

MOMENT



MOMENT COUPLER



We are one team. We are Leviat.

Leviat is the new name of CRH's construction accessories companies worldwide.

Under the Leviat brand, we are uniting the expertise, skills and resources of Halfen Moment and its sister companies to create a world leader in fixing, connecting and anchoring technology.

The products you know and trust, MOMENT Coupler will remain an integral part of Leviat's comprehensive brand and product portfolio. As Leviat, we can offer you an extended range of specialist products and services, greater technical expertise, a larger and more agile supply chain and better, faster innovation.

By bringing together CRH's construction accessories family as one global organisation, we are better equipped to meet the needs of our customers, and the demands of construction projects, of any scale, anywhere in the world.

This is an exciting change. Join us on our journey.

Read more about Leviat at Leviat.com



Our product brands include:





MOMENT PLAKA



sales in

3000 people worldwide

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WHY COUPLERS?

Couplers or mechanical splices have been used as a method of splicing reinforcing bars for many decades. The reasons for using them are many and varied, but it is often localised congestion that is the biggest driver.

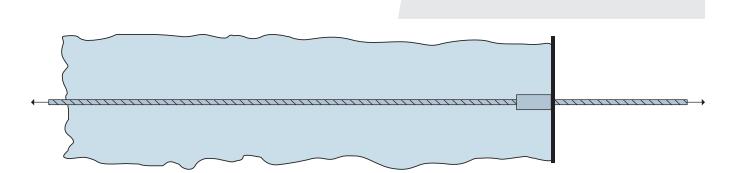
The traditional method that it replaces is that of lap splicing the reinforcing bar. However, the lap splice relies on the concrete around it to transfer the load.



Poor compaction of the concrete will then compromise the load carrying capacity and this has led to a number of "best practice" rules including:

- Do not use lap splices at areas of high moment
- Always stagger lap splices

However, the use of a mechanical splice is superior in its load transfer to lapped splicing as it creates a direct mechanical connection between the 2 bars that is similar in its behaviour to a continuous reinforcing bar.



This means that the rules put in place for lap splicing are not applicable to mechanical splices. This then frees up the contractor to use mechanical splices in areas that will improve buildability and programme times such as beam to column connections in jump-form core walls.

It also leads to reduced steel volumes that reduce the weight of the structure and lessens the amount of embodied CO₂.

COUPLER TESTING



To ensure fitness for purpose there are a number of tests that should be carried out and a wide variety of international standards that can be tested against.

The tests that are generally covered are for **strength**, **slip**, **high stress/low cycle (seismic)**, **medium stress/ medium cycle and low stress/high cycle (vibration)**. However, impact toughness is an important part of seismic and blast resistant solutions, so MOMENT goes beyond the standards to ensure absolute suitability for applications by conducting Charpy impact tests on all its products.

Each engineer, should take care to ensure that the specification on the project is written in order to ensure that the correct coupler is selected.

The most widely accepted international standards are:

- I) ISO 15835
- II) AC133 (which defines test regimes for ACI318 compliance)

However, there are a number of other national standards that stipulate mechanical splice requirements, such as:

- IS 16172-2014
- BS 8110-1997
- NZS 3101-2006
- NF 35-020

MOMENT Couplers are manufactured in accordance with the highest standards of quality and conformance to ensure their suitability regardless of the service conditions.

MOMENT JOINTEC

The JoinTec range is our most comprehensive system with solutions for every possible application. Its main advantage over a taper thread system is that it does not require a torque wrench, making installation much simpler.

Made from a Quench and Tempered machined steel, it not only provides sufficient strength to resist an equivalent bar stress of more than 700MPa, but also provides excellent impact toughness to resist blast and earthquake loads.





We have carried out tests to comply with static, seismic and fatigue loads, but careful selection of reinforcing bar should always be carried out to ensure that the test are valid.

These tests have been carried out in many different countries and include demonstration of compliances shown in ISO 15835; IS 16172-2014, AC133, EN1992-1 and BS8110 amongst others.

The process to create the bar end is as follows:

- Saw cut the end of the bar if the bar is uneven
- Cold forged upset end using high pressure cylinders
- Cut a standard metric thread on the end of the reinforcing bar

MOMENT STANDARD JT



Chamfered Length Length

A straight parallel thread to provide an absolute bar break system where the rebar remains the weakest point.

Dimensions and Availability

Item	Product Code	Rebar	Length	OD*	Thread
1	JT 12	12 / 13	35	Ø24	M16 X P2.0
2	JT 16	16	40	Ø28	M20 X P2.5
3	JT 20	19 / 20	48	Ø32	M24 X P3.0
4	JT 22	22	48	Ø34	M24 X P3.0
5	JT 25	25	60	Ø40	M30 X P3.5
6	JT 28	28 / 29	66	Ø45	M33 X P3.5
7	JT 32	32	70	Ø50	M36 X P4.0
8	JT 36	36	84	Ø55	M39 X P4.0
9	JT 40	40	90	Ø62	M45 X P4.5
10	JT 50	50	113	Ø80	M53 X P4.0

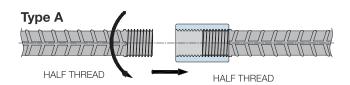
^{*}Dimensions are minimum and might vary from time to time based on availability of raw material.

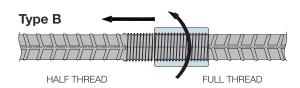
The thread on the end of the rebar can be created as Type A, B or C.

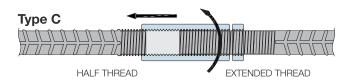
Type A has a single length thread on each of the bars to be coupled. This is ideal for starter bars or short lengths of straight bars where rotation of the second bar is possible.

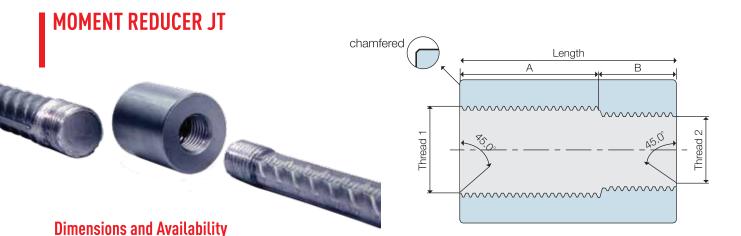
Type B has a double thread on one of the bars to be coupled. This facilitates the installation of the system by allowing a coupler to be screwed fully on to one of the bars. When the second bar is ready for coupling, the coupler can now be rotated off one bar and on to the other. However, to ensure a tight connection, an additional part turn will be necessary. Therefore, this system is ideal for longer, straight, large diameter bars being installed on site.

Type C has an extended thread on one of the bars to accommodate a coupler and a lock nut. The lock nut is there to eliminate the need for a part turn of the bar. It is ideal for L Bars and prefabricated bar cages where the rotation of a bar is impossible.









Item	Product Code	Rebar	Length	OD	Thread 1	Thread 2	Α	В
1	RDJT 20-16	19 / 20 – 16	44	Ø32	M24 X P3.0	M20 X P2.5	24	20
2	RDJT 25-16	25 – 16	50	Ø40	M30 X P3.5	M20 X P2.5	30	20
3	RDJT 25-20	25 – 19 / 20	54	Ø40	M30 X P3.5	M24 X P3.0	30	24
4	RDJT 28-25	28 / 29 – 25	63	Ø45	M33 X P3.5	M30 X P3.5	33	30
5	RDJT 32-20	32 - 19 / 20	59	Ø50	M36 X P4.0	M24 X P3.0	35	24
6	RDJT 32-25	32 – 25	65	Ø50	M36 X P4.0	M30 X P3.5	35	30
7	RDJT 32-28	32 – 28 / 29	68	Ø50	M36 X P4.0	M33 X P3.5	35	33
8	RDJT 36-32	36 – 32	77	Ø57	M39 X P4.0	M36 X P4.0	42	35
9	RDJT 40-25	40 – 25	75	Ø60	M45 X P4.5	M30 X P3.5	45	30
10	RDJT 40-32	40 – 32	80	Ø60	M45 X P4.5	M36 X P4.0	45	35

In situations where 2 different sized bars are being connected, the Reducer JT will enable the connection to be done in a timely manner. The Reducer JT range uses the same threading principles as the JT Standard, but in this case, extended threads are only possible on the smaller diameter bar.

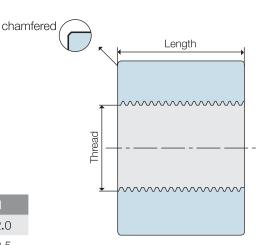
As a default, the coupler is normally pre-assembled on to the larger bar.

MOMENT TERMINATOR JT



Dimensions and Availability

Item	Product Code	Rebar	Length	OD	Thread
1	TMJT 12	12/13	18	Ø24	M16 X P2.0
2	TMJT 16	16	20	Ø36	M20 X P2.5
3	TMJT 20	19/20	24	Ø40	M24 X P3.0
4	TMJT 25	25	30	Ø50	M30 X P3.5
5	TMJT 28	28/ 29	33	Ø60	M33 X P3.5
6	TMJT 32	32	35	Ø65	M36 X P4.0
7	TMJT 36	36	42	Ø75	M42 X P4.5
8	TMJT 40	40	45	Ø80	M39 X P4.0
9	TMJT 50	50	53	Ø100	M53 X P4.0

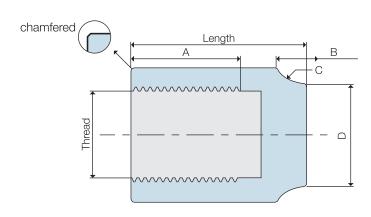


Whether you are trying to tie pile cages in to capping beams or curtail reinforcing bars at the end of beams, heavy congestion or other constraints can often mean that bending of bars is impossible, or at very least, incredibly time consuming. Therefore, the Terminator JT can be used to fully develop the bar immediately at the surface of the head (providing concrete cone capacity is not critical).

MOMENT WELDABLE JT



Dimensions and Availability



Item	Product Code	Rebar	Length	OD	Thread	Α	В	С	D
1	WDJT 12	12/13	36	Ø28	M16 X P2.0	20	8	R8	Ø12
2	WDJT 16	16	40	Ø32	M20 X P2.5	22	9	R6	Ø20
3	WDJT 20	19 / 20	45	Ø36	M24 X P3.0	26	9	R6	Ø24
4	WDJT 22	22	45	Ø38	M24 X P3.0	26	9	R6	Ø24
5	WDJT 25	25	50	Ø45	M30 X P3.5	32	10	R8	Ø24
6	WDJT 28	28 / 29	55	Ø50	M33 X P3.5	35	10	R8	Ø29
7	WDJT 32	32	60	Ø55	M36 X P4.0	38	12	R10	Ø30
8	WDJT 36	36	65	Ø65	M42 X P4.5	44	12	R10	Ø35
9	WDJT 40	40	70	Ø70	M45 X P4.5	47	14	R12	Ø41
10	WDJT 50	50	90	Ø85	M53 X P4.0	62.5	15	R15	Ø50

^{*}Sizes are minimum dimension and subject to variation. Other sizes available upon request.

The Weldable JT coupler enables a connection between steel and concrete when the structure is composite in nature. A full weld specification is available on request from our engineering team if necessary.

MOMENT RT



Dimensions and Availability

Item	Product Code	Rebar	Length	OD	Thread
1	RT 12	12	34	Ø20	M13 X P1.75
2	RT 16	16	40	Ø24	M17 X P2.5
3	RT 19	19	45	Ø30	M20 X P2.5
4	RT 20	20	50	Ø30	M21 X P2.5
5	RT 22	22	52	Ø35	M23 X P2.5
6	RT 25	25	54	Ø38	M26 X P3.5
7	RT 28	28	65	Ø40	M29 X P3.5
8	RT 29	29	70	Ø40	M30 X P3.5
9	RT 32	32	75	Ø45	M33 X P3.5
10	RT 36	36	85	Ø50	M37 X P3.5
11	RT 40	40	90	Ø55	M41 X P3.5
12	RT 50	50	110	Ø80	M51 X P3.5

The RT is an alternative threading technology where the thread is rolled as opposed to being cut. It can provide exceptional performance in high cycle elastic fatigue applications, whilst maintaining values in excess of the design strengths of the bar.

The MOMENT RT system, uses the RT coupler and a rolled parallel thread. It is a full strength system, capable of exceeding the **nominal** ultimate characteristic strength of the rebar.

MOMENT RT PLUS

The MOMENT RT Plus system, uses the RT coupler and a radially pressed & rolled parallel thread. It is a bar break system, capable of exceeding the **actual** ultimate characteristic strength of the rebar.

The bar is radially pressed prior to skimming and rolling to provide a bar break system with excellent fatigue properties that is capable of resisting an equivalent bar stress of more than 700 MPa and the coupler material provides excellent impact toughness.

The process to create the bar end for **RT** is as follows:

- Saw cut the end of the bar if the bar is uneven
- Skim the ribs to cut away the excess material and leave a smooth surface
- Roll a metric thread on the end of the reinforcing bar

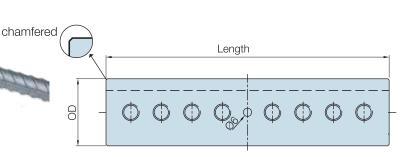
The process to create the bar end for

RT Plus is as follows:

- Saw cut the end of the bar if the bar is uneven
- Cold forge the bar by radially pressing the bar to flatten the ribs
- Skim the ribs to cut away the excess material and leave a smooth surface
- Roll a metric thread on the end of the reinforcing bar

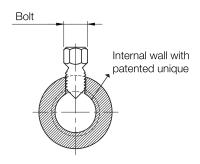
^{*}The dimensions can change from time to time.

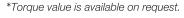


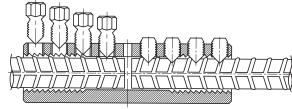


Dimensions and Availability

Item	Product Code	Length	OD	Total No. of Bolt	Socket Head
1	MBC12	108	Ø28	6	M10
2	MBC16	122	Ø36	6	M12
3	MBC20	160	Ø42	8	M12
4	MBC25	175	Ø50	8	M14
5	MBC32	265	Ø65	10	M16
6	MBC40	435	Ø75	14	M20







The MOMENT MBC 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 108% of the characteristic yield strength of grade 500 reinforcing bar. Neither bar end preparation to form threads, nor bar rotation are required. MOMENT MBC couplers can also be used to join imperial or metric, plain, round or deformed reinforcing bars, making it ideal for alteration or refurbishment projects.

The bar ends are supported within the coupler by reversed teeth inner wall, and as the lockshear bolts are tightened, the conical ends embed themselves into the bar. As this happens the reversed teeth bite into the bar. The lockshear bolts of couplers up to and including the 20mm bar can be tightened using a 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: Nut runner (available upon request) is strongly recommended to tighten the bolts for higher precision and faster installation. Impact tools must not be used to tighten lockshear bolts.

MOMENT GROUT COUPLER

MOMENT HALF GROUT





The MOMENT Half Grout Coupler is a mechanical splicing system intended to be used to connect precast elements.

At one end, the coupler receives a threaded rebar, whereas the other end provides the flexibility of a grout system. It consists of a one piece design and the coupler is capable of resisting an equivalent bar stress of more than 700MPa.

Applications

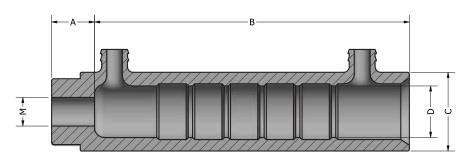
This coupler can be used for connecting precast elements either horizontally or vertically. The elements can consist of walls, columns, beams etc.

Benefits

- Grout cavity includes taper for easy installation.
- Hexagon shape feature for easy assembly onto rebar.
- Combines the use of MOMENT JT threaded system.



When used in conjunction with MOMENT's proprietary 100 MPa grout, the system will be able to achieve bar break.





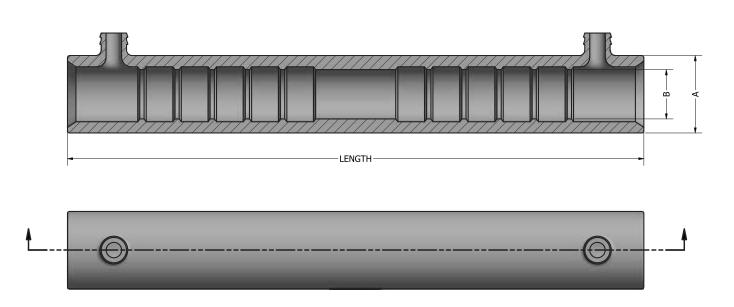
Dimensions and Availability

Item	Product Code	Rebar	A	В	С	D	М	Length	Minimum Insertion
1	HGC 12	12	18	116	35	24	M16 X P2.0	134	96
2	HGC 16	16	20	148	40	26	M20 X P2.5	168	128
3	HGC 20	20	25	180	46	30	M24 X P3.0	205	160
4	HGC 25	25	30	220	55	35	M30 X P3.5	250	200
5	HGC 28 or 32	28 / 32	38	276	71	45	M33 X P3.5 / M36 x P4.0	314	256
6	HGC 36 or 40	36 / 40	45	340	86	54	M42 X P4.5 / M45 x P4.5	385	320

MOMENT FULL GROUT



Complementing the MOMENT Half Grout Coupler, the MOMENT Full Grout Coupler can be used either for precast or in-situ connections where additional tolerance is needed, or if the reinforcing bars cannot be threaded.



Dimensions and Availability

Item	Product Code	Rebar	Α	В	Length	Minimum Insertion
1	FCG 12	12	35	24	200	96
2	FCG 16	16	40	26	265	128
3	FCG 20	20	46	30	330	160
4	FCG 25	25	55	35	410	200
5	FCG 28 or 32	28 / 32	71	45	522	256
6	FCG 36 or 40	36 / 40	86	54	650	320



Light Rail Transit Line, Malaysia





Bukit Bintang City Center (BBCC), Malaysia



Penang Second Bridge, Malaysia



Mass Rapid Transit Line, Malaysia



Tun Razak Exchange (TRX), Malaysia



Marina Bay Sands, Singapore



Marina One, Singapore



North South Corridor, Singapore



Tanjong Pagar Center, Singapore



Woodlands Health Campus, Singapore



Metro Line, India



Kolkata Metro, India



The Camellias, India



World Trade Center, India







Clark International Airport Expansion, Philippines



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Infinity Tower, Myanmar



Altair Tower, Sri Lanka

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