

ReidBarTM

Steel Components



Specification & Installation Guide

NZ53101:2006 A3 Edition



ReidBar

ReidBar is a continuously threaded, hot rolled Grade 500E reinforcing bar manufactured in New Zealand in accordance to AS/NZS4671:2001.

The continuous thread allows ReidBar to be cut at any point along its length and screwed into one of the large variety of ReidBar components. This unique feature provides designers and constructors with versatility in reinforcement placing and fixing, especially where there is reinforcement congestion issues due to lapped bar connections and hooked bar anchorages.

The latest addition to the ReidBar family is the Steel Components range, which comprises of ReidBar Steel Couplers, Steel Flange Nuts, and Steel Threaded Inserts. Information relating to the specification and installation of these products are provided herein. ReidBar Steel Components Range is to be installed with Ramset™ Epcon™ C8 XTREM as a filler inside the Steel Couplers, Flange Nuts and Threaded Inserts.

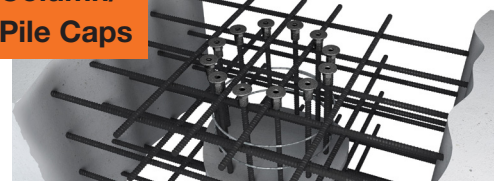
Applications

Column-to-Beam Connections

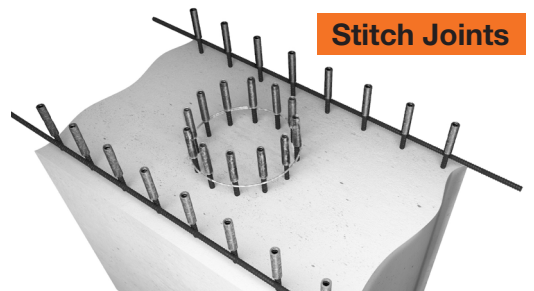


Wall-to-Slab Connections

**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.



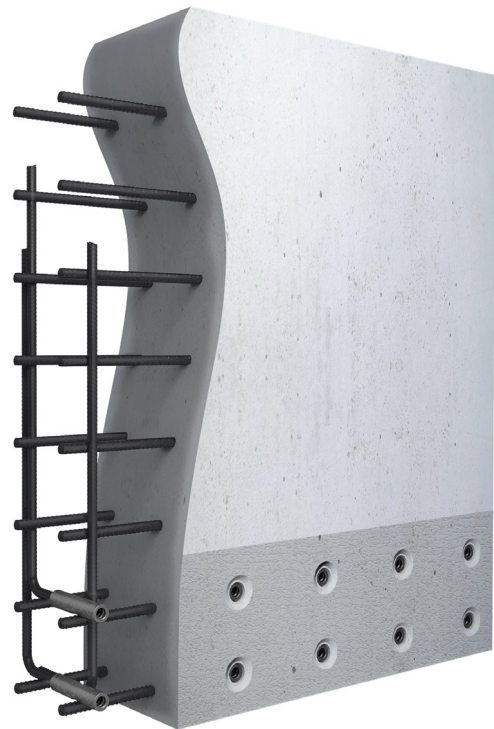
Confidence in quality.

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



Supports onsite safety.

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



Product Compliance Information

| NZS3101:2006 A3 Clause | Criteria | Compliant Products |
|--|---|--|
| Section 8.7.5.2(b) | "Mechanical connections shall: (b) when tested in tension or compression, as appropriate, to the application, exhibit a change in length at a stress of 0.7fy in the bar, measured over the length of the coupler, of less than twice that of an equal length of unspliced bar." ¹ | ReidBar Steel Coupler: 12mm, 16mm, 20mm, 25mm, 32mm ReidBar Steel Flange Nut: 12mm, 16mm, 20mm, 25mm, 32mm ReidBar Steel Threaded Insert: 12mm, 16mm, 20mm |
| Section 8.9.1.3(a) - Couplers Only* | "For welded splices or mechanical connections to be used in members that are subjected to seismic forces, such splices shall comply with 8.7.4.1 or 8.7.5.2. In addition to the requirements of 8.7.5.2, mechanical splices and anchorages shall satisfy the cyclic load performance requirements specified by ISO 15835-1 and ISO 15835-2 as follows: (a) When tested in accordance with 5.6.2 of ISO 15835-2, the residual elongations after 4 cycles, u4, shall be less than 0.3 mm, and after 8 cycles u8 shall be less than 0.6 mm." ¹ | ReidBar Steel Coupler: 12mm, 16mm, 20mm, 25mm, 32mm |
| Section 8.6.11.4** | "Mechanical anchors for the anchorage of reinforcing steel shall be proven by an appropriate test method to possess resistance to brittle fracture at the service temperatures at which they are intended for use. Where the mechanical anchors and ends of the bars are threaded as the means of achieving the connection between components, and/or the end of the bar is enlarged by cold forging prior to threading, appropriate testing of the processed bar end shall be applied to ensure that the potential for brittle fracture is avoided. Anchors manufactured from cast iron shall not be used." ¹ | ReidBar Steel Coupler: 12mm, 16mm, 20mm, 25mm, 32mm ReidBar Steel Flange Nut: 12mm, 16mm, 20mm, 25mm, 32mm ReidBar Steel Threaded Insert: 12mm, 16mm, 20mm |

*ISO 15835-1 and ISO 15835-2 do not provide guidance for testing of anchorage system.

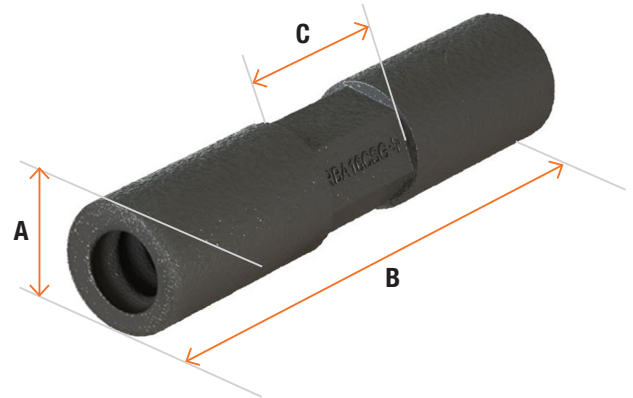
**Compliance with Section 8.6.11.4 was demonstrated via. Charpy V Notch Testing to AS1544.2:2003.

¹ Reference: NZS3101:2006 Amendment 3 2018

Note:

Tensile Strength of ReidBar Steel Coupler, Steel Flange Nut and Steel Threaded Inserts exceeds upper bound breaking strength of the 500E ReidBar = 750MPa.

ReidBar Steel Coupler



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 time apply for HDG products

Installation



ReidBar Steel Couplers, Flange Nut and Threaded Inserts 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.

INSTALLATION:

ReidBar™ Steel Coupler

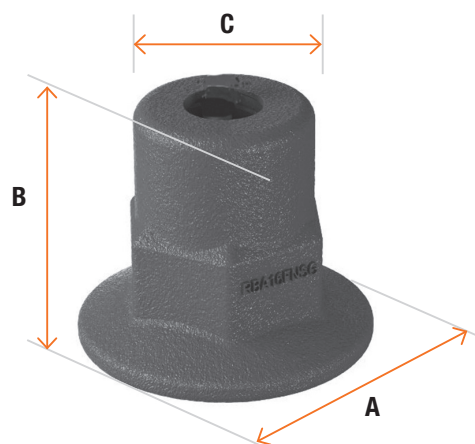
Steps

ReidBar Steel Coupler Installation Guidelines below:

| | | |
|---|--|--|
| <p>1</p>  <p>Recommended filler injection quantity pg 4.</p> <p>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.</p> | <p>2</p>  <p>Ensure Epcon C8 is visible at the end of Coupler.</p> <p>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.</p> | <p>3</p>  <p>Coupler end excess filler removed.</p> <p>Wipe excess filler with cloth/fabric/carton.</p> |
| <p>4</p>  <p>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.</p> <p>Recommended filler injection quantity pg 4.</p> <p>Inject the recommended number of pumps of Epcon C8 into the other side of the Steel Coupler.</p> | <p>5</p>  <p>Ensure Epcon C8 is visible at the end of Coupler.</p> <p>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.</p> | <p>6</p>  <p>Coupler end excess filler removed.</p> <p>Wipe excess filler with cloth/fabric/carton.</p> |

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.

ReidBar™ Steel Flange Nut



Product Specs

| Part No. | Description | Foot diameter (A) (mm) | Length (B) (mm) | Body Diameter (C) (mm) |
|------------|--|------------------------|-----------------|------------------------|
| RB12FNS | 12mm ReidBar Steel Flange Nut | 39 | 50 | 22 |
| RBA16FNS | 16mm ReidBar Steel Flange Nut | 58 | 50 | 35 |
| RB20FNS | 20mm ReidBar Steel Flange Nut | 67 | 50 | 35 |
| RB25FNS | 25mm ReidBar Steel Flange Nut | 83 | 80 | 42 |
| RB32FNS | 32mm ReidBar Steel Flange Nut | 92 | 95 | 55 |
| RBA16FNSG* | 16mm ReidBar Steel Flange Nut Galvanised | 58 | 50 | 35 |
| RB20FNSG* | 20mm ReidBar Steel Flange Nut Galvanised | 67 | 50 | 35 |
| RB25FNSG* | 25mm ReidBar Steel Flange Nut Galvanised | 83 | 80 | 42 |
| RB32FNSG* | 32mm ReidBar Steel Flange Nut Galvanised | 92 | 95 | 55 |

*Additional lead time apply for HDG products

Installation



ReidBar Steel Couplers, Flange Nut and Threaded Inserts are to be installed utilising Ramset Epcon C8 XTREM.

Typical specification on drawings:
"RB__FNS/FNSG + 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.

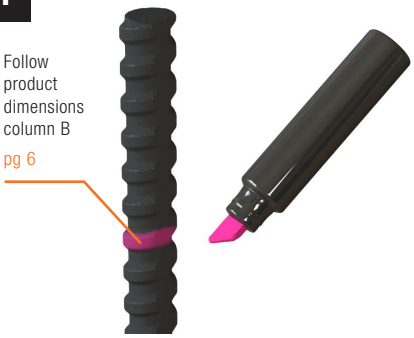
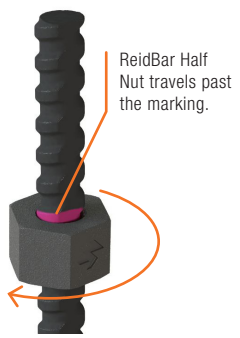

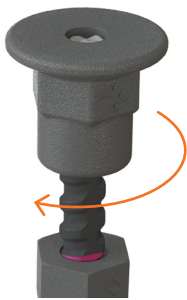

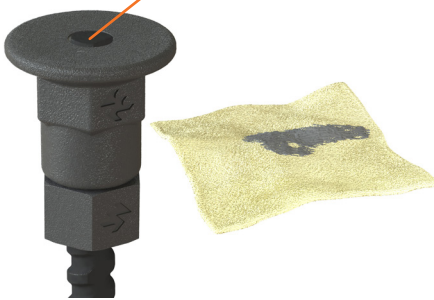
**Based on 90 pumps per Epcon C8 XTREM cartridge.

INSTALLATION:

ReidBar™ Steel Flange Nut

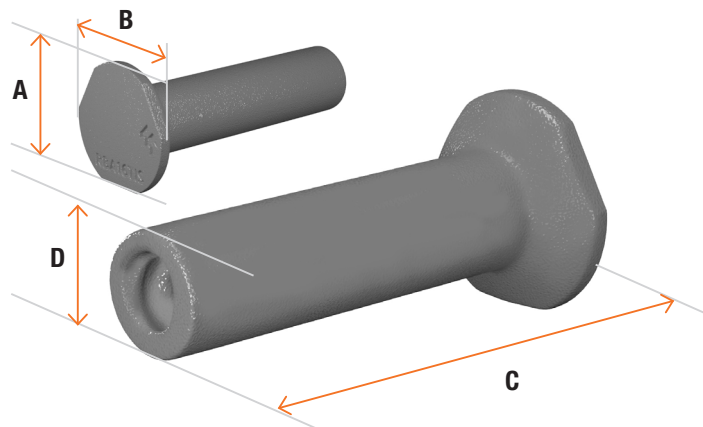
Steps

ReidBar Steel Flange Nut Installation Guidelines

| | | |
|--|--|---|
| <p>1</p>  <p>Follow product dimensions column B pg 6</p> <p>Mark the location on the bar where the Flange Nut needs to stop.</p> | <p>2</p>  <p>ReidBar Half Nut travels past the marking.</p> <p>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.</p> | <p>3</p>  <p>Recommended filler injection quantity pg 6.</p> <p>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.</p> |
| <p>4</p>  <p>Screw the Flange Nut onto the ReidBar.</p> <p>Screw the Flange Nut onto the ReidBar. Once the Flange Nut reaches the Half Nut, use spanner to tighten the two components together.</p> | <p>5</p>  <p>Ensure Epcon C8 is visible at the end of Flange Nut.</p> | <p>6</p>  <p>Flange Nut end excess filler removed.</p> <p>Wipe excess filler with cloth/fabric/carton.</p> |

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.

ReidBar™ Steel Threaded Insert



Product Specs

| Part No. | Description | Foot Minor Diameter (A) (mm) | Foot Major Diameter (B) (mm) | Length (C) (mm) | Body Diameter (D) (mm) | Min Threaded 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 |
| RBA16TISG* | 16mm ReidBar Steel Threaded Insert Galvanised | 53 | 55 | 118 | 30 | 58 |

*Additional lead time apply for HDG products

Installation



ReidBar Steel Couplers, Flange Nut and Threaded Inserts are to be installed utilising Ramset Epcon C8 XTREM.

Typical specification on drawings:

"RB__TIS/TISG + Ramset Epcon C8 XTREM"

Recommended amount of Epcon 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. Start from the bottom of

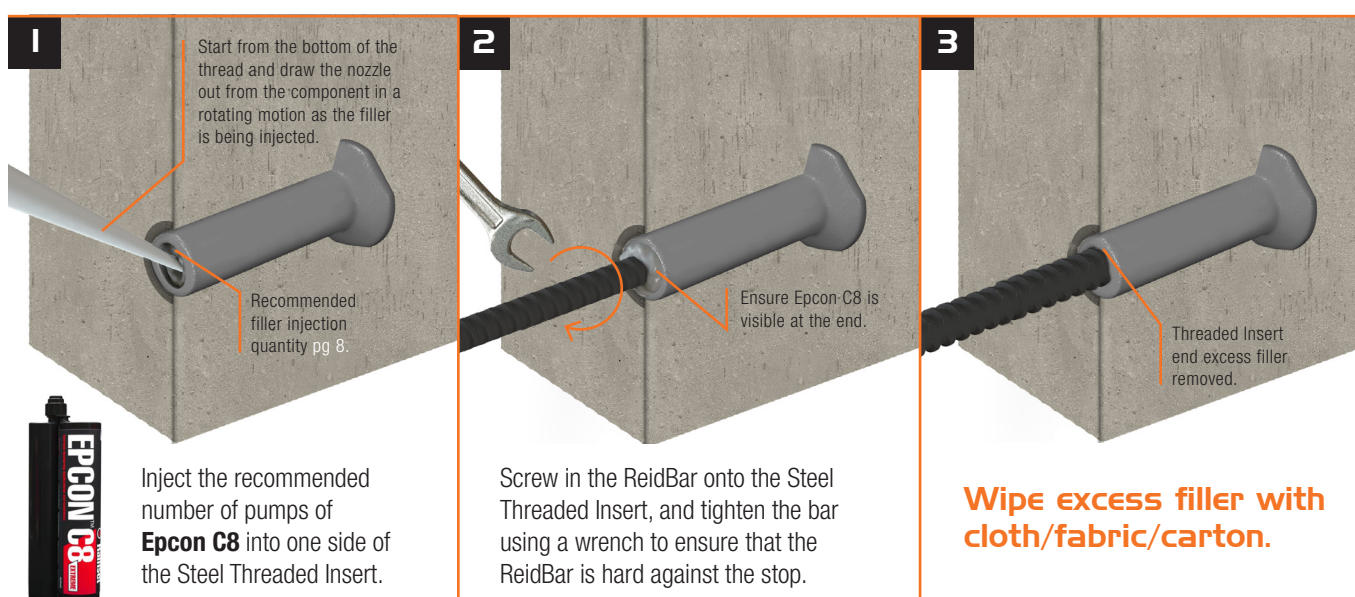
INSTALLATION:

ReidBar Steel Threaded Insert

Steps

ReidBar Steel Threaded Insert Installation Guidelines

Note: Detailed reinforcing not depicted in the below images.



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.

ReidBar

Related Products

Filler System

| Part No. | Description |
|----------|-------------------------------|
| C8-450 | Epcon C8 XTREM – 450ml |
| E108 | C8 Dispensing gun |
| ISNE | Injection System Nozzle Epoxy |



ReidBar Nail Plates

Supports for fixing to boxing and formwork for positioning all ReidBar internally threaded components.

| Part No. | Description | Overall Diameter (mm) | Indent Thickness (mm) |
|----------|-------------------------------------|-----------------------|-----------------------|
| NP12RB | Nail Plate to suit RB12 Components | 59 | 8 |
| NP16RB | Nail Plate to suit RBA16 Components | 59 | 8 |
| NP20RB | Nail Plate to suit RB20 Components | 59 | 8 |
| NP25RB | Nail Plate to suit RB25 Components | 59 | 8 |
| NP32RB | Nail Plate to suit RB32 Components | 59 | 8 |



ReidBar Half Nut

| Product Code | Description | Overall Length (mm) | Hex A/F (mm) | Hex Size A/C (mm) |
|--------------|---------------------------|---------------------|--------------|-------------------|
| RB12NHG | RB12 Half Nut Galvanised | 16 | 25 | 25 |
| RBA16NHG | RBA16 Half Nut Galvanised | 20 | 30 | 34 |
| RB20NHG | RB20 Half Nut Galvanised | 25 | 36 | 42 |
| RB25NHG | RB25 Half Nut Galvanised | 31 | 46 | 53 |
| RB32NHG | RB32 Half Nut Galvanised | 39 | 55 | 63.5 |



customer service

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