



Ancon Unilift Lifting Systems

Building Product Information Sheet

The Ancon Unilift Lifting System consists of a range of lifting anchors and ancillary items (clutches and recess formers) used for the safe and efficient handling of precast concrete items during manufacture, transport and installation. Cone Anchors (CA) and Reo Anchors (RA) are forged headed anchors that are cast into the concrete.

The RA includes a hole which allows the anchor to be used with a hanger (tension) bar. Recess formers create a spherical recess around the anchor head. Unilift Locking Klaws engage with the anchor head and transfer the lifting loads safely into the anchor. Components are available in different lengths and six load classes (1.3 tonnes to 32 tonnes). Anchors are identified by type, load class and length (e.g. CA01035).

Composition

- Unilift CA and RA are manufactured from forged, high impact strength steel and hot-dip galvanised for durability. Stainless steel anchors are also available.

Supporting documentation

- Full product specifications and dimensions are available in additional technical documentation. See: Ancon Unilift Lifting Systems (New Zealand Edition). Available from: <https://www.ancon.co.nz/downloads/technical-literature>

Product Identifier

- CA_ _ _ _ _ , RA_ _ _ _ _

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
- Clause F5 Construction and Demolition Hazards — F5.3.1

Contributions to Compliance:

Clause B1 Structure

- Unilift CA and RA perform a function during construction only and will not contribute to building integrity. Misuse may nevertheless compromise the in-service performance of concrete items that otherwise must meet the provisions of Clause B1.

Clause B2 Durability

- B2.3.1 (a).** Unilift CA and RA will meet the provisions of B2.3.1(a) of not less than 50 years subject to correct use, placement and maintenance in accordance with the design and required durability assessment of the designer working to the appropriate design and environmental standards.

Clause F2 Hazardous Building Materials

- F2.3.1.** Unilift CA and RA meet the performance requirements under Clause F2.3.1.

Clause F5 Construction and Demolition Hazards

- F5.3.1.** Unilift CA, RA and Locking Klaws meet the minimum factors of safety (FoS) for anchors and clutches as defined in the Good Practice Guidelines (GPG) of WorkSafe New Zealand's "Safe Work with Precast Concrete" (Oct 2018), Sections 6.6 and 10.11. As defined in the GPG, the FoS for lifting anchors describes the ratio between the working load limit (WLL) and the characteristic strength (determined as the 5% fractile with a confidence limit of 90%).
- CA and RA are manufactured and tested in accordance with AS3850.

Manufacturer and Importer Details:

Place of Manufacture:	Overseas
Manufacturer:	CRH Consulting (Shanghai) Co. Ltd.* Unit 1001-5, Office Tower, Capital Square, No. 268 Hengtong Road, Jing'an District, Shanghai, China
Manufacturer Phone:	+86 21 52860599
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

*CRH Consulting (Shanghai) Co. Ltd. oversee the supply of product manufactured in China to Leviat specifications.

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Limitations on the use of the building product:

- Unilift CA and RA are cast-in products that will remain part of the finished concrete item. The anchor head may remain visible and exposed. The durability of coated steel or stainless steel anchors situated in concrete exposed to damp or exterior conditions is the responsibility of the designer. Guidelines helpful to the preparation of the durability assessment necessary to the use of anchors in environments subject to different conditions are presented in NZS 3101, Clause 3.13.

Design requirements to support appropriate use:

- Competent persons (GPG, Section 1.4) shall be responsible for the design of precast concrete items and use of the Unilift system.
- Designers must work in accordance with the GPG and consider both the capacity of the item to withstand the loads that are likely to be imposed during manufacture, transport and installation (including when lifting and handling), and the in-service performance the item is expected to provide as part of the completed structure.
- The WLL capacity of Unilift CA and RA is calculated in accordance with the Concrete Capacity Design (CCD) method.

Installation requirements:

- Unilift Lifting Systems shall be installed by competent persons in accordance with Leviat technical documentation, GPG and the lifting design prepared by a competent person.
- Recesses may be sealed and filled after the concrete items have been positioned and installed.
- Installation guidelines are available in supporting technical documentation. See: Ancon CA and RA Installation Guide (New Zealand Edition). Available from: <https://www.ancon.co.nz/products/precast-concrete-accessories/lifting-systems/unilift-systems>

Maintenance requirements:

- Maintenance of installed anchors shall be in accordance with the design and durability assessment of the designer. Maintenance of the anchor when installed in interior, dry and protected environments will not normally be required during the expected life of the anchor.
- Remedial work to the concrete surrounding the anchor will be required to restore integrity and prevent the ingress of moisture in those instances where repairable cracking or damage has occurred through error or misfortune experienced during lifting and handling.

Warning or ban:

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