reid™

CHARTERED VERIFIED ENGINEER

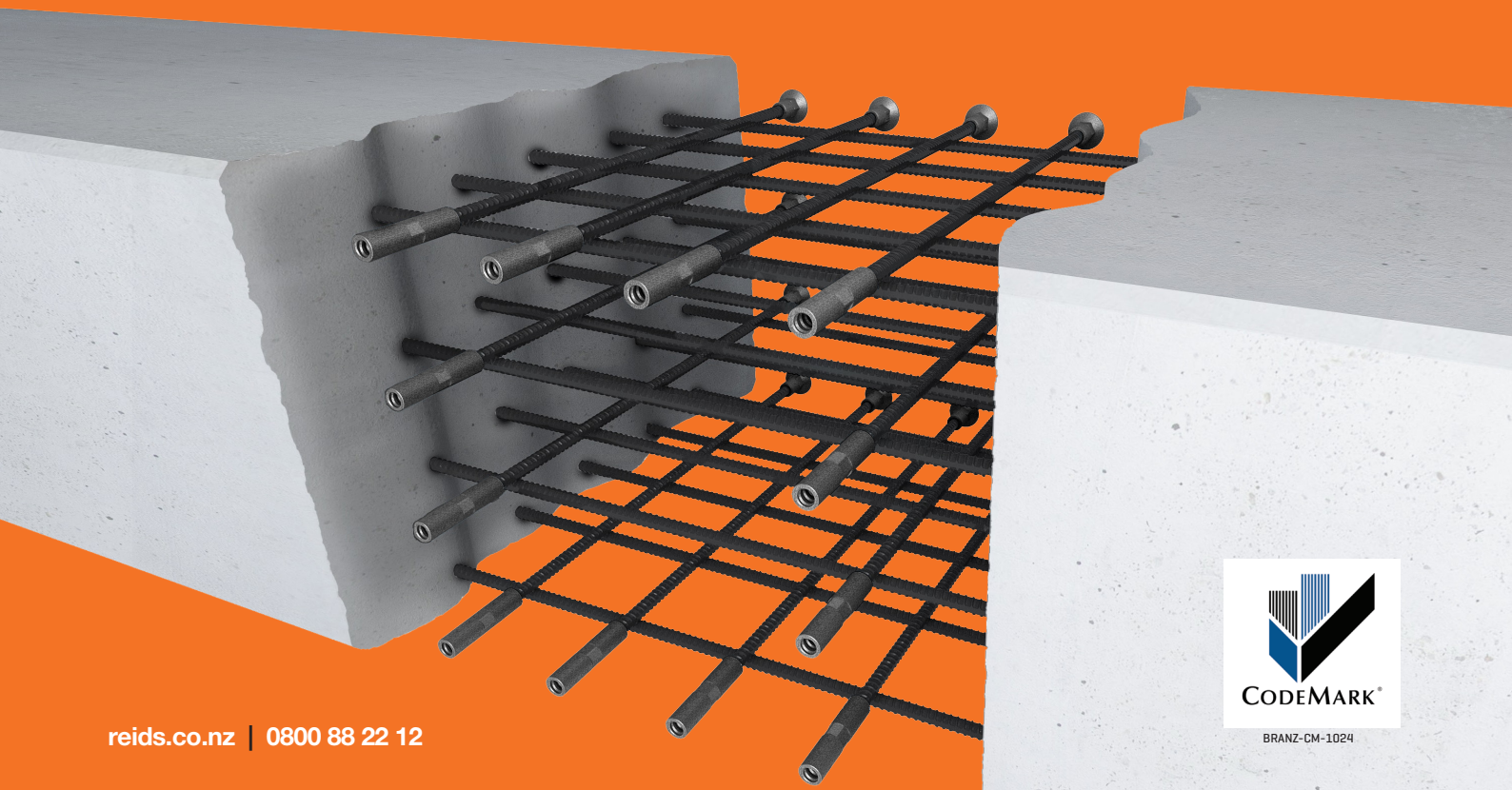
November | 2023 NZ

GENUINE

# ReidBar™ Reinforcing Connection Systems

## Product and Specification Guide

Engineered full strength reinforcing connections systems



CodeMark

BRANZ-CM-1024

reids.co.nz | 0800 88 22 12

# Genuine ReidBar™

## Genuine ReidBar™ is a continuously threaded, hot rolled Grade 500E reinforcing bar manufactured in New Zealand in accordance to AS/NZS4671:2019.

Genuine ReidBar™ Connection Systems deliver Optimised Reinforcing Connection solutions designed to increase structural system integrity, simplify complex connections and reduce cost in place. All ReidBar™ Bar and ReidBar™ Connection Systems are manufactured within quality-controlled tolerances (ISO:9001) and tested In-Concrete with 3rd Party verification ensuring performance as a Genuine matched system.

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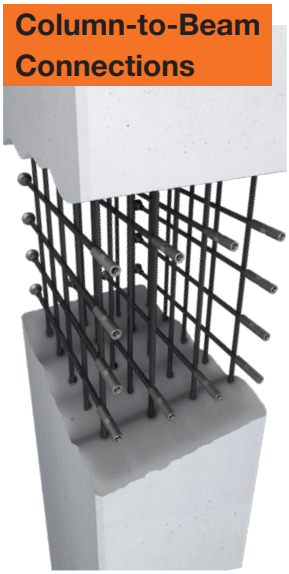
**CodeMark's Scheme Mark of Conformity**

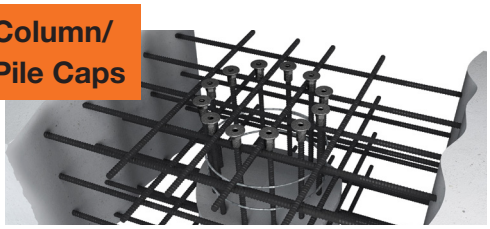
## Applications

**Column-to-Beam Connections**

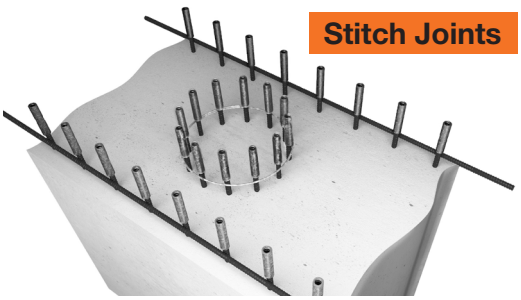


**Wall-to-Slab Connections**

**Column/ Pile Caps**



**Stitch Joints**



# Features & Benefits

## Easy to install.

ReidBar is a user friendly continuous coarse thread reinforcing bar system that is fast, easy to assemble and readily available in New Zealand.

## Confidence in quality.

ReidBar's continuous thread does not require pre threading of the reinforcing bar. This means no testing for brittle fracture on the reinforcing bar (as required for processed reinforcing bar in NZS3101:2006 Section 8.6.11.4) and therefore shorter supply lead times.

## Supports onsite safety.

ReidBar system enables flush concrete construction without protruding starter bars, supporting safety on construction sites.

# CodeMark

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## ReidBar™ Reinforcing Connection Systems hold a CodeMark certificate (Certificate Number BRANZ-CM-1024). This provides a deemed to comply assessment for the system, to the NZBC, when used within the scope of CodeMark Certificate Number BRANZ-CM-1024.

## What is CodeMark?

CodeMark is a product certification scheme for building methods and products.

## What does CodeMark do?

CodeMark certification provides assurance that a product is **'deemed to comply' with the New Zealand Building Code.**

## Benefits of CodeMark certification of ReidBar™ Reinforcing Connection Systems?

- **Provides assurance that ReidBar™ Reinforcing Connection Systems are 'deemed to comply'** with the clauses of the NZBC stated on CodeMark Certificate Number BRANZ-CM-1024 (refer to the Compliance section for a listing of the NZBC clauses this system is compliant to and the CodeMark certificate link).
- **ReidBar™ Reinforcing Connection System' CodeMark certification is reviewed by BRANZ annually**

## Where can I find the CodeMark certificate?

The ReidBar™ Reinforcing Connection System CodeMark certificate is available on the JAS-ANZ website, located by entering the certificate number. https://www.jas-anz.org/our-directory/codemark-certified-organisations

## Finding more information about the ReidBar™ Reinforcing Connection System?

- Please refer to supporting literature available from www.reids.co.nz

## How do I ensure compliance to the CodeMark conditions?

The ReidBar™ Reinforcing Connection System is an engineered system.

Substitution, omission and/or modification of components is not permitted by and will void the CodeMark certification of the system.

For more information refer to the CodeMark certificate located by using the link above and the Compliance, System Components and Specification Toolkit sections of this publication.

**Want to know more about the ReidBar™ Reinforcing Connection Systems and CodeMark certification?** Contact the Reid team for advice.

## customer service

**Reid™ New Zealand**
Customer Service Centre
Tel: 0800 88 22 12
Email: sales@ramsetreid.co.nz
Web: www.reids.co.nz

# ReidBar Steel Coupler

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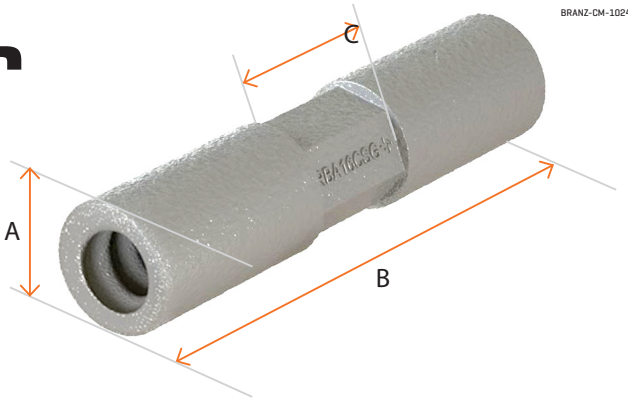



## Product Specs

| Part No. | Description | Body Diameter (A) (mm) | Length (B) (mm) | Hex A/F (C) (mm) | Min Threaded Depth (mm) |
|---|---|---|---|---|---|
| RB12CS | 12mm ReidBar Steel Coupler | 32 | 130 | 26 | 50 |
| RBA16CS | 16mm ReidBar Steel Coupler | 32 | 136 | 26 | 54 |
| RB20CS | 20mm ReidBar Steel Coupler | 35 | 148 | 32 | 60 |
| RB25CS | 25mm ReidBar Steel Coupler | 42 | 193 | 38 | 80 |
| RB32CS | 32mm ReidBar Steel Coupler | 60 | 242 | 52 | 102 |
| RB12CSG* | 12mm ReidBar Steel Coupler Galvanised | 32 | 130 | 26 | 50 |
| RBA16CSG* | 16mm ReidBar Steel Coupler Galvanised | 32 | 136 | 26 | 54 |
| RB20CSG* | 20mm ReidBar Steel Coupler Galvanised | 35 | 148 | 32 | 60 |
| RB25CSG* | 25mm ReidBar Steel Coupler Galvanised | 42 | 193 | 38 | 80 |
| RB32CSG* | 32mm ReidBar Steel Coupler Galvanised | 60 | 242 | 52 | 102 |

*Additional lead times apply for HDG products

## Installation


ReidBar™ Steel Couplers are to be Installed utilising Ramset™ EPCON™ C8 Xtrem™

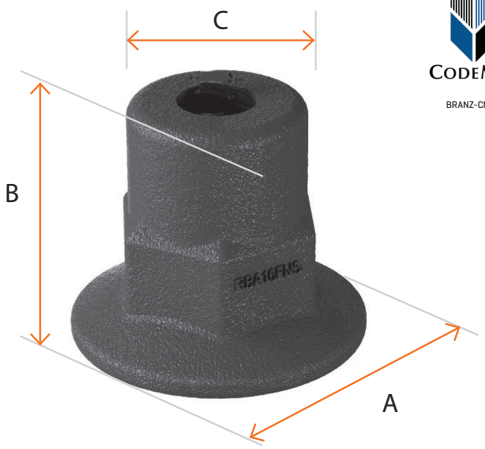
Typical specification on drawings:
"RB__CS/CSG+Ramset EPCON C8 Xtrem"

## Recommended amount of EPCON™ C8 Xtrem™ injections

| Part No. | No of Injections (each side)* | Approx. Fittings/cartridge** |
|---|---|---|
| RB12CS/CSG | 3 | 15 |
| RBA16CS/CSG | 3 | 15 |
| RB20CS/CSG | 4 | 11 |
| RB25CS/CSG | 6 | 7 |
| RB32CS/CSG | 8 | 5 |

*recommendations are based on the use of mixing nozzle type "ISNE". Quantities based on full pumps.
**Based on 90 pumps per EPCON™ C8 Xtrem™ cartridge.

# ReidBar™ Steel Flange Nut

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## Product Specs

| Part No. | Description | Foot diameter (A) (mm) | Length (B) (mm) | BodyDiameter (C) (mm) | Hex Size A/F (mm) |
|---|---|---|---|---|---|
| RB12FNS | 12mm ReidBar Flange Nut | 39 | 50 | 22 | 22.6 |
| RBA16FNS | 16mm ReidBar Flange Nut | 58 | 50 | 35 | 36 |
| RB20FNS | 20mm ReidBar Flange Nut | 67 | 50 | 35 | 36 |
| RB25FNS | 25mm ReidBar Flange Nut | 83 | 80 | 42 | 42 |
| RB32FNS | 32mm ReidBar Flange Nut | 92 | 95 | 55 | 57 |
| RB12FNSG | 12mm ReidBar Flange Nut Galvanized | 39 | 50 | 22 | 22.6 |
| RBA16FNSG* | 16mm ReidBar Flange Nut Galvanized | 58 | 50 | 35 | 36 |
| RB20FNSG* | 20mm ReidBar Flange Nut Galvanized | 67 | 50 | 35 | 36 |
| RB25FNSG* | 25mm ReidBar Flange Nut Galvanized | 83 | 80 | 42 | 42 |
| RB32FNSG* | 32mm ReidBar Flange Nut Galvanized | 92 | 95 | 55 | 57 |

*Additional lead times apply for HDG products.

## Installation


ReidBar™ Steel Flange Nuts are to be Installed utilising Ramset™ EPCON™ C8 Xtrem™ Half Nut.

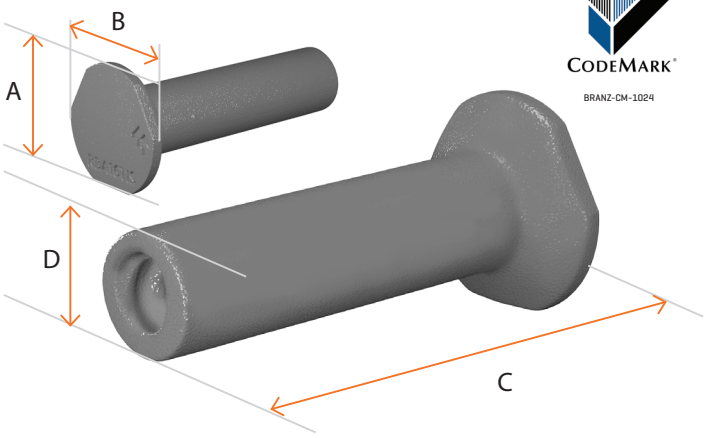
Typical specification on drawings:
"RB_FNS/FNSG + RBNH/RBNHG + Ramset EPCON C8 Xtrem"

## Recommended amount of EPCON™ C8 Xtrem™ injections

| Part No. | No of Injections* | Approx. Fittings/cartridge** |
|---|---|---|
| RB12FNS | 3 | 30 |
| RBA16FNS/FNSG | 3 | 30 |
| RB20FNS/FNSG | 4 | 22 |
| RB25FNS/FNSG | 6 | 15 |
| RB32FNS/FNSG | 8 | 11 |

*recommendations are based on the use of mixing nozzle type "ISNE". Quantities based on full pumps.
**Based on 90 pumps per EPCON™ C8 Xtrem™ cartridge.

# ReidBar™ Steel Threaded Insert




## Product Specs

| Part No. | Description | Foot Minor Diameter (A) (mm) | Foot Major Diameter (B) (mm) | Length (C) (mm) | BodyDiameter (D) (mm) | MinThreaded Depth (mm) |
|---|---|---|---|---|---|---|
| RB12TIS | 12mm ReidBar Steel Threaded Insert | 37 | 39 | 101 | 22 | 53 |
| RBA16TIS | 16mm ReidBar Steel Threaded Insert | 53 | 55 | 118 | 30 | 58 |
| RB20TIS | 20mm ReidBar Steel Threaded Insert | 68 | 73 | 149 | 35 | 64 |
| RB12TISG* | 12mm ReidBar Steel Threaded Insert Galvanised | 37 | 39 | 101 | 22 | 53 |
| RBA-16TISG* | 16mm ReidBar Steel Threaded Insert Galvanised | 53 | 55 | 118 | 30 | 58 |
| RB20TISG* | 20mm ReidBar Steel ThreadedInsertGalvan-ised | 68 | 73 | 149 | 35 | 64 |

*Additional lead times apply for HDG products.

## Installation


ReidBar™SteelThreaded InsertsaretobeInstalled utilising Ramset™ EPCON™ C8 Xtrem™

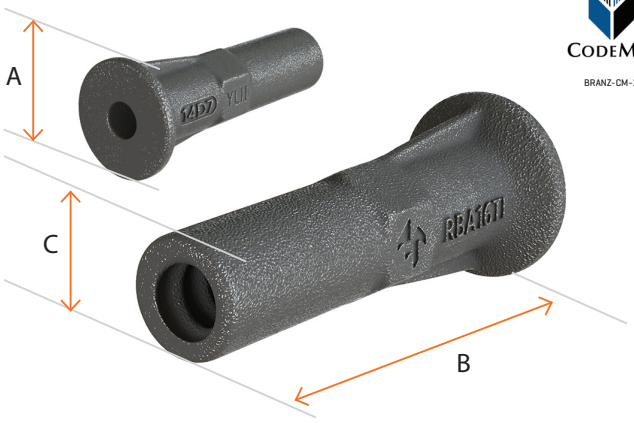
Typical specification on drawings: "RB__TIS/TISG+RamsetEPCONC8Xtrem"

## Recommended amount of EPCONT™ C8 Xtrem™ injections

| Part No. | No of Injections* | Approx. Fittings/cartridge** |
|---|---|---|
| RB12TIS/TISG | 4 | 22 |
| RBA16TIS/TISG | 4 | 22 |
| RB20TIS | 5 | 18 |

*recommendations are based on the use of mixing nozzle type "ISNE". Quantities based on full pumps.
**Based on 90 pumps per EPCON™ C8 Xtrem™ cartridge. Start from the bottom of the thread and draw the nozzle out from the component in a rotating motion as the filler is being injected.

# ReidBar™ Ductile Cast Iron Threaded Inserts




CodeMark BRANZ-CM-1024

## Product Specs

| Part No. | Description | Foot Diameter (A) (mm) | Length (B)(mm) | BodyDiameter (C) (mm) | Min Threaded Depth (mm) |
|---|---|---|---|---|---|
| RB12TI | 12mm ReidBar Threaded Insert | 38 | 99 | 22 | 55 |
| RBA16TI | 16mm ReidBar Threaded Insert | 50 | 118 | 30 | 50 |
| RB20TI | 20mm ReidBar Threaded Insert | 64 | 149 | 35 | 64 |
| RB12TIG* | 12mm ReidBar Threaded Insert Galvanised | 38 | 99 | 22 | 55 |
| RBA16TIG* | 16mm ReidBar Threaded Insert Galvanised | 50 | 118 | 30 | 50 |
| RB20TIG* | 20mm ReidBar Threaded Insert Galvanised | 64 | 149 | 35 | 64 |

*Additional lead times apply for HDG products.

## Installation


ReidBar™ Threaded Insertsaretobelnstalled utilising Ramset™ EPCON™ C8 Xtrem™.

Typical specification on drawings: “RB_TI/TIG + Ramset EPCON C8 Xtrem”

## Recommended amount of EPCON™ C8 Xtrem™ injections

| Part No. | No of Injections* | Approx. Fittings/cartridge** |
|---|---|---|
| RB12TI/TIG | 4 | 22 |
| RBA16TI/TIG | 5 | 20 |
| RB20TI | 6 | 16 |

*recommendations are based on the use of mixing nozzle type “ISNE”. Quantities based on full pumps.
**Based on 90 pumps per EPCON™ C8 Xtrem™ cartridge. Start from the bottom of the thread and draw the nozzle out from the component in a rotating motion as the filler is being injected.

# Design Capacity – Threaded Inserts

## Steel and Ductile Cast Iron Threaded Inserts, In-Concrete Design Capacity

*Characteristic Values of resistance Anchorage, NZS 3101:2006 A3 (Cl 8.6.11.1 & Cl 8.6.11.2)

**Characteristic Ultimate Steel Tensile Capacity $N_{us} = f_{sy}$**

| ReidBar Size | | | RB12 | RBA16 | RB20 |
|---|---|---|---|---|---|
| ReidBar Grade 500E | $N_{us}$ | [kN] | 56.5 | 100.5 | 157.0 |
| Capacity Reduction Factor | $\phi_s$ | [-] | 0.75 | | |

**Concrete Cone Failure in Non-Cracked Concrete f'c = 40 MPa**

| RBar Size | Part Number | Installat'n details | Eff've depth $h_{ef}$ (mm) | Min Edge Dist., e (mm) | Min.[3] Conc. thick $b_w$ (mm) | Cap. Red'n Fctr, $\phi_c$ | Characteristic Ultimate Tensile Capacity – Concrete Cone Failure – Tension, $N_{uc}$ (kN) per anchor [2] – Anchor Spacing, $a_1$ [mm] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| 12 | RB12TI(S) | 8mm thick Nailing Plate & EPCON C8 | 104 | 150 | 150 | 0.65 | 39.1 | 52.1 | 65.1 | 79.1[1] | 83.7[1] | 83.7[1] | 83.7[1] | 83.7[1] |
| 16 | RBA16TI(S) | | 121 | 180 | 200 | | 43.2 | 57.6 | 72.0 | 86.4 | 113.1[1] | 113.1[1] | 113.1[1] | 113.1[1] |
| 20 | RB20TI(S) | | 151 | 240 | 200 | | 48.6 | 64.8 | 81.0 | 97.2 | 113.3 | 129.5 | 145.7 | 146.7 |

**Concrete Cone Failure in Cracked Concrete f'c = 40 MPa**

| Rbar Size | Part Number | Installation accessories | Eff've depth $h_{ef}$ (mm) | Min Edge Dist., e (mm) | Min.[3] Conc. thick $b_w$ (mm) | Cap. Red'n Fctr, $\phi_c$ | Characteristic Ultimate Tensile Capacity – Concrete Cone Failure – Tension, $N_{uc}$ (kN) per anchor [2] – Anchor Spacing, $a_1$ [mm] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| 12 | RB12TI(S) | 8mm thick Nailing Plate & EPCON C8 | 104 | 150 | 150 | 0.65 | 31.2 | 41.7 | 52.1 | 63.0[1] | 66.1[1] | 66.1[1] | 66.1[1] | 66.1[1] |
| 16 | RBA16TI(S) | | 121 | 180 | 200 | | 34.6 | 46.1 | 57.6 | 69.1 | 71.2[1] | 71.2[1] | 71.2[1] | 71.2[1] |
| 20 | RB20TI(S) | | 151 | 240 | 200 | | 38.9 | 51.8 | 64.8 | 77.7 | 90.7 | 103.6 | 116.6 | 117.4 |

**Threaded Inserts used alone as anchorage in Non-Cracked Concrete f'c = 40 MPa**

| Rbar Size | Part Number | Installation accessories | Eff've depth $h_{ef}$ (mm) | Min Edge Dist., e (mm) | Min.[3] Conc. thick $b_w$ (mm) | Cap. Red'n Fctr, $\phi_c$ | Gr500E ReidBar $1.5xf_{sy}$ (kN) as per NZS3101:2006 (A3) Cl 8.6.11.2 | Characteristic Ultimate Tensile Capacity – Single Anchor Capacity without damage to concrete – Tension, $N_{ur}$ (kN) per anchor [2] |
|---|---|---|---|---|---|---|---|---|
| 12 | RB12TI(S) | 8mm thick Nailing Plate & EPCON C8 | 104 | 160 | 150 | 0.65 | 84.7 | 84.7[1] |
| 16 | RBA16TI(S) | 42mm deep rebate & EPCON C8 | 155 | 240 | 200 | | 150.8 | 150.8[1] |
| 20 | RB20TI(S) | 67mm deep rebate & EPCON C8 | 210 | 315 | 250 | | 235.5 | 235.5 |

[1] Capacity data has been validated through testing at ramsetreid facility, independently witnessed by Melbourne Testing Services, a NATA accredited laboratory. **Test Report Reference MTS-18-1019-A, B & C.** Data also validated for performance equivalency of DCI vs STEEL components at ramsetreid Product Engineering Laboratory. **Test Report Reference TRR 53.**

[2] Capacity data is derived by calculation in accordance with **NZS3101:2006 (A3) Section 17**

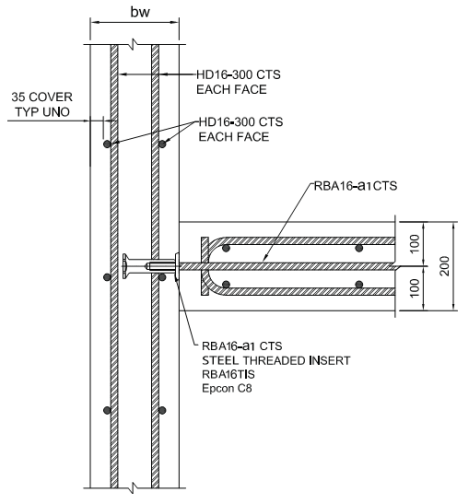
[3] All capacity data is based on minimum concrete thickness listed in table. For capacity data based on other concrete thicknesses, please calculate in accordance with **NZS3101:2006 (A3) Section 17**

# Typical Detail – Threaded Insert

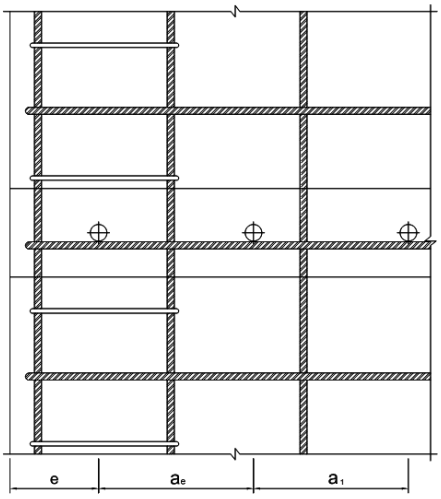
## Typical Threaded Insert Reference Detail

### A. Suspended Floors (Typical Detail)

Side View

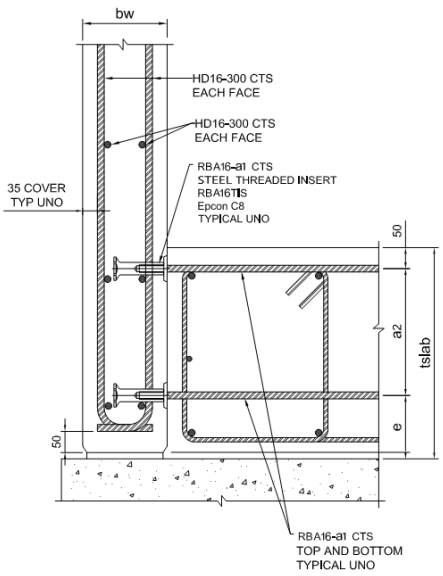



Front View

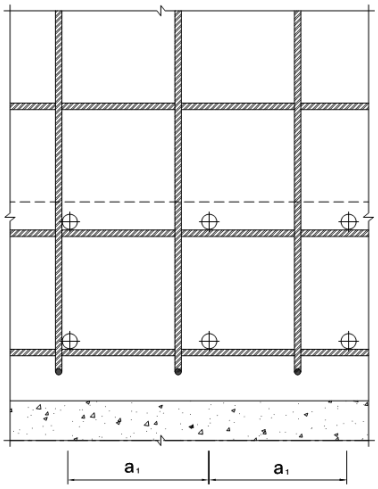



### B. Cantilevered Connection (Typical Detail)

Side View




Front View



# INSTALLATION:
# ReidBar™ Steel Coupler

**Steps**

## ReidBar Steel Coupler Installation Guidelines below:

**1**


Recommended filler injection quantity pg 5.

Inject the recommended number of pumps of EPCON C8 into one side of the Steel Coupler. Start from the bottom of the thread and draw the nozzle out from the component in a rotating motion as the filler is being injected.

**2**

Ensure EPCON C8 is visible at the end of Coupler.

Screw the Steel Coupler onto the first ReidBar, and tighten the coupler using a wrench to ensure that the ReidBar is hard against the stop.

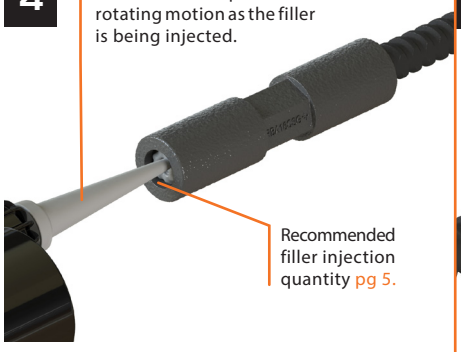
**3**

Coupler end excess filler removed.

**Wipe excess filler with cloth/fabric/carton.**

**4**

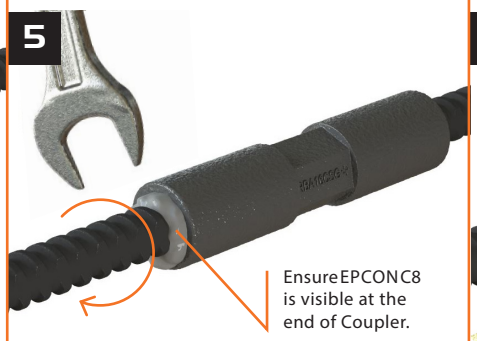
Start from the bottom of the thread and draw the nozzle out from the component in a rotating motion as the filler is being injected.



Recommended filler injection quantity pg 5.

**Inject the recommended number of pumps of EPCON C8 into the other side of the Steel Coupler.**

**5**



Ensure EPCON C8 is visible at the end of Coupler.

Screw in the second ReidBar into the Steel Coupler, and tighten the bar using a wrench to ensure that the ReidBar is hard against the stop.

**6**

Coupler end excess filler removed.

**Wipe excess filler with cloth/fabric/carton.**

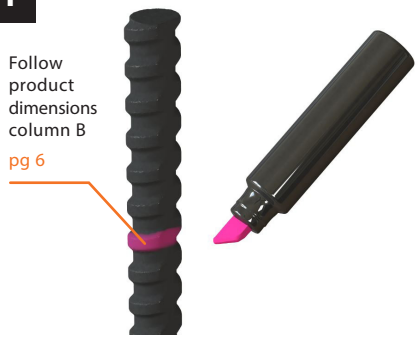
Ensure the appropriate PPE is worn when working with Ramset™ EPCON™ C8 Xtrem™.
Refer to www.ramset.co.nz for EPCON™ C8 Xtrem™ MSDS Sheet.

# INSTALLATION:
# ReidBar™ Steel Flange Nut

**Steps**

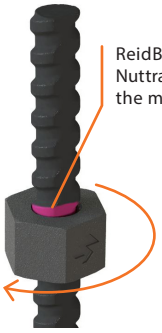
## ReidBar Steel Flange Nut Installation Guidelines below:

**1**




**Mark the location on the bar where the Flange Nut needs to stop.**

**2**




Screw on ReidBar Half Nut. Note that this is a sacrificial component to assist with the filler delivery, to ensure consistent and thorough void-filling.

**3**


Inject the recommended number of pumps of EPCON C8 into the Flange Nut. Direct the nozzle of the filler towards the threads inside the fitting, and draw the nozzle out from the component in a rotating motion as the filler is being injected.

**4**


**5**


**Screw the Flange Nut onto the ReidBar. Once the Flange Nut reaches the Half Nut, use spanner to tighten the two components together.**

**6**


**Wipe excess filler with cloth/fabric/carton.**

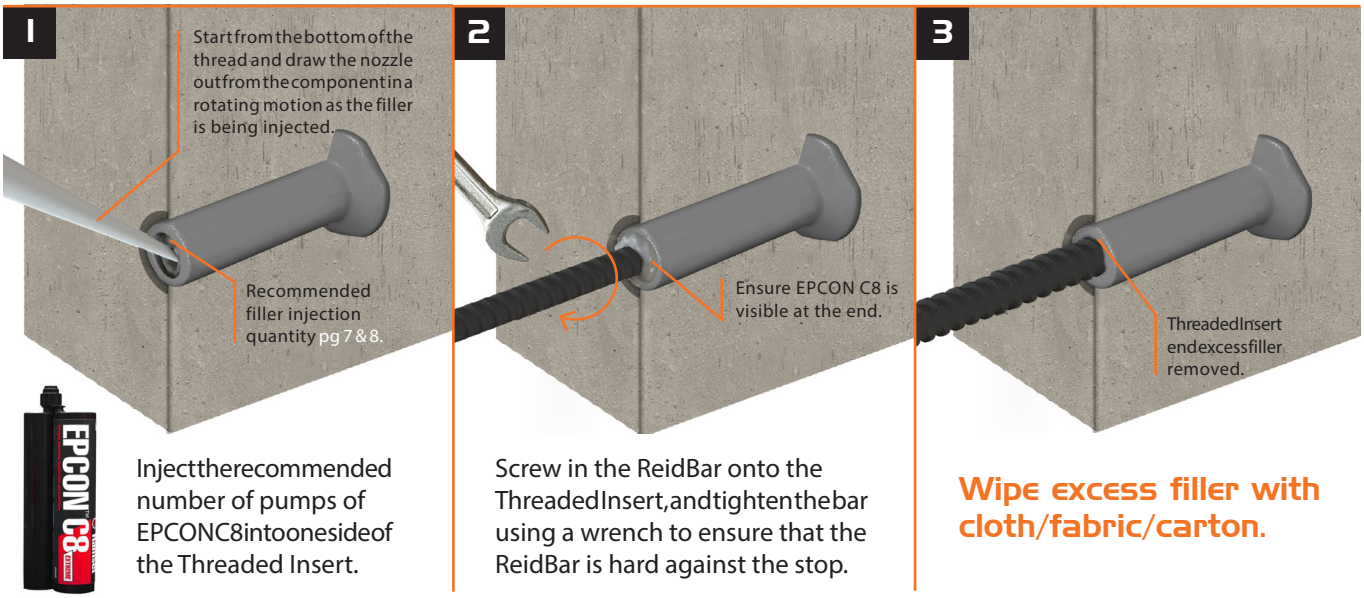
Ensure the appropriate PPE is worn when working with Ramset™ EPCON™ C8 Xtrem™.
Refer to www.ramset.co.nz for EPCON™ C8 Xtrem™ MSDS Sheet.

# INSTALLATION:
# ReidBar™ Threaded Insert

**Steps**

## ReidBar Threaded Insert Installation Guidelines below:

Note: Detailed reinforcing not depicted in the below images.




Inject the recommended number of pumps of EPCON C8 into one side of the Threaded Insert.

Screw in the ReidBar onto the Threaded Insert, and tighten the bar using a wrench to ensure that the ReidBar is hard against the stop.

**Wipe excess filler with cloth/fabric/carton.**

Ensure the appropriate PPE is worn when working with Ramset™ EPCON™ C8 Xtrem™.
Refer to www.ramset.co.nz for EPCON™ C8 Xtrem™ MSDS Sheet.

# NOTES

## customer service


**Reid™ Australia**

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