



Ancon RT Reinforcing Bar Coupler System

Building Product Information Sheet

The Ancon RT Reinforcing Bar Coupler System is used for the mechanical connection of deformed steel reinforcing bars in concrete elements.

The system includes internally threaded carbon steel RT Couplers, RT Headed Anchors, RT KSN Anchors, RT Positional Couplers and RT Weldable Couplers in sizes to suit 12mm to 40mm reinforcing bar diameters. Ancillary products, including nail plates, are used during installation. The system requires a parallel RT thread to be rolled onto the end of each reinforcing bar to be coupled or anchored, prior to placement and fitting of the coupler or anchor.

Components

- RT Coupler: internally threaded steel sleeve used for the mechanical connection of reinforcing bar prepared with a parallel RT thread. RT Couplers are identified by reference to bar size and RT Coupler product code (e.g. RTC12).
- RT Headed Anchor: internally threaded steel sleeve used for the anchorage of reinforcing bar prepared with a parallel RT thread. RT Headed Anchors are identified by reference to bar size and anchor product code (e.g. RTHA12).
- RT KSN Anchor: internally threaded, cast-in steel sleeve with hot forged foot used for the anchorage of RT threaded reinforcing bar in slab-to-wall construction joints. RT KSN Anchors are available in sizes to suit bar diameters 12mm to 20mm, and in short (S), medium (M) and long (L) lengths. RT KSN Anchors are identified by reference to bar size, anchor product code and length (e.g. RTKSN12 S/M/L).
- RT Positional Coupler: comprises two standard RT Couplers, a positional stud, and a locking nut, and are designed for use in applications where neither reinforcing bar to be joined can be rotated. Positional couplers are specified by reference to bar size and product code (e.g. RTPC12).
- RT Weldable Coupler: internally threaded steel sleeve that can be welded to steel elements prior to placement of the RT threaded reinforcing bar. Weldable couplers are identified by reference to bar size and product code (e.g. RTWC12).
- RT Thread: a thread that is rolled onto the end of the bar to be coupled or anchored using RT threading machinery. The RT Thread profile compliments the internal thread profile of RT couplers and anchors, and may be rolled onto reinforcing bars in 12mm to 40mm diameters. RT Threads are specified by reference to bar size (e.g. RTT12)

Composition

- RT couplers and anchors are manufactured from carbon steel.

Supporting documentation

- Full product details, including design and installation guidelines, are presented in supporting technical documentation. See: Ancon Reinforcing Bar Couplers and Anchors (New Zealand Edition) and Ancon RT KSN Anchors (New Zealand Edition). Available from: <https://www.ancon.co.nz/downloads/technical-literature>

Product Identifier

- RTC_ _ , RTHA_ _ , RT KSN_ _ , RTPC_ _ , RTWC_ _ , RTT_ _

Manufacturer and Importer Details:

Place of Manufacture:	Overseas (RTC, RTHA, RTPC, RTWC, RTKSN)
Manufacturer:	Leviat Sdn Bhd, 28 Jalan Anggerik Mokara 31/59, Kota Kemuning, 40460 Shah Alam, Selangor, Malaysia
Importer Name:	Leviat New Zealand Limited
Importer Address:	246D James Fletcher Drive, Otahuhu, Auckland, 2024
Importer Website:	www.leviat.com/en-nz
Importer Email:	info.nz@leviat.com
Importer Phone:	+64 9 276 2236
Importer NZBN:	9429031339056

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Relevant Building Code clauses:

- Clause B1 Structure - B1.3.1, B1.3.2, B1.3.3, B1.3.4
- Clause B2 Durability - B2.3.1 (a)
- Clause F2 Hazardous Building Materials - F2.3.1

Contributions to Compliance:

Clause B1 Structure

- **B1.3.1, B1.3.2, B1.3.3, B1.3.4.** The capacity of the RT Reinforcing Bar Coupler System has been demonstrated through extensive, independent testing to the requirements of NZS3101:2006 A3 using RT Couplers, RT Positional Couplers and RT threaded Grade 500E reinforcing bars manufactured to AS/NZS4671. The results demonstrate compliance with all relevant requirements of NZS3101, including:
 - Clauses 8.6.11.1, 8.6.11.3 and 8.7.5.2 (a, b) — tensile strength and slip;
 - Clauses 8.6.11.1 and 8.7.5.2 (b) — coupler sleeve strength;
 - Clause 8.6.11.4 — material type and resistance to brittle fracture; and
 - Clause 8.9.1.3 — cyclic load performance.
- RT Headed Anchors, RT KSN Anchors and RT Weldable Couplers utilise the same internal thread profile as RT Couplers and Positional Couplers, and their capacity is expected to align with the performance demonstrated above. RT anchors and weldable couplers are not manufactured from cast iron, and impact testing of product materials demonstrate compliance with NZS3101, Clause 8.6.11.4..
- RT KSN capacities calculated in accordance with the Concrete Capacity Design (CCD) method, and Clause 17.5.7.2 of NZS3101, are presented in the supporting technical documentation.

Clause B2 Durability

- B2.3.1 (a). The Ancon RT Reinforcing Bar Coupler System will meet the provisions of B2.3.1 (a) of not less than 50 years subject to concrete cover, the appropriate sealing and maintenance of any associated construction joints, and the assessment of intended use (exposure conditions) and appropriate material specification by the responsible engineer.

Clause F2 Hazardous Building Materials

- F2.3.1. RT couplers and anchors meet the performance requirements of F2.3.1.

Limitations on the use of the building product:

- The RT system has not been tested for use in situations as presented in NZS3101, Clause 8.9.3.1(b) where high cycle fatigue is a consideration.
- The RT system has not been tested for use with ReidBar™ reinforcing bar

Design requirements to support appropriate use:

- The RT Reinforcing Bar Coupler System shall be used subject to the specific engineering design of a Chartered Professional Engineer working in accordance with NZS3101.
- RT couplers and anchors must be used with deformed Grade 300E or 500E reinforcing bars manufactured to the requirements of AS/NZS4671, that are not ReidBar™, and that have been threaded using genuine RT threading machinery.
- Consideration shall be shown to the size of the RT coupler or anchor and their placement within the concrete element to ensure concrete cover to the requirements of NZS3101, Clause 3.11.3 is achieved.

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- RT couplers and anchors should not be located immediately adjacent to or in ductile or limited ductile plastic regions as stipulated in NZS3101, Clause 8.9.1.1(a).
- RT KSN Anchor designs shall be prepared by a Chartered Professional Engineer subject to the requirements of NZS 3101 Section 17, and Clause 8.6.11.1, which states anchorages must develop the upper characteristic breaking strength of the bar without damage to the concrete.
- Construction joints incorporating RT KSN anchors must be appropriately sealed and maintained to prevent the ingress of moisture.
- When using the RT Weldable Coupler, the welded connection must be designed by the responsible engineer to comply with the specific application.

Installation requirements:

- The RT Reinforcing Bar Coupler System shall be installed by a competent manufacturer or contractor in accordance with Leviat technical documentation and the specific engineering design and guidance of a Chartered Professional Engineer.
- Installation guidelines are available in the supporting technical documentation

Maintenance requirements:

- RT couplers and anchors installed in concrete building elements will not normally require maintenance. However, remedial work on the concrete element will be required to restore integrity in those instances where concrete cover has been lost or compromised over time or through damage, or where there exists an elevated risk of corrosion resulting from the degradation or damage of sealants or other waterproofing measures used at construction joints or other vulnerable areas

Warning or ban:

- This product is not subject to any warning or ban under section 26 of the Building Act 2004.