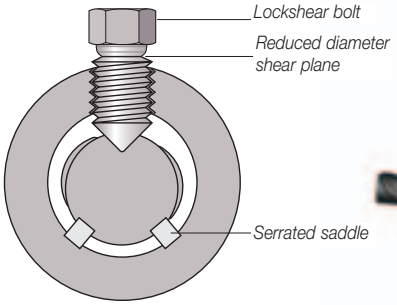
Note: *Impact tools must not be used to tighten lockshear bolts.*

MBT ET SERIES

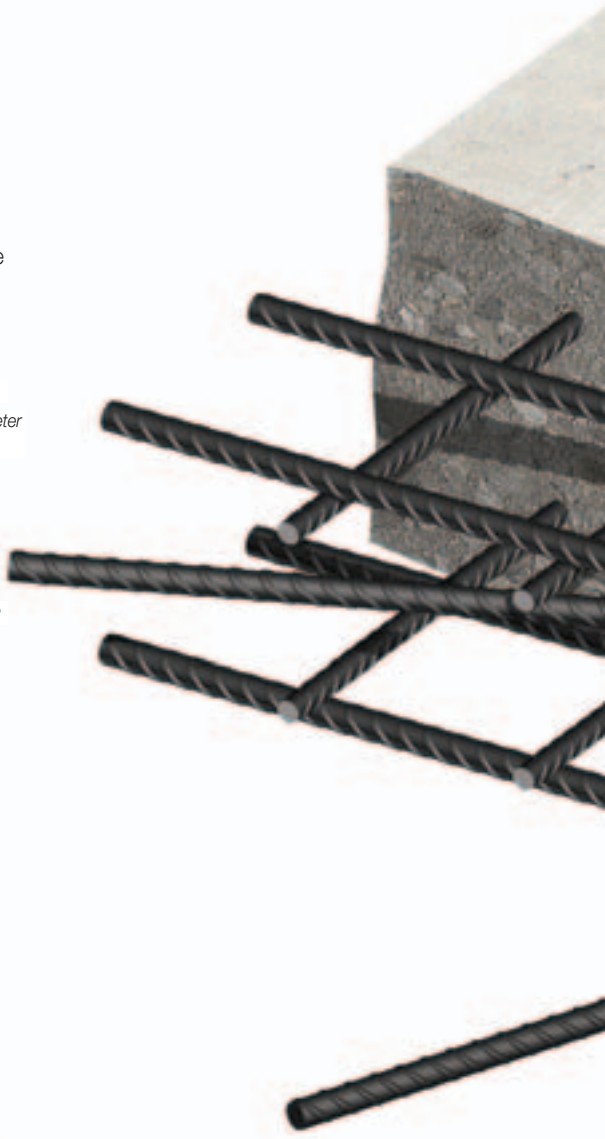
The MBT ET series of couplers is used to connect reinforcing bars of the same size.

TESTING & APPROVALS

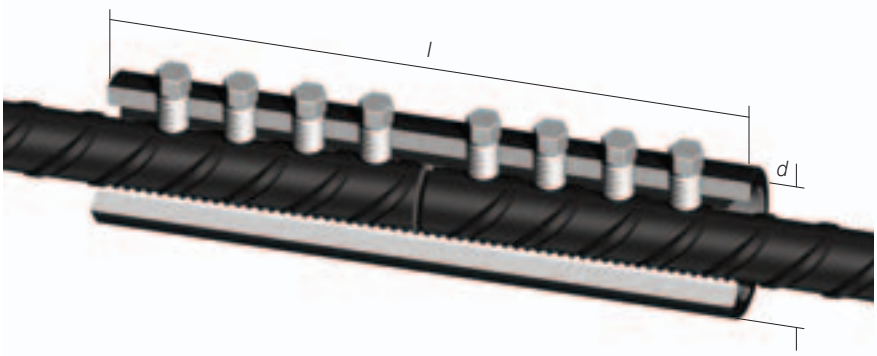
Full destructive tests are carried out on selected couplers from our stocks. MBT couplers are designed and manufactured in accordance with BS EN ISO 9001.
The most common sizes of ET series couplers are approved by the BBA and are covered by the Roads and Bridges Agrément Certificate No. 98/R102. Sizes ET10 - ET28 have been tested and approved by the DIBt and are covered by Approval No Z-1.5-10. In addition the coupler has been tested to show compliance with the following international design codes:- BS5400, BS8110, ACI 318, DIN 1045 German code and BBK 94 Volume 22 Swedish code.



Section showing the embedment of the lockshear bolts and saddles into the bar and the shell of the coupler.



MBT ET Series Dimensions



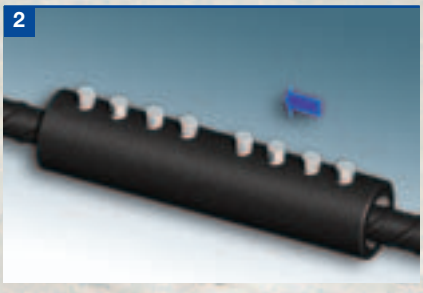
Bar Diameter		10	12	14	16	20	25	28	32	34	40
External Diameter	*d*	33.4	33.4	42.2	42.2	48.3	54.0	66.7	71.0	75.0	81.0
Total Length	*l*	100	140	160	160	204	258	312	312	420	484
Socket Size A/F (ins)		1/2	1/2	1/2	1/2	1/2	5/8	5/8	5/8	3/4	3/4
No. of Bolts		4	6	6	6	8	8	10	10	12	14
Approx Weight (kg)		0.52	0.72	1.25	1.25	1.96	3.00	5.80	6.50	8.72	11.30
Part No		ET10	ET12	ET14	ET16	ET20	ET25	ET28	ET32	ET34	ET40

Note: *MBT ET50 couplers can be manufactured. For details contact Ancon Building Products.*

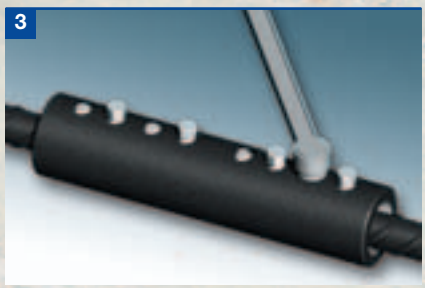
INSTALLATION

MBT ET Series

Place the coupler over the end of the bar to half the coupler length +/- 6mm and finger tighten the lockshear bolts onto the bar. Check the alignment and make any necessary adjustments.



Place the other bar end into the coupler until it pushes up against the first bar and finger tighten the remaining lockshear bolts. Check alignment and make any adjustments.



Fully tighten the lockshear bolts using either a ratchet wrench or a nut runner as appropriate. Do not use impact tools. Tighten all bolts in a random alternating pattern until all the heads of all the bolts shear off.

Reinforcing Bar Couplers

REPAIR AND REMEDIAL WORK

For applications involving replacement of corroded or damaged bars, the replacement bar is cut approximately 5mm shorter to allow clearance for insertion between the sound ends of the original bars. MBT couplers are pushed fully over both ends of the replacement bar and temporarily held in position.

The replacement bar is then correctly positioned and the couplers moved to a previously marked position on the existing bars indicating half the length of the coupler. The lockshear bolts are tightened to complete the installation.

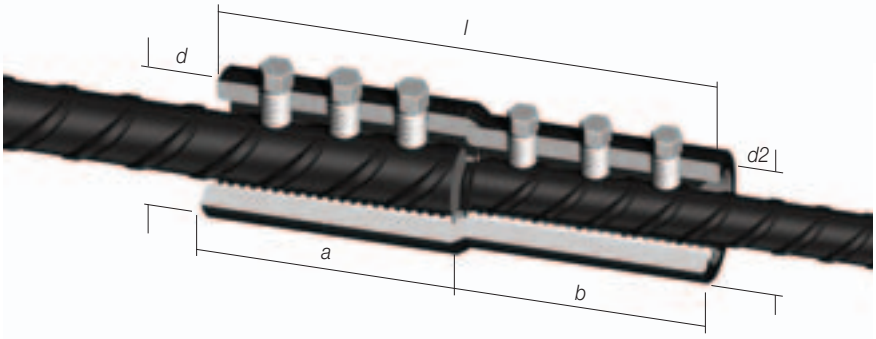
MBT TRANSITION SERIES

The MBT Transition series of couplers provides an effective solution for connecting bars of different diameters. Transition couplers have all of the benefits of the ET series and are designed to achieve failure loads higher than 115% of the characteristic yield strength of the smaller grade 500 reinforcing bar.

They can be installed without any preparation to the bar ends and without any need to rotate bars. The coupler can be rotated to allow access to the bolts for tightening with either a ratchet wrench or a nut runner. In all cases heavy duty sockets should be used. Transition couplers are non-standard and are made to order.

Note: *Impact tools should not be used to tighten lockshear bolts.*

MBT Transition Series Dimensions



Bar Diameter		20/12	20/16	25/16	25/20	32/20	32/25	40/32
External Diameter	*d*	48.3	48.3	54	54	71	71	81
External Diameter	*d2*	33.4	48.3	42.2	54	48.3	54	71
Total Length	*l*	150	160	155	180	177	231	335
Individual Lengths	*a:b*	80:70	80:80	75:80	90:90	75:102	102:129	178:157
Socket Size A/F (ins)	*a:b*	1/2:1/2	1/2:1/2	5/8:1/2	5/8:1/2	5/8:1/2	5/8:5/8	3/4:5/8
No. of Bolts	*a:b*	3:3	3:3	2:3	3:3	2:4	3:4	5:5
Approx Weight (kg)		1.13	1.56	1.51	2.23	2.55	3.70	7.47
Part No		ET20/12	ET20/16	ET25/16	ET25/20	ET32/20	ET32/25	ET40/32

INSTALLATION

MBT Transition Series

Place the coupler over the end of the bar to the appropriate depth +/- 6mm and finger tighten the lockshear bolts onto the bar. Check the alignment and make any necessary adjustments.

Place the other bar end into the coupler until it pushes up against the first bar and finger tighten the remaining lockshear bolts. Check alignment and make any adjustments.

Fully tighten the lockshear bolts using either a ratchet wrench or a nut runner as appropriate. Do not use impact tools. Tighten all bolts in a random alternating pattern until all the heads of all the bolts shear off.

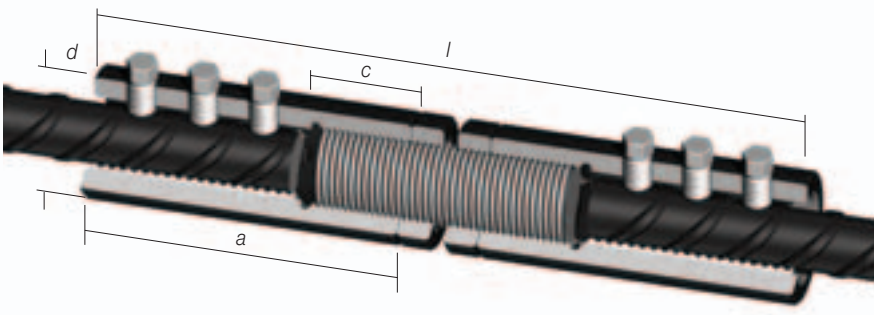
MBT CONTINUITY SERIES

The MBT Continuity coupler allows reinforcement to be extended at construction joints without the need to drill or otherwise substantially deface the formwork at construction joint locations. The female part of the coupler is fixed to the formwork with the aid of a nail plate.

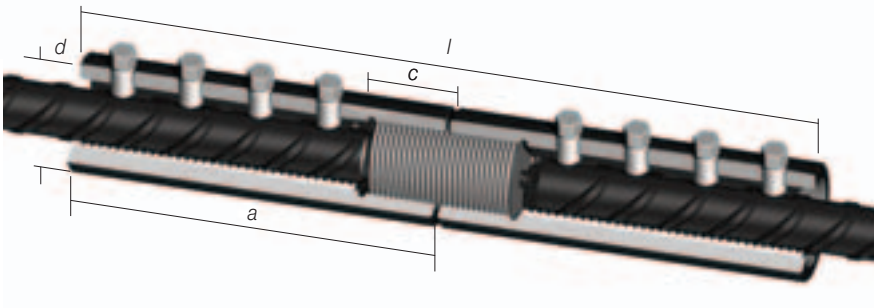
After removal of the formwork, the nail plate protects the internally threaded end of the coupler. It is advisable to loosen the nail plate to break the bond with the concrete whilst it is still 'green'. When the nail plate is removed, the male section can be screwed into the existing section of the coupler.

The 12mm and 16mm couplers have additional locknuts which are used to secure the connection. The two sections of sizes 20mm to 40mm couplers are locked together by an expanding cone in the male section.

MBT Continuity Series 12mm and 16mm Dimensions



MBT Continuity Series 20mm to 40mm Dimensions

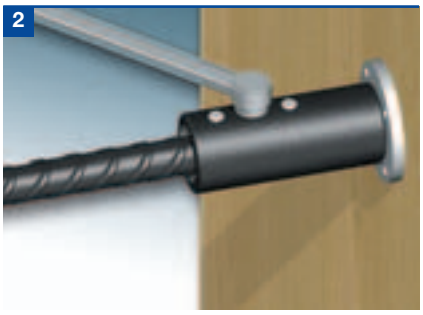


Bar Diameter		12	16	20	25	32	40
External Diameter	*d*	33.4	42.2	48.3	54.0	71.0	81.0
Maximum Length	*l*	250	280	297	357	431	603
Female Component Length	*a*	100	115	147	177	214	300
Threaded Section	c	30	35	38	43	53	53
Socket Size A/F (ins)		1/2	1/2	1/2	5/8	5/8	3/4
No. of Bolts		6	6	8	8	10	14
Nail Plate Diameter x Thickness		75 x 5	75 x 5	75 x 5	100 x 5	100 x 5	127 x 5
Approx Weight (kg)		1.34	2.34	2.85	4.42	9.58	16.17
Part No.		C12	C16	C20	C25	C32	C40

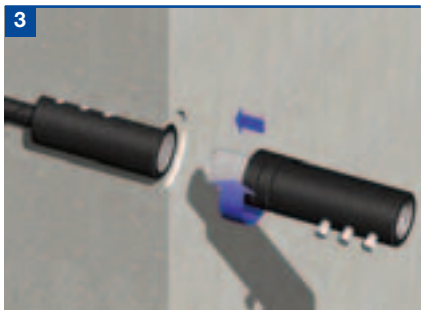
INSTALLATION

MBT Continuity Series - Sizes 12mm and 16mm

Fix the nail plate to the formwork and fully screw the female component onto the plate. Insert the bar into the coupler, ensuring that it does not encroach into the threaded section. Finger tighten the lockshear bolts. Check alignment and make any adjustments.



Fully tighten the lockshear bolts until the heads shear off. Cast the concrete.



Remove the formwork and unscrew the nail plate. The male component can now be fully screwed into the fixed female component. The male component can be rotated up to a full turn to allow the bolts to be located in an accessible position for tightening.

Run the locknut along the threaded male stud to abut the female component. Fully tighten the locknut against the female section using a wrench.

Note: *When the coupler is fully assembled the visible threaded stud between the two locknuts must not exceed 20mm.*

Note: *The Continuity Coupler male component will be delivered with the threaded stud already in place and the locknuts located on the threaded stud. If the female component is to be left insitu for an extended period, the threads must be greased to prevent corrosion.*

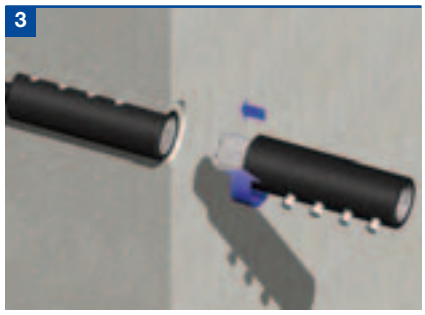
Place the continuation bar into the male component and finger tighten the bolts. Check alignment and make any adjustments. Fully tighten the lockshear bolts in a random alternating pattern, using a ratchet wrench, until the heads shear off. Do not use impact tools. Fully tighten the locknut.

INSTALLATION

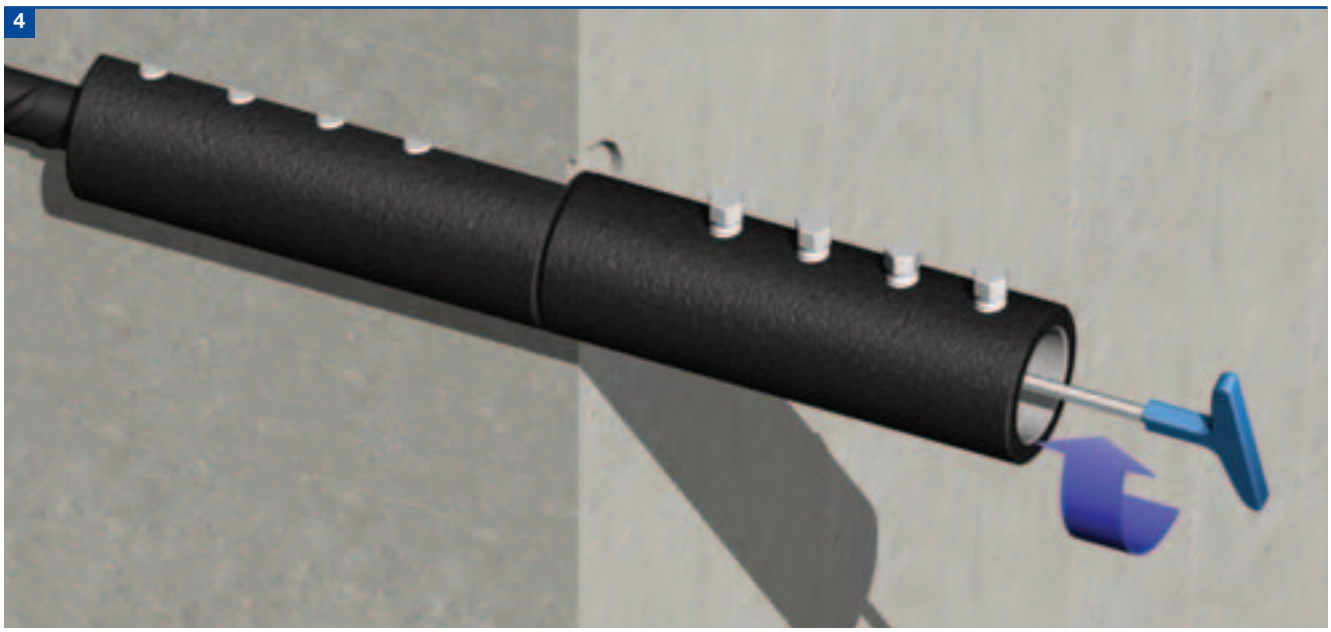
MBT Continuity Series - Sizes 20mm to 40mm

Fix the nail plate to the formwork and fully screw the female component onto the plate. Insert the bar into the coupler, ensuring that it does not encroach into the threaded section. Finger tighten the lockshear bolts. Check alignment and make any adjustments.

Fully tighten the lockshear bolts using a ratchet wrench or an air powered tool, until the heads shear off. Cast the concrete.



Remove the formwork and unscrew the nail plate. The male component can now be fully screwed into the fixed female component. The male component can be rotated up to a full turn to allow the bolts to be located in an accessible position for fixing.

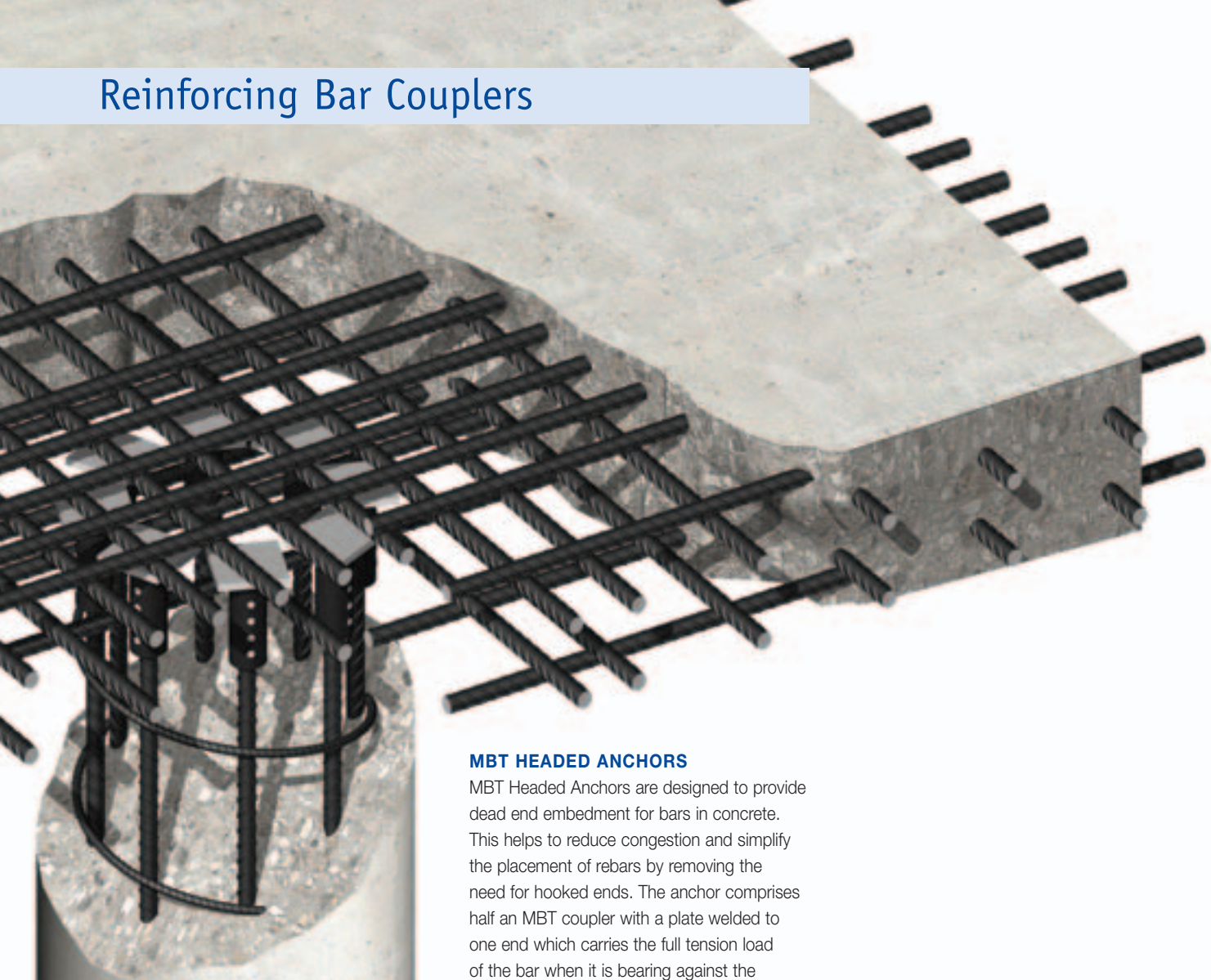


The two sections are now locked together by expanding a cone in the centre of the coupler with the tool supplied.

Place the continuation bar into the male component and finger tighten the bolts. Check alignment and make any adjustments. Fully tighten the lockshear bolts in a random alternating pattern, using a ratchet wrench or an air powered tool, until the heads shear off. Do not use impact tools.

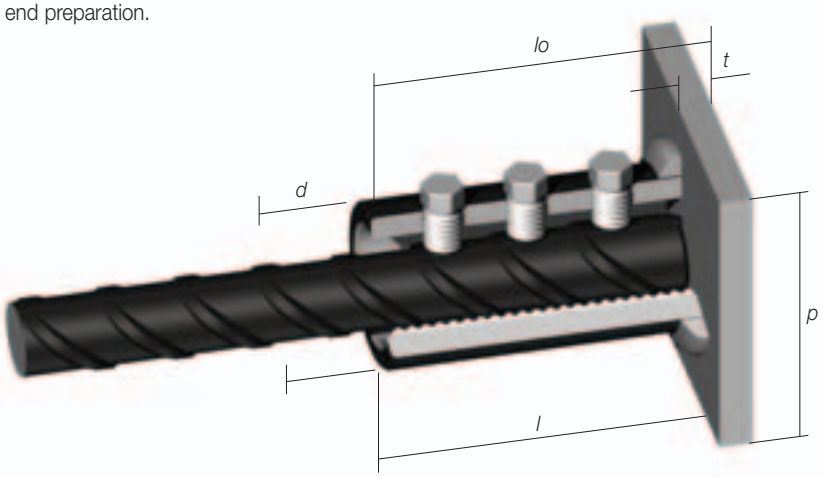
Note: *The Continuity Coupler male component will be delivered with the threaded stud already in place and the locknuts located on the threaded stud. If the female component is to be left insitu for an extended period, the threads must be greased to prevent corrosion.*

Reinforcing Bar Couplers



MBT HEADED ANCHORS

MBT Headed Anchors are designed to provide dead end embedment for bars in concrete. This helps to reduce congestion and simplify the placement of rebars by removing the need for hooked ends. The anchor comprises half an MBT coupler with a plate welded to one end which carries the full tension load of the bar when it is bearing against the concrete. The MBT Headed Anchor also has the added advantage of requiring no special bar end preparation.



Bar Diameter		10	12	14	16	20	25	28	32	34	40
External Diameter	*d*	33.4	33.4	42.2	42.2	48.3	54.0	66.7	71.0	75.0	81.0
Coupler Length	*l*	55	75	82	82	104	129	156	156	215	247
Total Length	*lo*	65	85	92	92	114	139	168	171	230	262
Plate Thickness	*t*	10	10	10	10	10	10	12	15	15	15
Plate w x h	*p*	70	70	70	80	90	100	110	130	130	150
Socket Size A/F (ins)		½	½	½	½	½	⅝	⅝	⅝	¾	¾
No of Bolts		2	3	3	3	4	4	5	5	6	7
Approx Weight (kg)		0.64	0.74	1.01	1.07	1.58	2.29	4.14	4.72	5.17	8.30
Part No.		ETHA10	ETHA12	ETHA14	ETHA16	ETHA20	ETHA25	ETHA28	ETHA32	ETHA34	ETHA40

Note: *Minimum compressive strength of concrete 25N/mm².*

ELECTRIC WRENCH

To facilitate the installation of MBT couplers Ancon Electric Wrenches are available for purchase or hire. The smooth continuous action of the wrench prevents the early shearing of the lockshear bolts and damage to threads. The wrench is supplied with specially hardened heavy duty sockets. For details please contact Ancon.

Note: *Impact tools should not be used to tighten lockshear bolts. In all cases heavy duty sockets should be used.*

EPOXY COATED COUPLERS

For applications in areas which are prone to corrosive attack, couplers can be supplied with an epoxy coating for increased protection against corrosion. These are particularly suitable for use in marine environments and industrial applications, and in areas where the amount of cover is reduced.

OTHER ANCON PRODUCTS

Reinforcement Continuity Systems
Reinforcement Continuity Systems are an increasingly popular means of maintaining continuity of reinforcement at construction joints in concrete. The system eliminates the need to drill shuttering and can simplify formwork design, thereby accelerating the construction process. The Ancon Eazistrip System is available in both standard units and special configurations.

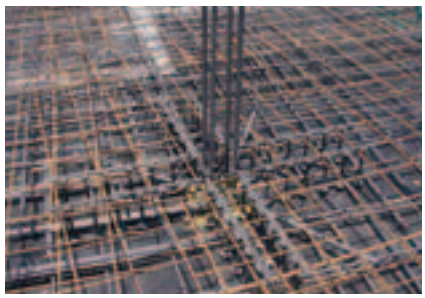
Shear Load Connectors
Ancon DSD and ESD Shear Load Connectors are used to transfer shear across expansion and contraction joints in concrete. They are more effective at transferring load and allowing movement to take place than standard dowels, and can be used to eliminate double columns at structural movement joints in buildings.

Channel and Bolt Fixings
Ancon offers a wide range of channels and bolts in order to fix stainless steel masonry support, restraints and windposts to structural frames. Cast-in channels and expansion bolts are used for fixing to the edges of concrete floors and beams. A range of stainless steel set screws and self-drilling screws are designed to fix to steel frames.

Punching Shear Reinforcement
Used within a slab to provide additional reinforcement around columns, Ancon Shearfix is the ideal solution to the design and construction problems associated with punching shear. The system consists of double-headed studs welded to flat rails, positioned in a symmetrical pattern around the column head. The shear load from the slab is transferred through the studs into the column.

Insulated Balcony Connections
Ancon Isolan connectors join external concrete balconies to internal floor slabs. Used to minimise cold bridging, they provide continuity to the thermal insulation. Standard systems, comprising rigid CFC-free polystyrene insulation and duplex stainless steel shear reinforcement, suit most depths of cantilevered and simply supported balconies. Conventional reinforcing bars are used to provide the tension and compression reinforcement.

Special Fabrications
Ancon has a wealth of experience of working with stainless steel and can produce special fabrications to suit individual customer requirements. Ancon supplies industries such as civil and marine engineering, water, petrochemical, mining and food handling and maintains large stocks of stainless steel in order to meet urgent delivery requirements.



Ancon®
BUILDING PRODUCTS

Ancon Building Products
President Way, President Park
Sheffield S4 7UR
United Kingdom
Tel: +44 (0) 114 275 5224
Fax: +44 (0) 114 276 8543
Email: info@ancon.co.uk
Visit: www.ancon.co.uk

Ancon (Middle East) FZE
PO Box 17225
Jebel Ali
Dubai
United Arab Emirates
Tel: +971 (0) 4 883 4346
Fax: +971 (0) 4 883 4347
Email: anconccl@emirates.net.ae

Ancon Building Products
114 Kurrajong Avenue
Mount Druitt
Sydney
NSW 2770
Australia
Tel: +61 (0) 2 9675 1000
Fax: +61 (0) 2 9675 3390
Email: pac.ancon@anconbp.com.au
Visit: www.anconbp.com.au

Ancon (Schweiz) AG
Gewerbezone Widalmi 10
3216 Ried bei Kerzers
Switzerland
Tel: +41 (0) 31 750 3030
Fax: +41 (0) 31 750 3033
Email: info@ancon.ch
Visit: www.ancon.ch

Ancon Building Products GesmbH
Gerspergasse 9/3 Top 1
A-1210 Vienna
Austria
Tel: +43 (0) 1 259 58 62-0
Fax: +43 (0) 1 259 58 62-40
Email: info@ancon.at
Visit: www.ancon.at

Ancon GmbH
Bartholomäusstrasse 26
90489 Nuremberg
Germany
Tel: +49 (0) 911 955 1234 0
Fax: +49 (0) 911 955 1234 9
Email: info@anconbp.de
Visit: www.anconbp.de

These products are available from:

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