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.

MBT Couplers 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.

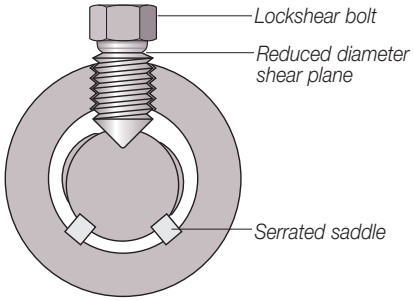
Note: *Impact tools must not be used to tighten lockshear bolts.*

MBT ET Series

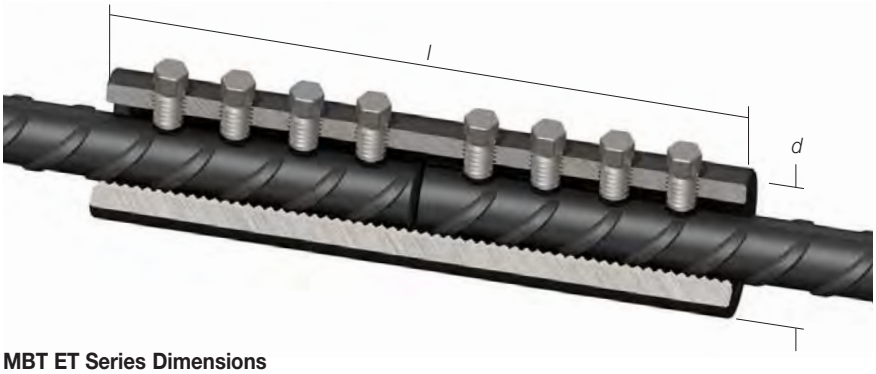
The MBT ET series of couplers is used to connect reinforcing bars of the same size.

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 HAPAS (Highway Authorities Product Approval Scheme) covered by certificate 15/H240 issued by the BBA, including the bar sizes featured in the table below. This range also complies with BS 8597: 2015.



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

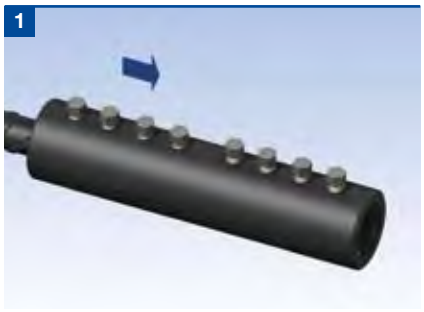


MBT ET Series Dimensions

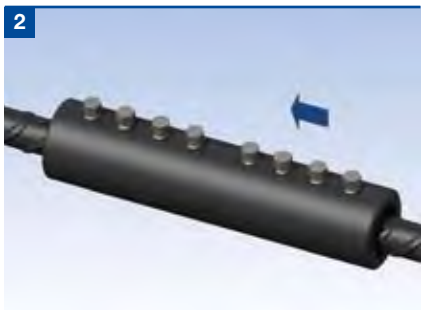
Bar Diameter (mm)		12	16	20	25	32	40
External Diameter (mm)	*d*	33.4	42.2	48.3	54.0	71.0	81.0
Total Length (mm)	*l*	140	160	204	258	312	484
Socket Size A/F (ins)		1/2	1/2	1/2	5/8	5/8	3/4
No. of Bolts		6	6	8	8	10	14
Approx Weight (kg)		0.72	1.25	1.96	3.00	6.50	11.30
Torque (Nm)		55	108	108	275	360	525
Part No.		ET12	ET16	ET20	ET25	ET32	ET40

Note: *Other sizes available on request. For details contact Ancon Building Products.*

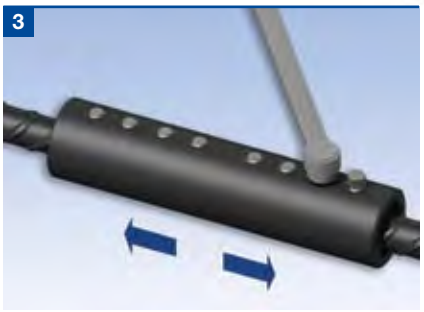
Installation
MBT ET Series



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.



On one half of the coupler, starting from the centre and working outwards, partly tighten the lockshear bolts using either a ratchet wrench or a nut runner as appropriate. Do not use impact tools. Repeat again, this time fully tightening the lockshear bolts until the bolt heads shear off.

Repeat the above for the other half of the coupler.

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.

Electric Wrench

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.