

Technical Datasheet

Ancon BT Coupler System

For Grade 600 MPa (SENSE 600®) Reinforcing Bar

Leviat provides the Ancon BT couplers as a bar-break system with the SENSE 600® reinforcing bars according to AS/NZS 4671:2019 – *Steel for the reinforcement of concrete*. The BT 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 end of each bar to be joined is cut square and enlarged by cold forging to ensure that the joint is stronger than the bar. A BT parallel thread is cut onto the ends to suit the threaded coupler.

SENSE 600® reinforcing bar is high strength (600 MPa) bar with Ductility Class N (normal ductility), conforming to the requirements of AS/NZS 4671:2019. The standard sizes available are smaller than the standard D500N reinforcing bars. Standard D500N reinforcing bars and their equivalent SENSE 600® (D600N) bars are shown in Table 1.

Table 1: Comparison of D500N and D600N bar sizes.

Standard D500N Bar Sizes (mm)	12	16	20	24	28	32	36	40
Equivalent SENSE 600® (D600N) Bar Designation	S11	S15	S18	S22	S26	S29	S33	S37
Equivalent SENSE 600® (D600N) Bar Sizes (mm)	11.0	14.6	18.3	21.9	25.6	29.2	32.9	36.5

Properties of suitable Ancon BT couplers for SENSE 600® (D600N) reinforcing bars are summarised in Table 2.

Table 2: Ancon BT couplers for D600N (SENSE 600®) bars.

Bar Diameter (mm)		18.3	21.9	25.6	29.2	32.9	36.5
Nominal Mass (kg/m)		2.06	2.96	4.03	5.26	6.66	8.22
External Diameter (mm)	d	30	38	40	45	50	60
Coupler Length (mm)	l	50	54	65	75	85	90
Type A Thread Length (mm)	t	25	27	32.5	37.5	42.5	45
BT Round Locknut (mm)	l _n	12	15	15	15	20	20
Coupler Weight (kg)		0.16	0.29	0.35	0.48	0.65	1.14
Thread Size		M21	M26	M29	M33	M37	M41
Thread Pitch (mm)		2.5	3.5	3.5	3.5	3.5	3.5
Coupler Type		BTC18	BTC22	BTC26	BTC29	BTC33	BTC37

Full destructive tests have been performed at a NATA certified laboratory for Ancon BT couplers with SENSE 600® bars compliant to AS/NZS 4671:2019. The testing shows that Ancon BT couplers used with SENSE 600® reinforcing bars fulfil the requirements for tensile strength and slip in accordance with TfNSW Document No. SF2013/185115, Issue 4, October 2022 (modified for the characteristics and requirements of 600N bar according to AS/NZS 4671:2019). The performance of the coupler assembly is also compliant with the mechanical splice requirements as per AS 3600:2018.

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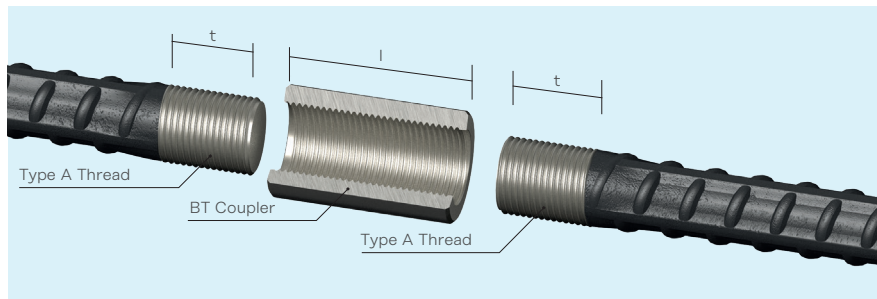
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Types of Coupler Connections

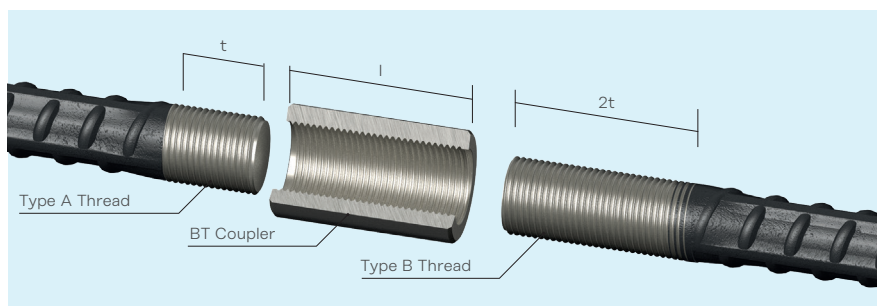
BT Type A

The BT Type A connection 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 (Type A thread).



BT Type B

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



BT Type C

The BT Type C connection utilises the same coupler as for the Type A, together with locknuts and longer threads to the bar ends (Type C1 thread/Type C2 thread). Type C connections are used where the continuation bar cannot be rotated.

