Lemon™
groundwork solutions

HT Couplers for Reinforcement

CARES

UKAS QUALITY MANAGEMENT

TECHNICAL APPROVAL

- Cost, quality & lead time advantages over other coupler systems
- Easy installation - no torque wrench required on site
- HT standard & positional couplers are suitable for transitional joints
- Bar Break System

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Complete Groundwork Solutions to Residential and Commercial Sectors Nationwide

Lemon™
groundwork solutions

HT Couplers for Reinforcement: Contents

Complete Groundwork Solutions to Residential and Commercial Sectors Nationwide

Introduction to Lemon

Lemon Groundwork Solutions are the leader in innovative Groundwork supply.

A manufacturer of Steel Reinforcement and Prefabrication, the UK's largest Cellcore, Claymaster and Clayboard supplier, accompanying a full range of Underground Drainage products.

Lemon have evolved into a one stop supplier for all types of Groundwork contracts across the UK no matter how large or small they may be.

BAR BRITISH ASSOCIATION OF REINFORCEMENT

CARES approval on all reinforcement

Complete Groundwork Solutions to Residential and Commercial Sectors Nationwide

Introduction to the HT Coupler

The HT Coupler range is for the mechanical connection of deformed steel reinforcing bar complying with BS4449 grades 500B & 500C and ASTM A615 Grade 75.

The HT Coupler is CARES approved to TA1-B and TA1-C (including the performance requirements of EC2 & Sellafield Technical Standards).

The HT Range consists of the HT.S Standard Coupler, HT.P, HT.EP & HT.LT Positional Couplers, HT.C Connecting Coupler and HT.A & HT.EA Mechanical Anchors.

The Standard and Positional HT Couplers can be used not only where the 2 bars are of the same diameter, but also where the 2 bars are of different diameter (i.e. transitional joints).

The HT.S. is used where at least 1 bar is rotatable. The HT.P is used where neither bar is rotatable and at least 1 bar is moveable. The HT.EP is used where neither bar is rotatable, at least 1 bar is movable and length adjustment of the coupler is required. The HT.LT is used where neither bar is rotatable, at least 1 bar is movable and an extended length adjustment of the coupler is required.

The HT Coupler heads are produced and threaded in a dedicated production facility using CNC lathes. This results in a high quality product with more **accurate & consistent threads** than can be achieved through the rebar threading required by other systems.

The high quality threads also mean that a **torque wrench is not required** for on-site installation.

The HT Coupler heads are welded onto the appropriate rebars using the computer controlled HT Friction Welder. This process is much faster than the threading of rebars required by other systems.

The combination of the friction welding process and the high quality machined threads allows the system to achieve **bar break and to have substantial advantages in terms of...**

QUALITY, COST & LEAD TIME

HT Couplers Assembly

The HT Coupler is CARES approved and has substantial cost, quality and lead time benefits over other coupler systems

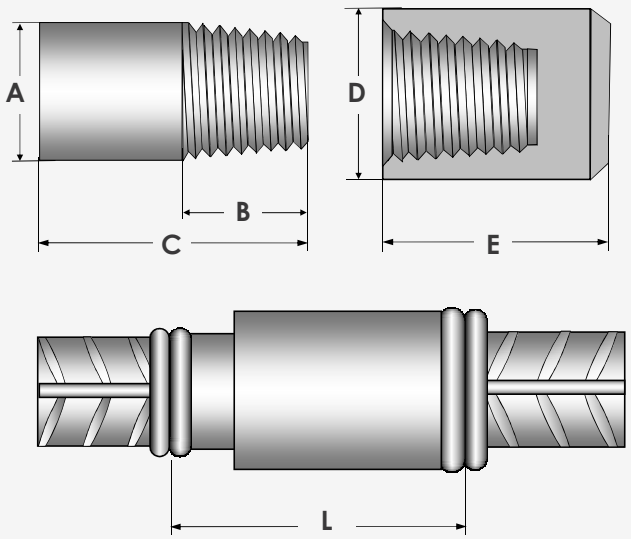
BAR BRITISH ASSOCIATION OF REINFORCEMENT

CARES approval on all reinforcement

HT.S Standard Coupler

The HT Coupler range is for the mechanical connection of deformed steel reinforcing bars complying with BS4449 grade 500B and grade 500C and ASTM A615 Grade 75.

The HT.S Coupler is suitable for connecting two bars where at least one bar can be rotated.



Coupler Ref	Rebar Dia (mm)	Coupler Dimensions (mm) A	B	C	D	E	L
HT.S.12	12	14	13	38	19	29	50 ± 2
HT.S.16	16	19	20	43	25	40	60 ± 2
HT.S.20	20	19	20	43	25	40	50 ± 3
HT.S.25	25	25	25	55	34	50	70 ± 3
HT.S.32	32	32	32	63	42	63	80 ± 4
HT.S.40	40	40	40	70	53	70	85 ± 4
HT.S.50	50	50	50	85	65	85	105 ± 5

HT.S Installation

Certificates

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HT.S Standard Coupler - Installation

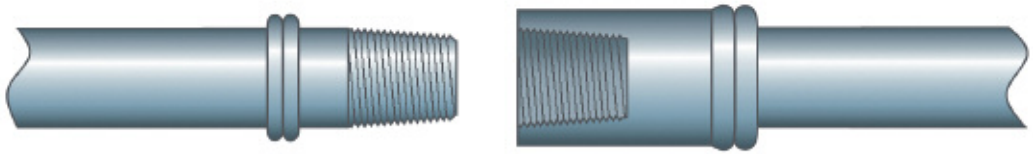
Both male and female sections of the HT coupler joint are always delivered to site welded to the appropriate re-bar.

The formation of the joint is achieved by screwing the two sections together, ie male and female elements.

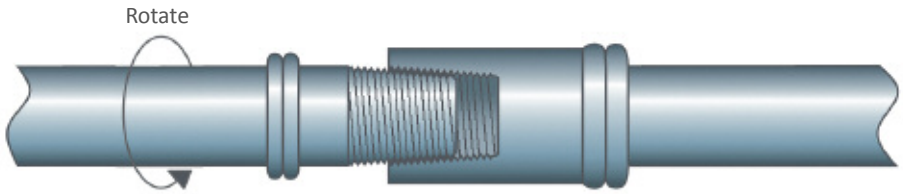
The joint should always be tightened by the use of a wrench, until there is no further movement available between the two sections.

No Torque Wrench required

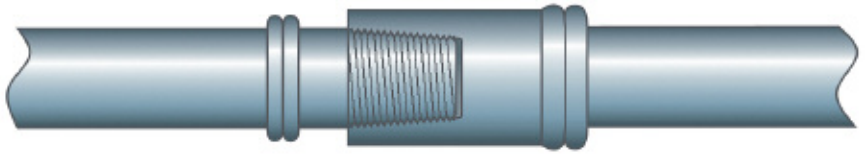
HT.S Standard Coupler



The two sections of the joint are brought together



The joint is then screwed together using a wrench

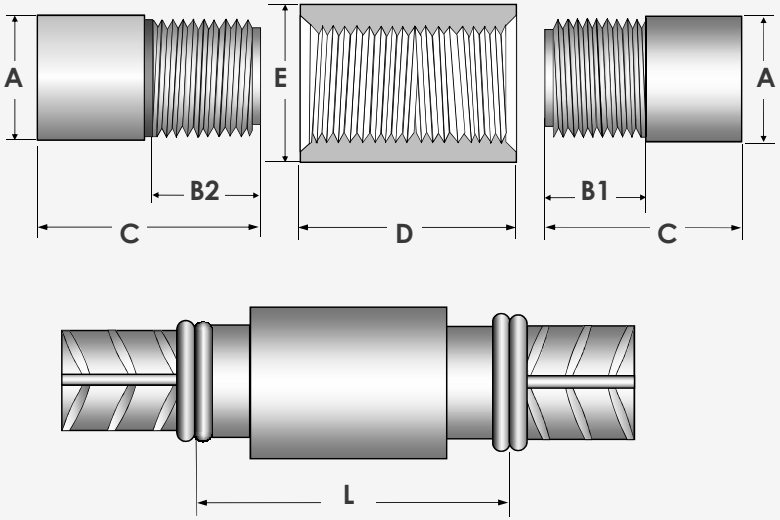


Finished joint tightened until no further movement between sections

HT.P Positional Coupler

The HT Coupler range is for the mechanical connection of deformed steel reinforcing bars complying with BS4449 grade 500B and grade 500C and ASTM A615 Grade 75.

The HT.P Positional Coupler is suitable for connecting 2 bars where neither bar can be rotated and at least 1 bar can be moved.



Coupler Ref	Rebar Diameter	Coupler Dimension (mm)						
		A	B1	B2	C	D	E	L
HT.P.16	16	18	14	17	41	33	25	70 ± 2
HT.P.20	20	22	19	22	45	39	28	75 ± 2
HT.P.25	25	28	25	28	55	51	36	95 ± 3
HT.P.32	32	36	30	33	65	60	46	115 ± 3
HT.P.40	40	42	37	40	75	73	55	130 ± 4
HT.P.50	50	50	49	53	93	98	70	150 ± 4

HT.P Installation

Certificates

CARES approval on all reinforcement

HT.P Positional Coupler - Installation

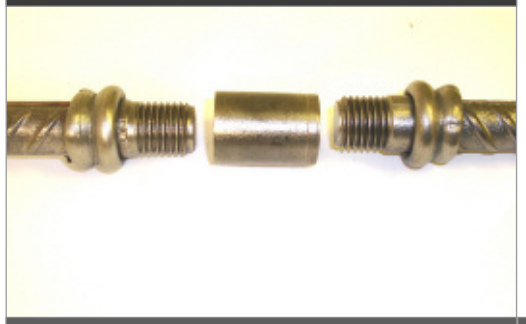
Both male threads of the HT Coupler joint are always delivered to site welded to the appropriate re-bar.

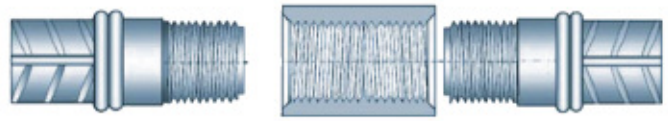
The formation of the joint is achieved by bringing the two male threads and a female coupler together.

The threads are then screwed together by rotating the female coupler using a wrench until there is no further movement available between the sections.

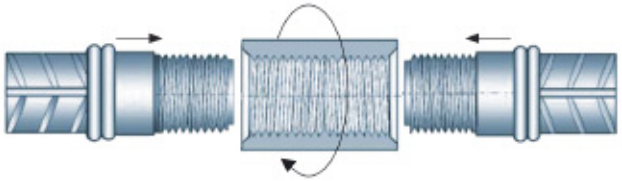
No Torque Wrench required

HT.P Positional Coupler

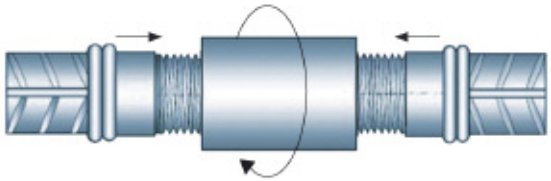




The two sections of the joint and female coupler are brought together



Both sections are then screwed together by rotating the female coupler using a wrench

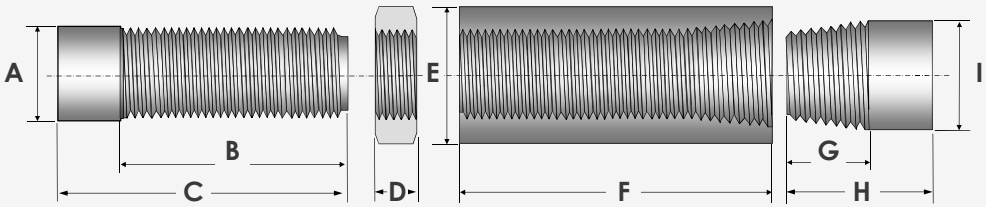


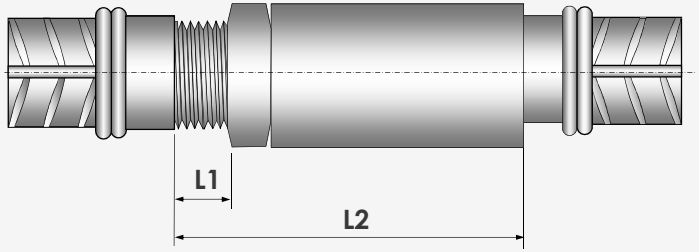
Finished joint is tightened with a wrench until there is no further movement between sections

HT.EP Positional Coupler

The HT Coupler range is for the mechanical connection of deformed steel reinforcing bars complying with BS4449 grade 500B and grade 500C and ASTM A615 Grade 75.

The HT.EP Positional Coupler is suitable for connecting 2 bars where neither bar is rotatable, at least 1 bar is movable and length adjustment of the coupler is required.





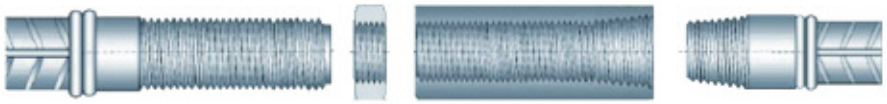
Coupler Ref	Rebar Diameter	Coupler Dimension (mm) A	B	C	D	E	F	G	H	I	L1 (min)	L1 (max)	L2 (min)	L2 (max)
HT.EP.16	16	18	57	82	15	25	42	14	39	21	9	30	66	87
HT.EP.20	20	19	61	86	15	30	46	16	41	24	11	29	72	90
HT.EP.25	25	25	72	100	15	38	57	20	50	30	13	34	85	106
HT.EP.32	32	32	81	110	15	48	66	25	58	38	17	39	98	120
HT.EP.40	40	40	93	128	15	55	78	30	64	46	20	45	113	138
HT.EP.50	50	50	111	151	15	75	96	36	71	60	24	51	135	162

HT.EP Installation

Certificates

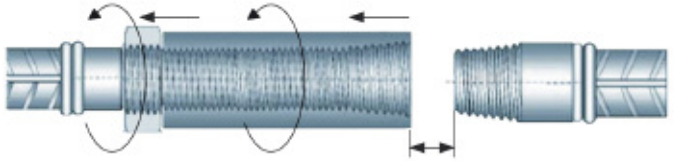
CARES approval on all reinforcement

HT.EP Positional Coupler - Installation

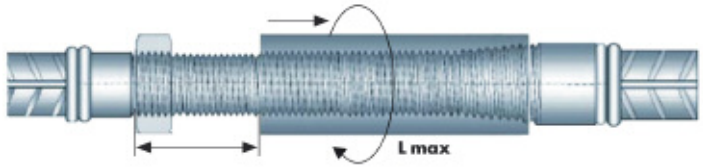


Both the welded sections, female coupler and lock nut are brought together

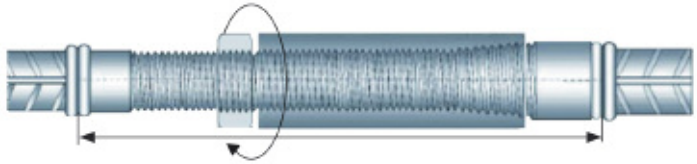
Spin the lock nut back up the straight thread



Spin the female coupler up the straight thread.
Then bring the tapered male thread close to the female coupler, so as the gap between the two components is less than the maximum extension limit



Turn the female coupler off the straight thread and onto the taper thread of the male coupler and tighten with a wrench until no further movement



Spin the lock nut from the straight thread, tighten and lock the female coupler fully

HT.EP Positional Coupler

Both male threads of the HT.EP Coupler joint are always delivered to site welded to the appropriate re-bar.

The joint should always be tightened by the use of a wrench, until there is no further movement available between the two sections.

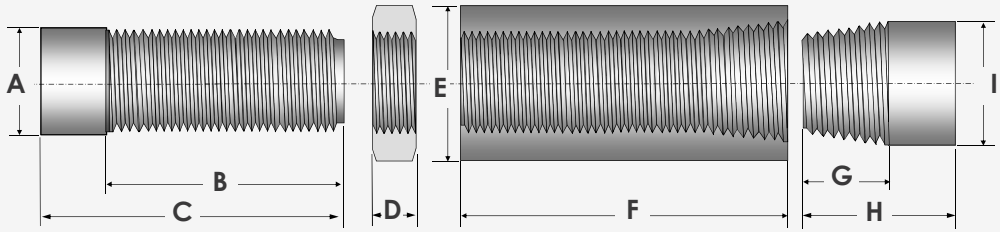
The illustrations detail the installation process.

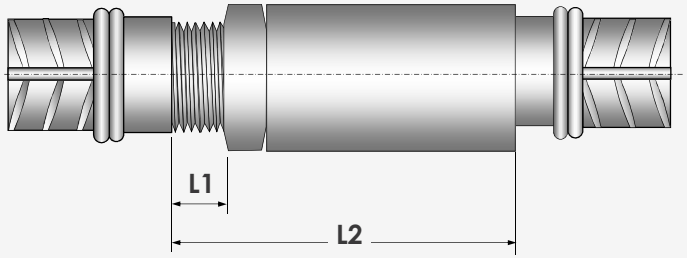
No Torque Wrench required

HT.LT Positional Coupler

The HT Coupler range is for the mechanical connection of deformed steel reinforcing bars complying with BS4449 grade 500B and ASTM A615 Grade 75.

The HT.LT Positional Coupler is suitable for connecting 2 bars where neither bar is rotatable, at least 1 bar is movable and extended length adjustment of the coupler is required.





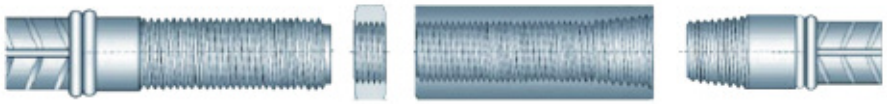
Coupler Ref	Rebar Diameter	Coupler Dimension (mm) A	B	C	D	E	F	G	H	I	L1	L1 (min)	L1 (max)	L2 (min)	L2 (max)	Travel Range
HT.LT.16	16	18	77	102	15	25	62	14	39	19		14	49	91	126	35
HT.LT.20	20	19	81	106	15	30	66	16	41	24		16	51	97	132	35
HT.LT.25	25	25	102	130	15	38	87	20	50	30		20	65	122	167	45
HT.LT.32	32	32	111	141	15	48	96	25	58	38		25	70	136	181	45
HT.LT.40	40	46	123	158	15	55	108	30	64	46		30	75	153	198	45
HT.LT.50	50	50	151	191	15	75	136	36	71	60		36	91	187	242	55

HT.LT Installation

Certificates

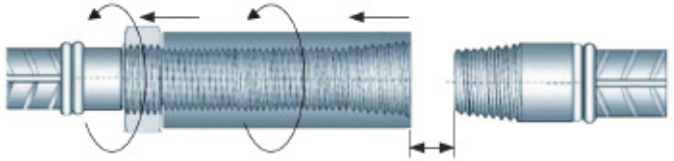
CARES approval on all reinforcement

HT.LT Positional Coupler - Installation

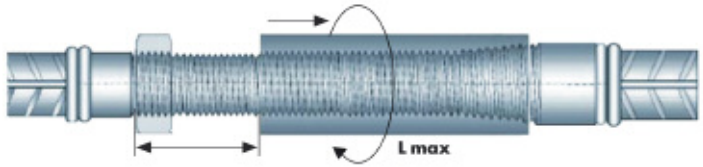


Both the welded sections, female coupler and lock nut are brought together

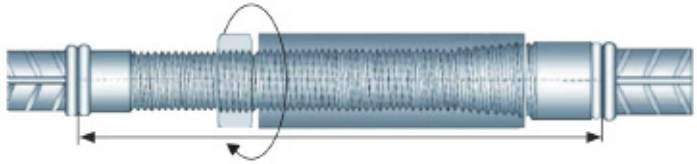
Spin the lock nut back up the straight thread



Spin the female coupler up the straight thread.
Then bring the tapered male thread close to the female coupler, so as the gap between the two components is less than the maximum extension limit



Turn the female coupler off the straight thread and onto the taper thread of the male coupler and tighten with a wrench until no further movement



Spin the lock nut from the straight thread, tighten and lock the female coupler fully

HT.LT Positional Coupler

Both male threads of the HT.LT Coupler joint are always delivered to site welded to the appropriate re-bar.

The joint should always be tightened by the use of a wrench, until there is no further movement available between the two sections.

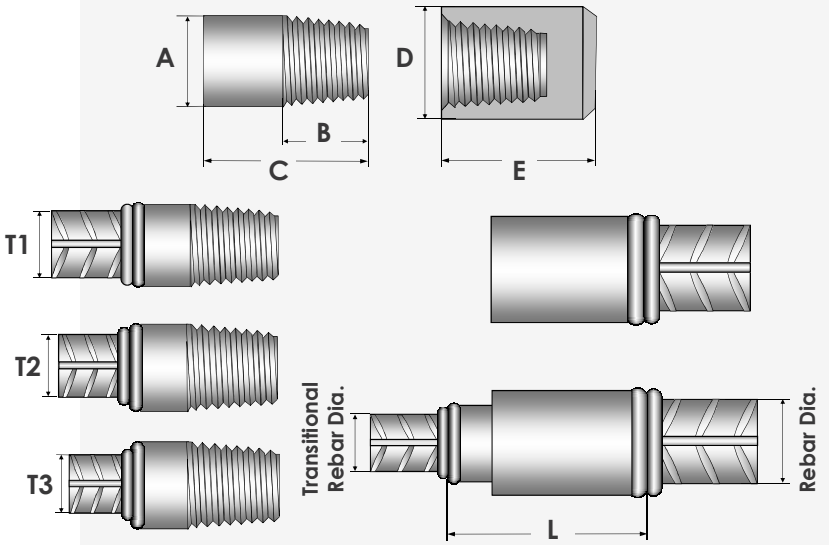
The illustrations detail the installation process.

No Torque Wrench required

HT.S Transitional Standard Coupler

The HT Coupler range is for the mechanical connection of deformed steel reinforcing bars complying with BS4449 grade 500B and grade 500C and ASTM A615 Grade 75.

The HT.S Transitional Coupler is suitable for connecting two bars of different diameter where at least one bar can be rotated.



Coupler Ref	Rebar Diameter	Transitional T1	T2	T3	Coupler Dimension (mm) A	B	C	D	E	L
HT.S.16	16	12	-	-	19	20	43	25	40	65 ± 3
HT.S.20	20	16	12	-	19	20	43	25	40	55 ± 3
HT.S.25	25	20	16	12	25	25	55	34	50	75 ± 4
HT.S.32	32	25	20	16	32	32	63	42	63	85 ± 4
HT.S.40	40	32	25	20	40	40	70	53	70	90 ± 5
HT.S.50	50	40	32	25	50	50	85	65	85	110 ± 5

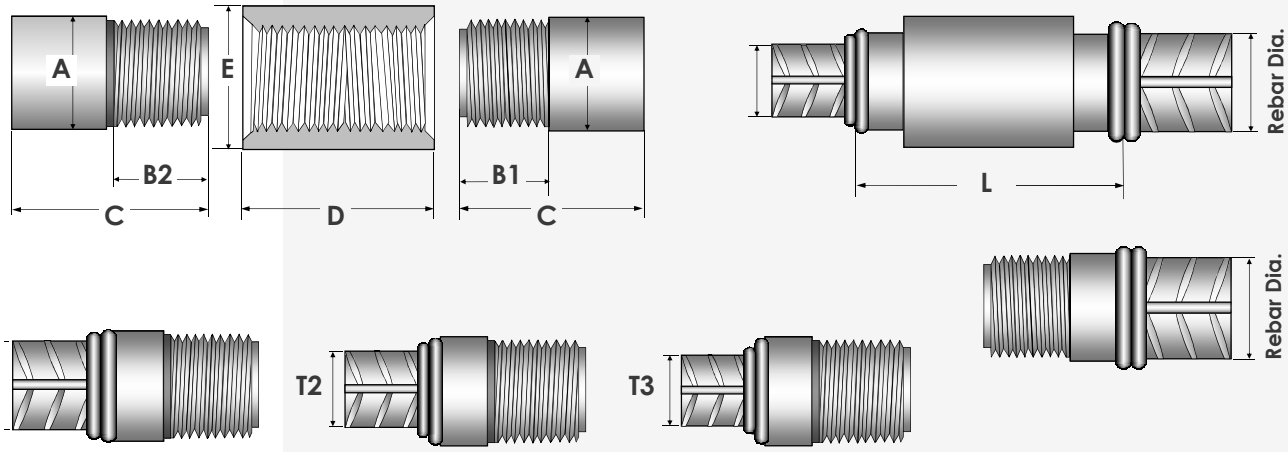
Certificates

CARES approval on all reinforcement

HT.P Transitional Positional Coupler

The HT Coupler range is for the mechanical connection of deformed steel reinforcing bars complying with BS4449 grade 500B and grade 500C and ASTM A615 Grade 75.

The HT.P Transitional Positional Coupler is suitable for connecting 2 bars of different diameters where neither bar can be rotated and at least 1 bar can be moved.



Coupler Ref	Rebar Diameter	Transitional T1	T2	T3	Coupler Dimension (mm) A	B1	B2	C	D	E	L
HT.P.16	16	12	-	-	18	14	17	41	33	25	75 ± 3
HT.P.20	20	16	12	-	22	19	22	45	39	28	80 ± 3
HT.P.25	25	20	16	12	28	25	28	55	51	36	90 ± 4
HT.P.32	32	25	20	16	36	30	33	65	60	46	120 ± 4
HT.P.40	40	32	25	20	42	37	40	75	73	55	135 ± 5
HT.P.50	50	40	32	25	50	49	53	93	98	70	155 ± 5

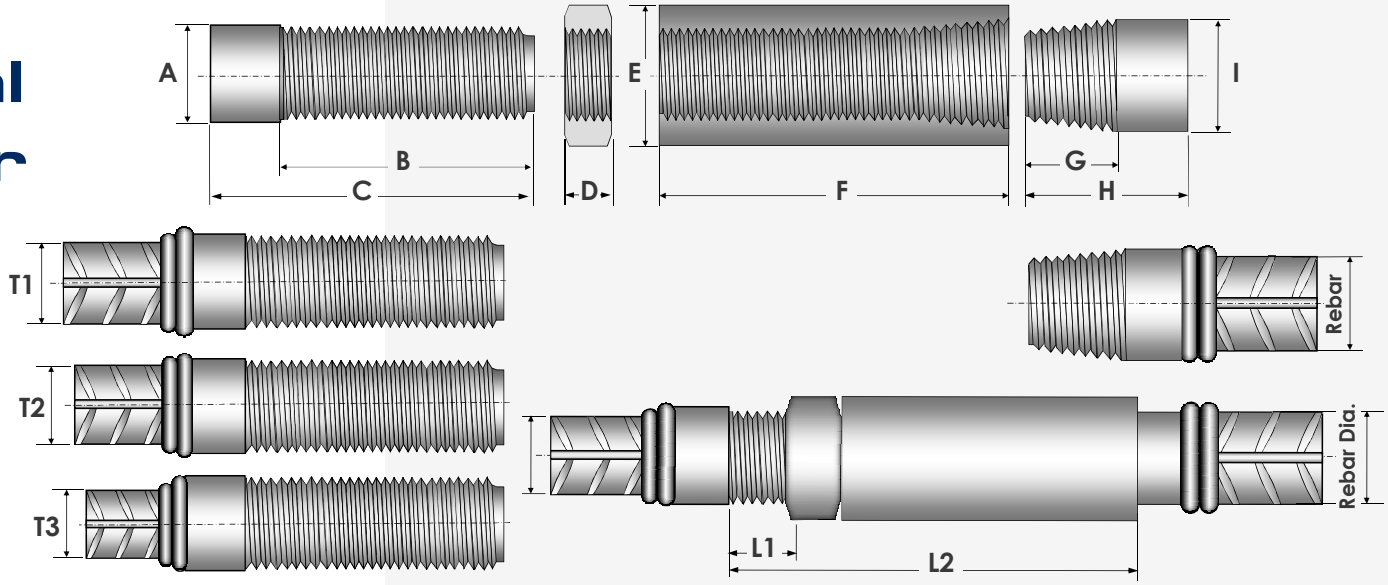
Certificates

CARES approval on all reinforcement

HT.EP Transitional Positional Coupler

The HT Coupler range is for the mechanical connection of deformed steel reinforcing bars complying with BS4449 grade 500B and grade 500C and ASTM A615 Grade 75.

The HT.EP Transitional Positional Coupler is suitable for connecting 2 bars of different diameters where neither bar can be rotated and neither bar can be moved.



Coupler Ref	Rebar Diameter	Transitional Dia. T1	T2	T3	Coupler Dimension (mm) A	B	C	D	E	F	G	H	I	L1 (min)	L1 (max)	L2 (min)	L2 (max)
HT.EP.16	16	12	-	-	18	57	82	15	25	42	14	39	21	9	30	66	87
HT.EP.20	20	16	12	-	19	61	86	15	30	46	16	41	24	11	29	72	90
HT.EP.25	25	20	16	12	25	72	100	15	38	57	20	50	30	13	34	85	106
HT.EP.32	32	25	20	16	32	81	110	15	48	66	25	58	38	17	39	98	120
HT.EP.40	40	32	25	20	40	93	128	15	55	78	30	64	46	20	45	113	138
HT.EP.50	50	40	32	25	50	111	151	15	75	96	36	71	60	24	51	135	162

Certificates

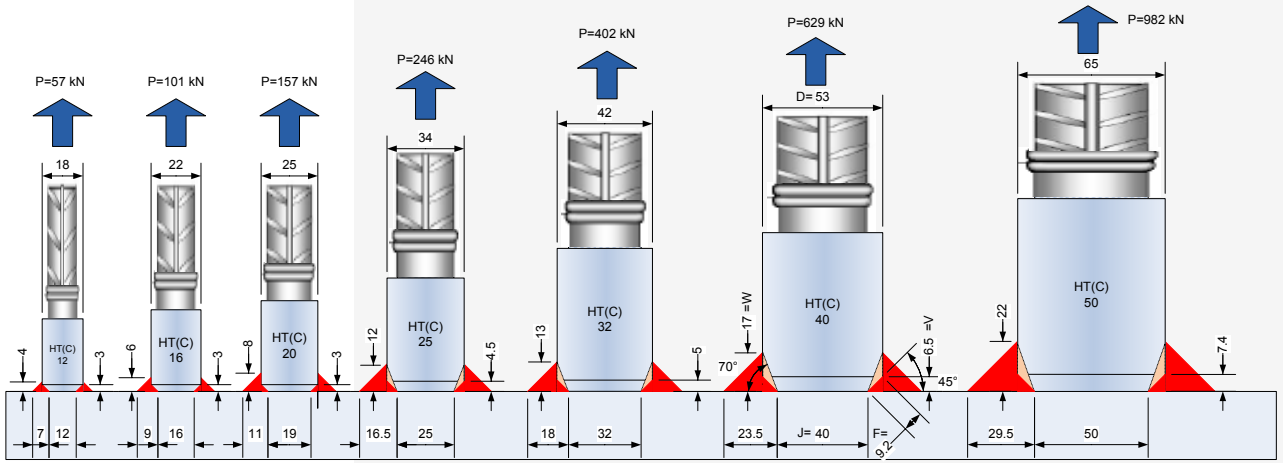
CARES approval on all reinforcement

HT.C Connecting Coupler

The HT.C Connecting Couplers are for connecting rebar to structural steel sections and plates.

Similar to the standard coupler, the weldable coupler is internally threaded on one end, with the other end prepared for welding.

The couplers are usually arc welded to the structural steel.

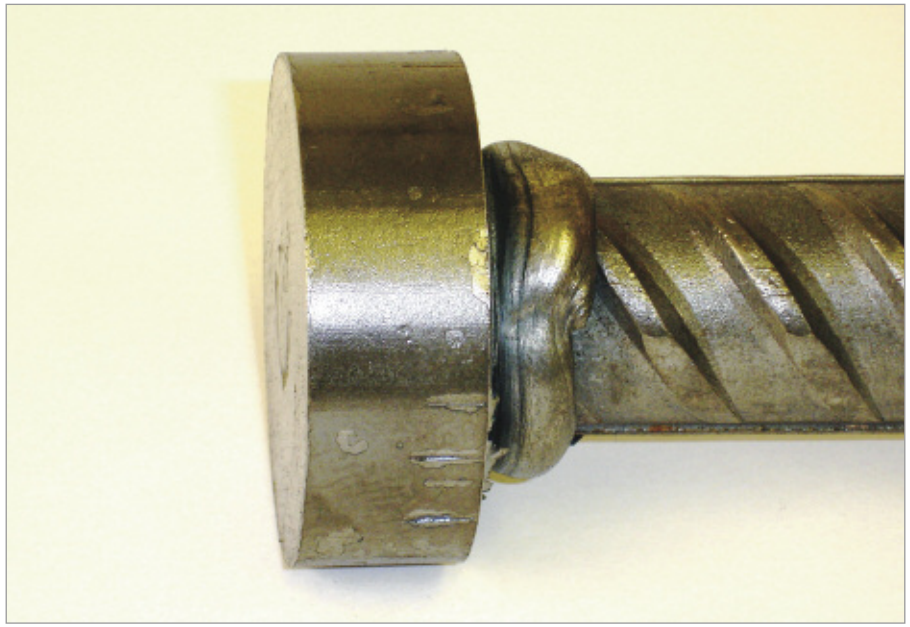


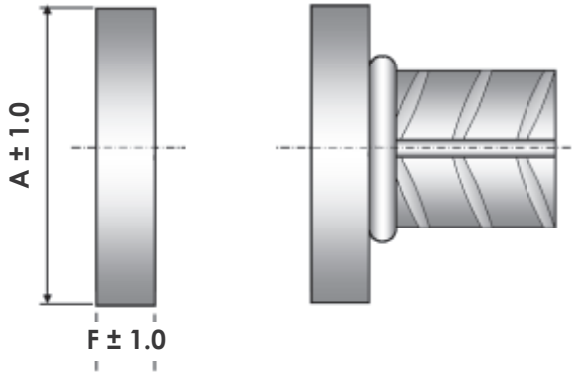
Coupler Ref	Rebar Diameter	A	F	Force P	Coupler Dimensions (mm)-(45º-70º) D	J	F	V	Weld (mm) W	Plate Grade	Size
HT.C.12	12	113	500	57	18	12	4.2	3	4	S235	100x100x30
HT.C.16	16	201	500	101	22	16	4.2	3	6	S235	100x100x30
HT.C.20	20	314	500	157	25	20	4.2	3	8	S235	100x100x30
HT.C.25	25	419	500	246	34	25	6.3-12.7	4.4-11.5	12	S235	100x100x30
HT.C.32	32	804	500	402	42	32	7.0-14.1	5.0-12.5	13	S235	100x100x30
HT.C.40	40	1257	500	629	53	40	9.2-18.4	6.5-16.5	17	S235	100x100x30
HT.C.50	50	1963	500	982	65	50	10.6-21.2	7.5-21	22	S235	100x100x30

HT.A Mechanical Anchor

The HT.A Mechanical Anchor is an oversized end anchor secured to the end of a length of reinforced steel, creating anchorage within the concrete.

It replaces conventional hooked rebar thereby reducing congestion. The installation is simple and quick allowing for a reduction in placement costs.



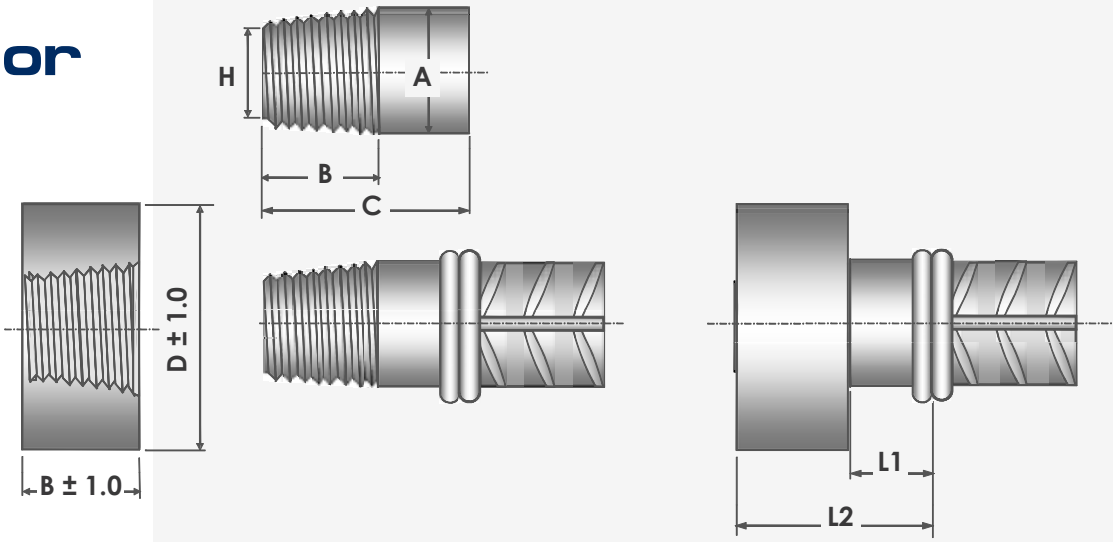


Coupler Ref	Rebar Diameter	Thickness A	Diameter B
HT.A.16	16	14	40
HT.A.20	20	16	50
HT.A.25	25	22	65
HT.A.32	32	24	80
HT.A.40	40	30	100
HT.A.50	50	35	125

HT.EA Mechanical Anchor

The HT.EA Mechanical Anchor is a two piece end anchor with a male thread secured to the end of a length of reinforced steel and a female threaded anchor.

It is used for not only creating anchorage within the concrete but is frequently used for beam/roof to column applications in reinforced concrete structures.



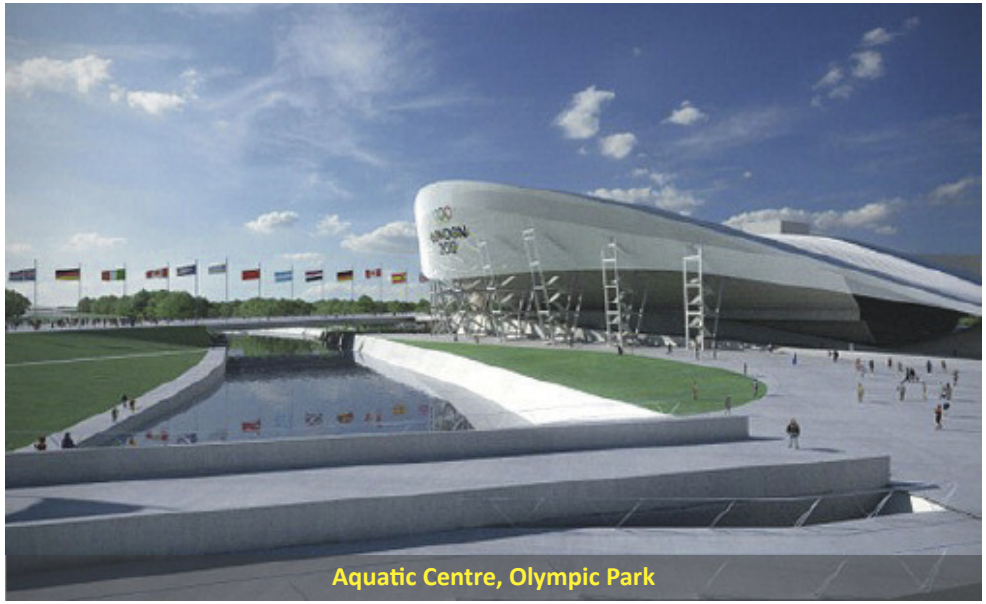
Coupler Ref	Rebar Diameter	Assembly Dim L1	L2	A	B	C	D	H
HT.EA.16	16	22	39	16	17	42	40	13
HT.EA.20	20	22	42	19	29	45	50	16
HT.EA.25	25	25	50	25	25	55	65	21
HT.EA.32	32	25	57	32	32	63	80	26
HT.EA.40	40	20	60	40	40	70	100	33
HT.EA.50	50	23	73	50	50	85	125	41

Lemon™ groundwork solutions

Here are a few projects that Lemon are proud to be associated with

Current Projects


Silverstone Wing, Pits and Paddocks Complex


Aquatic Centre, Olympic Park


ArcelorMittal Orbit Tower, Olympic Park


Molineux Stadium, Wolverhampton


Coryton Oil Refinery, Essex


Kensington Palace Gardens, West London


Diamond Light Source, National Synchrotron

Lemon™ groundwork solutions

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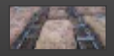
Building/Self Building


Groundwork


Piling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Lemon Ecovation

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