reid™

CHARTERED VERIFIED ENGINEER

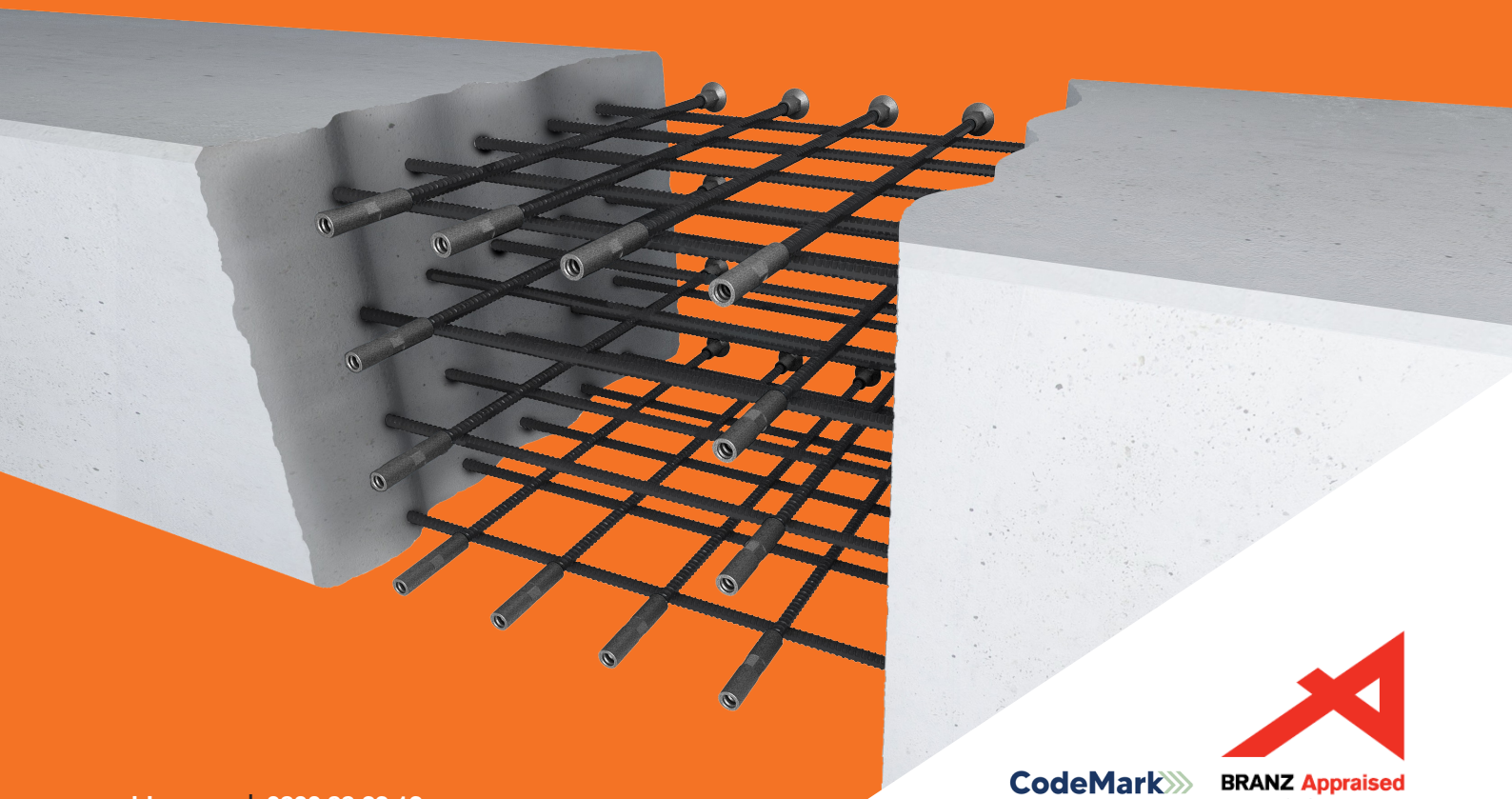
March | 2024 NZ

GENUINE

ReidBar™ Reinforcing Connections

Product & Specification Guide

Engineered full strength reinforcing connection systems



CodeMark CMNZ10024

BRANZ Appraised Appraisal No. 1084

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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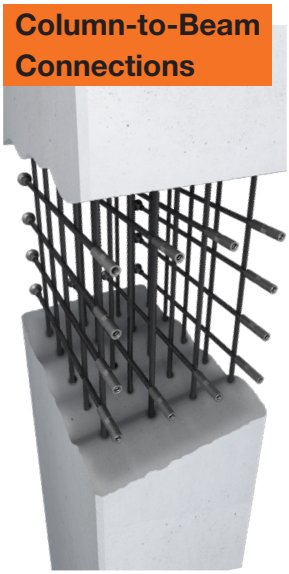
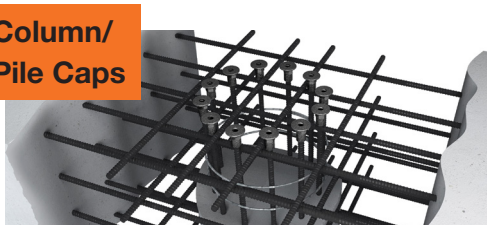
Applications

Column-to-Beam Connections

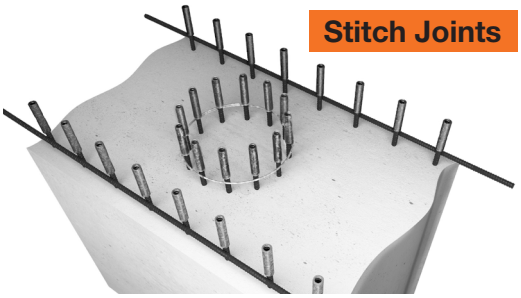


Wall-to-Slab Connections

Column/ Pile Caps



Stitch Joints



Features & Benefits

Easy to install.

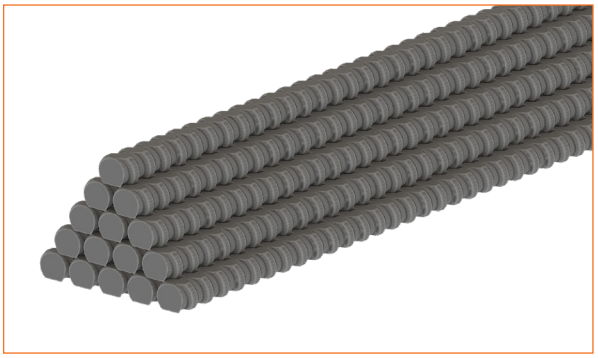
ReidBar is a user friendly continuous coarse thread reinforcing bar system that is fast, easy to assemble and readily available in New Zealand.

Confidence in quality.

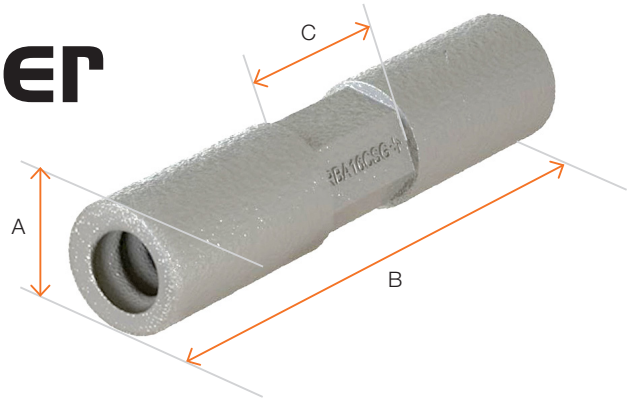
ReidBar's continuous thread does not require pre threading of the reinforcing bar. This means no testing for brittle fracture on the reinforcing bar (as required for processed reinforcing bar in NZS3101:2006 Section 8.6.11.4) and therefore shorter supply lead times.

Supports onsite safety.

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



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 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.

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.

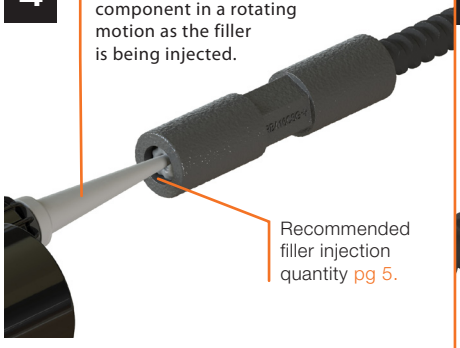
3

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.

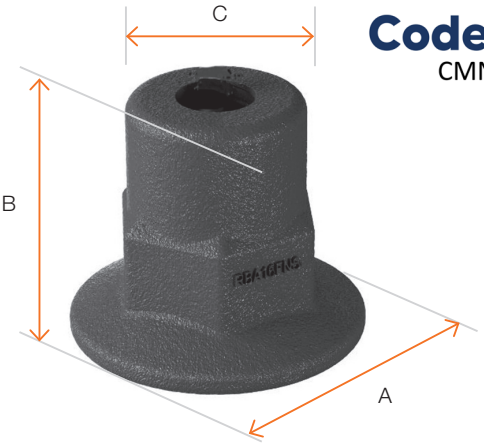
6

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.

ReidBar™ Steel Flange Nut



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Product Specs

Part No.	Description	Foot diameter (A) (mm)	Length (B) (mm)	Body Diameter (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.

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

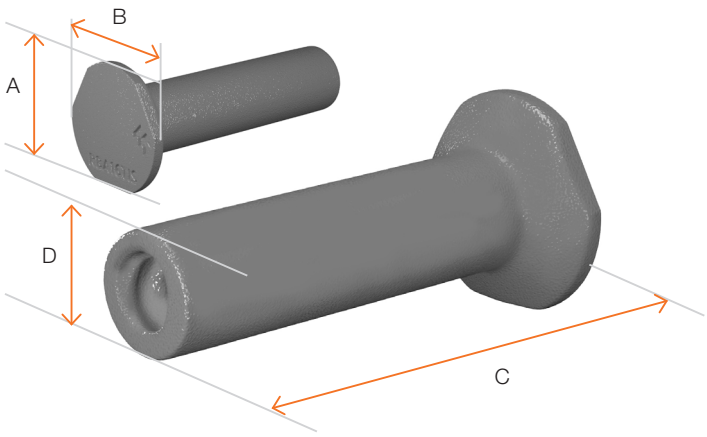
Screw the Flange Nut onto the ReidBar. Once the Flange Nut reaches the Half Nut, use spanner to tighten the two components together.

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.

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
RB20TISG*	20mm ReidBar Steel Threaded Insert Galvanised	68	73	149	35	64

*Additional lead times apply for HDG products.

Installation

ReidBar™ Steel 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.

ReidBar™ Ductile Cast Iron Threaded Inserts

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Product Specs

Part No.	Description	Foot Diameter (A) (mm)	Length (B)(mm)	Body Diameter (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 Inserts are to be Installed 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

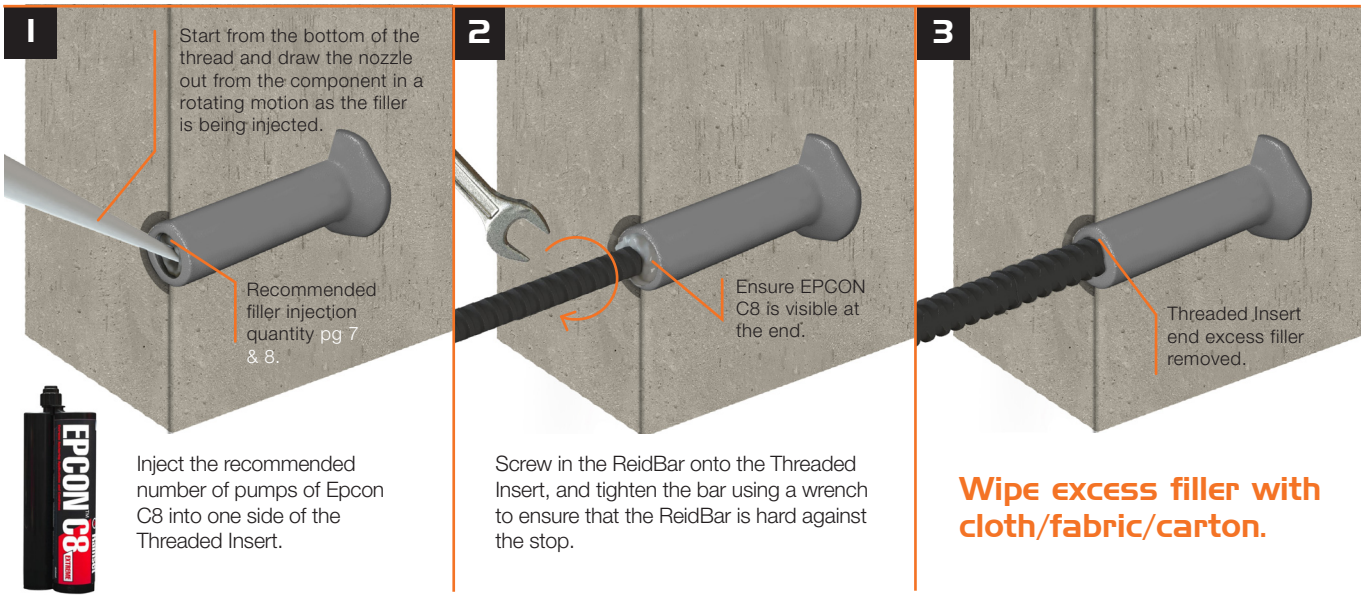
*recommendations are based on the use of mixing nozzle type "ISNE". Quantities based on full pumps.
**Based on 90 pumps per EPCON™ C8 Xtrem™ cartridge. Start from the bottom of the thread and draw the nozzle out from the component in a rotating motion as the filler is being injected.

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.

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	ϕ_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, ϕ_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, ϕ_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, ϕ_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**

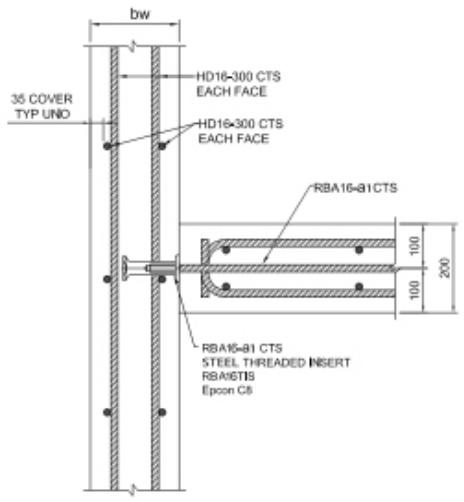
[3] All capacity data is based on minimum concrete thickness listed in table. For capacity data based on other concrete thicknesses, please calculate in accordance with **NZS3101:2006 (A3) Section 17**

Typical Detail – Threaded Insert

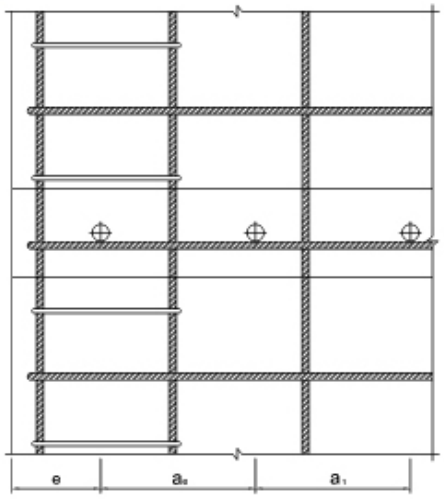
Typical Threaded Insert Reference Detail

A. Suspended Floors (Typical Detail)

Side View

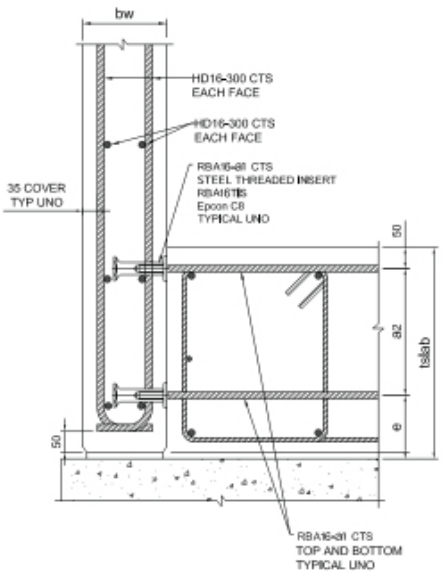


Front View

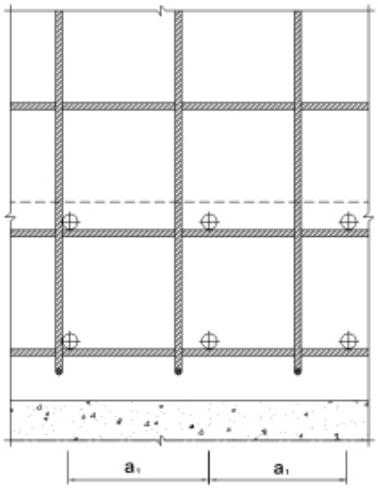


B. Cantilevered Connection (Typical Detail)

Side View



Front View



CodeMark™

The ReidBar™ Grout Sleeve system holds a CodeMark certificate (Certificate Number CMNZ10024). This provides a deemed to comply assessment for the system, to the NZBC, when used within the scope of CodeMark Certificate Number CMNZ10024.

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.**

What are the benefits of CodeMark certification of ReidBar Grout Sleeves?

- **Provides assurance that ReidBar Grout Sleeves are 'deemed to comply'** with the clauses of the NZBC stated on CodeMark Certificate Number CMNZ10024 (refer to the Compliance section for a listing of the NZBC clauses this system is compliant to and the CodeMark certificate link).
- **ReidBar Grout Sleeves' CodeMark certification is reviewed by BRANZ annually.**

Where can I find the CodeMark certificate?

The ReidBar Grout Sleeves CodeMark certificate is available on the BRANZ website, located by entering the certificate number. https://www.branz.co.nz/appraisal-codemark-certificates/reidbar-reinforcing-bar-connection-system

Where can I find more information about the ReidBar Grout Sleeve System?

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

How do I ensure compliance to the CodeMark conditions?

The ReidBar™ Grout Sleeves system is an engineered system comprising of ReidBar™ Grout Sleeves, Ramset Epcon™ C8, Ramset POZIFLO™ HS Grout and ReidBar™.

Substitution, omission and/or modification of components is not permitted, 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.

Questions about our CodeMark certification?

Contact the Reid™ team for advice.

CodeMark
CMNZ10024

Customer Service

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Construction Systems