

ReidBar™ Grout Sleeve System

Specification & Installation Guide



ReidBar™
Components are
QA tested at
ramsetreid™'s in-
house QA Facility.

Overview

ReidBar™ is a continuously threaded, hot rolled Grade 500E reinforcing bar that is manufactured in Australia and New Zealand following AS/NZS4671:2001. Its continuous thread feature allows ReidBar™ to be cut at any point along its length and screwed into one of the large variety of ReidBar™ Components.

ReidBar™ Grout Sleeve is a type of ReidBar™ Component that enable designers to create efficient horizontal construction joints between precast concrete elements.

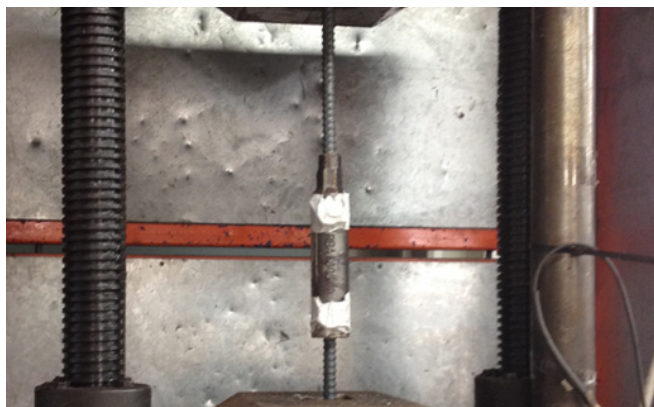


What are the features of ReidBar™?

Easy to install: ReidBar™ is a user friendly continuously threaded reinforcing bar system that requires no special tools or processes to realise its full benefits.

Efficient: The use of ReidBar™ System generally reduces congestion whilst also reducing wastage of reinforcing.

Available: ReidBar™ is readily available, locally made and well established in the market.



Laboratory Testing of ReidBar™ Grout Sleeves



Precast Construction Project with ReidBar™ Grout Sleeves, showing short starter bars for the precast panels above

Why use ReidBar™ Grout Sleeves?

Quality Assured: ReidBar™ Components are QA tested at ramsetreid™'s inhouse QA Facility

Ticks The Boxes: Tested to meet New Zealand Standards criteria*

Minimise Lapping: ReidBar™ Grout Sleeves require significantly shorter starter bar lengths than conventional lapped connections

Easy Transportation: Shorter starter bar lengths lead to easier transportation as the overall dimensions of concrete elements to be transported are reduced

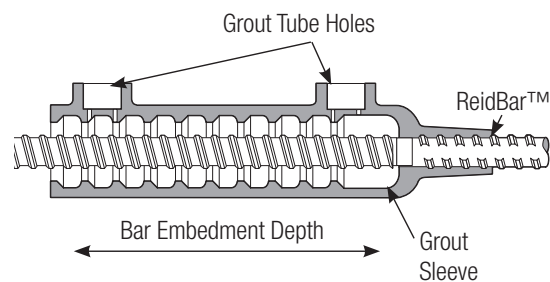
Easy Storage: Shorter starter bar lengths lead to easier storage of concrete elements at the manufacturing facility before delivery

*Based on testing of RB12 (smallest), RB20 (medium) and RB32 (largest) Grout Sleeves towards NZS3101:2006 Clause 8.7.5.2 and Clause 8.9.1.3 using Ramset™ Poziflo™ Grout HS. Test reports available upon request.

Genuine ReidBar™ are made by One Steel and Pacific Steel in Australia and New Zealand respectively.

Genuine ReidBar™ Components can only be purchased from ramsetreid™ or ramsetreid™ approved distributors.

Dimensions



Suits	Min Strength (kN)	Overall Length (mm)	Thread Depth (mm)	Body ID (mm)	Body OD (mm)	Nom Grout Vol (ml)	Bar Embedment (mm)	Grout Hole Dia. (mm)	Part No
RB12	>78.0	200	45	28-40	46-58	200	150	21	RB12GS
RBA16	>138.8	240	47	32	50	200	190	21	RBA16GS
RB20	>216.7	290	55	40	60	350	224	21	RB20GS
RB25	>338.8	360	78	48	70	550	274	21	RB25GS
RB32	>554.8	445	109	55	75	746	320	26	RB32GS

ReidBar™ Grout Sleeve Gallery



Pre assembled panel reinforcing with ReidBar™ Grout Sleeves before placement on precast manufacturing bed



Precast panel with ReidBar™ Grout Sleeve starter bars upon removal of top panel formwork/template



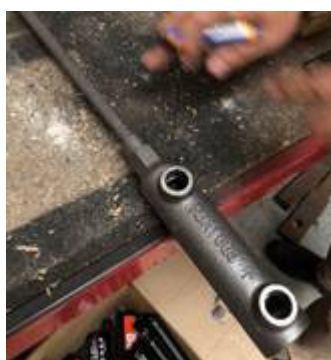
Installation Procedure

Installing Epcon™ C8 XTREM™ Filler

Recommendations and Notes:

- Set up to be completed outside the casting bed to avoid the possibility of epoxy dripping into the bed.
- **Curing time** – Install the Bar to the Grout Sleeve 24 Hours prior to the pour.

Grout Sleeve	No of Pumps Epcon C8
RB12GS	3
RBA16GS	4
RB20GS	4
RB25GS	6
RB32GS	8



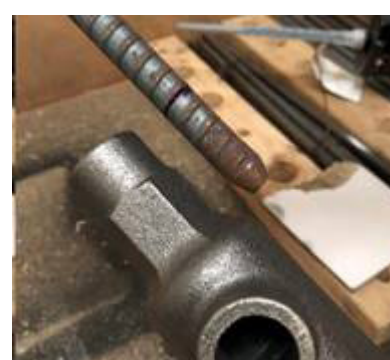
Sample –
RBA16GS



Step 1
Screw the
bar into
the GS.



Step 2
Mark the loca-
tion where the
bar stops in
the GS.



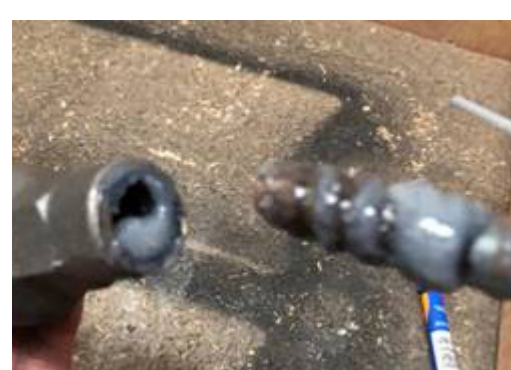
Step 3
Wind the bar
out of the GS.



Step 4
Apply the Epcon™
C8 along the bar
up to where the
mark is.



Step 5
Screw the bar
into the Grout
Sleeve.



Step 6
Screw the bar out of
the Grout Sleeve.

Installation Procedure

Installing Epcon™ C8 XTREM™ Filler Continued v



Step 7
Redistribute the
Epoxy along the bar
and place access
back in the Grout
Sleeve thread



Step 8
Screw the bar
back into the
Grout Sleeve.



Step 9
Complete – Ready
to Cure (24 Hours)

Notes

Installation Procedure

Installing ReidBar™ Grout Sleeve

Step 1

A template is the most accurate way to ensure that ReidBar™ Grout Sleeves and their starter bars are located at the correct positions for repetitive casting.

Templates can be easily fabricated using steel or timber. Timber templates tend to be more popular amongst Precast Concrete Manufacturers given that most already have fully operational timber workshops.

Measure and mark on the template the centre locations of the ReidBar™ Grout Sleeves and their starter bars. For the starter bar template (and if timber is used), drill holes of sufficient diameter to pass the bars.

When the construction of the concrete elements involve two or more parties, copies of the templates shall be provided to these parties so that all parties are working of the same measurement benchmark.

Checklist for Step 1:

- Create templates as required and check if the marked & drilled hole locations of the ReidBar™ Grout Sleeves and their continuation bars are accurate
- Duplicate these templates and provide them to other parties as required



Example of timber template for ReidBar™ Grout Sleeve starter bars



Example of timber template for ReidBar™ Grout Sleeve locations

Step 2: Install ReidBar™ into Grout Sleeve

Screw the continuation ReidBar™ into the ReidBar™ Grout Sleeves, and tighten as required. It is recommended that the continuation ReidBar™ is tightened into the Grout Sleeve prior to setting the assembly in the formwork.

Determine the surface (or side) that the grout ports are expected to come out from, and orientate the Grout Sleeve correctly such that the grout ports are facing the right direction. This is typically towards the near face of precast elements or on multiple sides of precast columns.

Checklist for Step 2:

- Check if the ReidBar™ has been installed correctly onto the Grout Sleeve
- Check if the ports of the ReidBar™ Grout Sleeves are facing the right direction



Installation of ReidBar™ into Grout Sleeve within pre assembled panel reinforcing

Step 3: Install Grout Sleeve installation hardware to the formwork

Option 1:

Using Grout Sleeve Set-Up Hardware

Find the marked centre locations of the ReidBar™ Grout Sleeves on the template, drill 9mm diameter holes through the marked locations, and then insert the Grout Sleeve Set-Up Hardware through the drilled hole.

The Grout Sleeve Set-Up Hardware shall be oriented such that the rubber bung and stud washer are located inside the formwork.

Finger-tighten the supplied nut and loose washer along the stud, resting on the outside of the form (washer located between the nut and the form).



ReidBar™ Grout Sleeve Set-Up Hardware

Option 2:

Using the Grout Sleeve Rubber Bung (ideal if penetrations through the formwork are undesirable)

Find the marked centre locations of the ReidBar™ Grout Sleeves. Insert a screw through the middle of the Grout Sleeve Rubber Bung, tap it onto the marked locations and screw so that it is fixed firmly onto the formwork. Afterwards, it is recommended to use two extra screws on the right and left sides of the Rubber Bung to further fix it onto position.



ReidBar™ Grout Sleeve Rubber Bung

Option 3:

Using Timber Discs (ideal if penetrations through the formwork are undesirable)

Find the marked centre locations of the ReidBar™ Grout Sleeves. Cut timber discs to suit the inside diameter of the corresponding ReidBar™ Grout Sleeve size.

Circular drop saw is commonly used to create the timber discs.

Drill an appropriately sized hole and insert a screw through the middle of the timber disc. Tap the screw onto the marked locations and screw so that the timber disc is fixed firmly onto the formwork.

Afterwards, it is recommended to use two extra screws on the right and left sides of the timber disc to further fix it onto position.



Timber discs screwed onto timber formwork

Checklist for Step 3:

- Check if the set-up hardware is correctly placed and is firmly fixed to the formwork

Step 4: Install Grout Sleeves onto the installation hardware

Install the ReidBar™ Grout Sleeves onto the installation hardware. If Step 3 Option 1 is selected, tighten the nut on the Grout Sleeve Set-Up Hardware to expand the Rubber Bung, so that the Grout Sleeves are firmly set in place. Install bar chairs underneath the Grout Sleeve continuation bar right after the screwed in part of the Grout Sleeve.

Seal the bottom of the Grout Sleeve using a duct tape or similar means, to ensure that there is no concrete slurry seeping into the Grout Sleeve.

To further support the Grout Sleeve and maintain its rigidity upon reinforcement and concrete placing, more bar chairs may be required to support larger-sized ReidBar™ Grout Sleeve assembly.

Install the timber or steel template to the top side of the precast panel to properly locate the protruding ReidBar™ Grout Sleeve starter bars. Ensure that the protruding starter bars are straight and perpendicular to the formwork.

Checklist for Step 4:

- Check if the Grout Sleeves are stable, perpendicular to the formwork and are sufficiently supported
- Check if the bottom of the Grout Sleeves are sufficiently sealed to stop concrete slurry ingress into the Grout Sleeves
- Check if the protruding starter bars are straight and perpendicular to the formwork



Timber templates used to ensure that ReidBar™ Grout Sleeve starter bars are straight

Step 5: Prepare and connect port tubes to the grout ports

Prepare the port tubes such that they are neither too long nor too short, and then connect them to the ReidBar™ Grout Sleeves.

PF Rods, PVC tubes or plumbing hose can be used as port tubes. Connect port tubes into grout ports, and tape them to ensure that no concrete slurry is seeping into the Grout Sleeve.

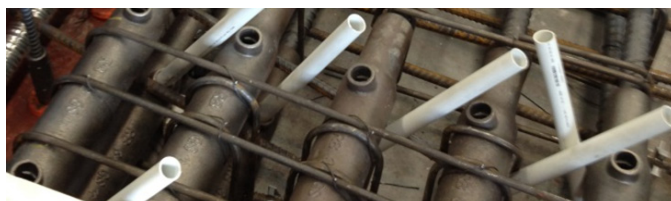
Label the port tubes where they come out of the precast unit – particularly when there is more than one layer of Grout Sleeves, such as in precast columns. This is to ensure that the grouting contractor onsite is aware of which are the inlet and outlet ports.

Checklist for Step 5:

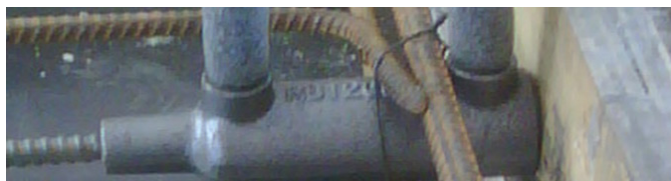
- Prepare port tubes that are neither too long nor too short and connect them to the grout ports
- Label the port tubes so that it is clear which are the inlet and outlet ports
- Check if the grout ports are sufficiently sealed



ReidBar™ Grout Sleeves with plumbing hose port tubes



ReidBar™ Grout Sleeves with PVC port tubes



ReidBar™ Grout Sleeves with PF Rod port tubes

Step 6: Concrete Placement

Take a good care during concrete placement and vibrating to ensure that the Grout Sleeves are not displaced during the process.

Useful tips:

For accurate installation:

It is recommended to use ReidBar™ that are cut using band/abrasive saw, instead of those that are hydraulically cropped.



Hydraulically cropped ReidBar™



ReidBar™ properly cut using band/abrasive saw

For onsite contractors/builders:

For the setting of Grout Sleeve starter bars, coordinate with the Precast Concrete Manufacturers and work based on their measurements and templates to ensure accuracy of starter bar locations.



Precisely measured starter bar locations

Installation Checklist

ReidBar™ Grout Sleeve Installation Checklist

Print/photocopy this page for installation crew's checklists:

Step	Task	Check (Yes/No)
Step 1. Create a template	Create templates as required and check if the marked & drilled hole locations of the ReidBar™ Grout Sleeves and their continuation bars are accurate	
	Duplicate these templates and provide them to other parties as required	
Step 2. Install continuation bar on Grout Sleeve	Check if the ReidBar™ has been installed correctly onto the Grout Sleeve	
	Check if the ports of the ReidBar™ Grout Sleeves are facing the right direction	
Step 3. Install Grout Sleeve installation hardware to the formwork	Check if the set-up hardware is correctly placed and is firmly fixed to the formwork	
Step 4. Install Grout Sleeves onto the installation hardware	Check if the Grout Sleeves are stable, perpendicular to the formwork and are sufficiently supported	
	Check if the bottom of the Grout Sleeves are sufficiently sealed to stop concrete slurry ingress into the Grout Sleeves	
	Check if the protruding starter bars are straight and perpendicular to the formwork	
Step 5. Prepare and connect port tubes to the grout ports	Prepare port tubes that are neither too long nor too short and connect them to the grout ports	
	Label the port tubes so that it is clear which are the inlet and outlet ports	
	Check if the grout ports are sufficiently sealed	

ReidBar™ Grout Sleeve -

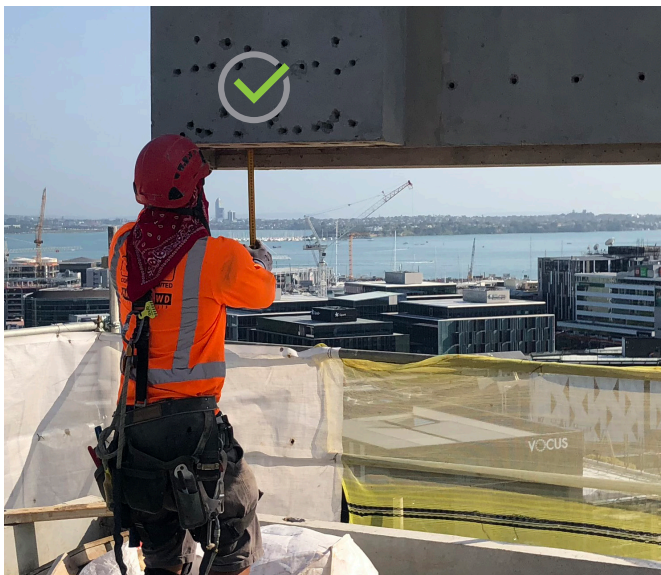
On Site Installation Process



Step 1
Starter Bars
are checked
and prepped.



Step 2
Foam compression tape is installed
to dampen the panel.



Step 3
After checking the bar lengths vs the Grout Sleeve cavity depth,
the panel is lowered over the starter bars.



ReidBar™ Grout Sleeve -

On Site Installation Process Continued _v



Step 4

After the panel is fully lowered onto the concrete base the panel is propped to secure.



Step 5

Mixing of Ramset Poziflo™ Grout for Dry packing of the joint cavity.
(Mix as per Ramset Poziflo™ recommendations on the bag)

ReidBar™ Grout Sleeve -

On Site Installation Process Continued



Step 6

Dry pack the joint cavity by hand (follow instruction on package recipe to achieve dry pack consistency), Set overnight before next step.



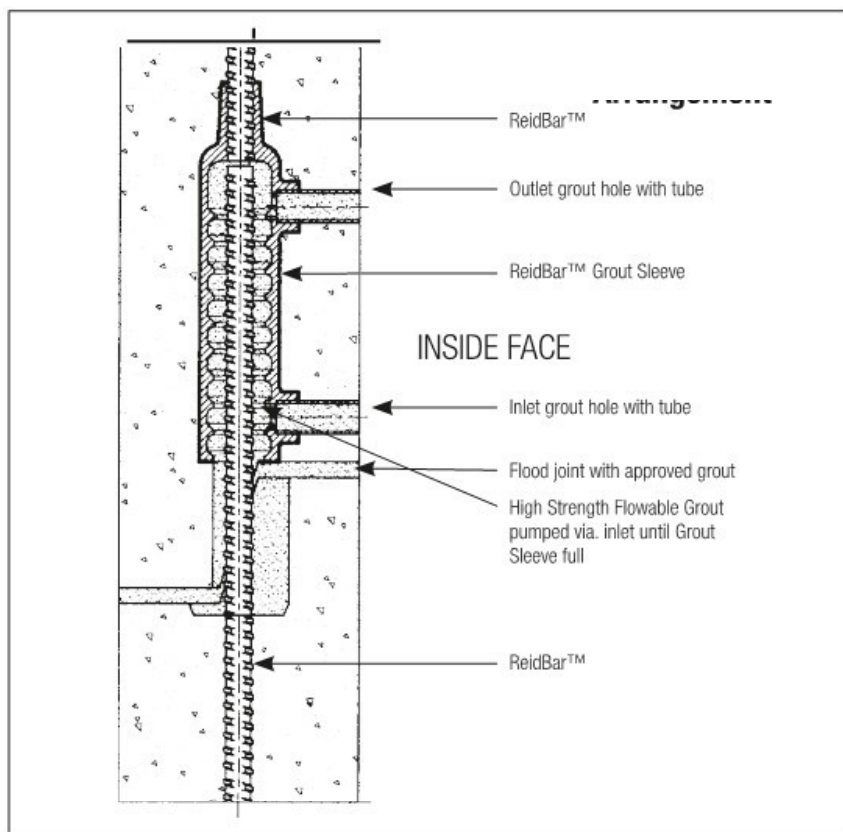
We advise:



ReidBar™ Grout Sleeve -

On Site Installation Process Continued

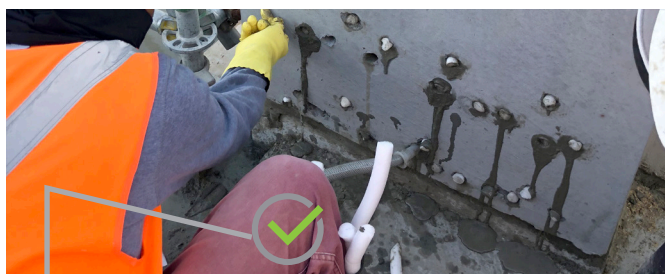
Grout Sleeve Grouting Arrangement



Step 7

Flood the next day by pump (follow instruction on package on recipe to achieve flowable consistency).

Manually pump the grout into the lower inlet hole of Grout Sleeve and continue to pump until the grout flows from the outlet hole. Once filled plug the holes with backing rod.



Step 8

Continue to grout by pump (follow instruction on package on recipe to achieve flowable consistency). Continue to fill sleeves and plug the holes with foam straight after leakage starts to occur. Ensure all hole have some leakage & are plugged.



Projects

ReidBar™ Grout Sleeve Project References



SugarTree Prima



Queens Residences



Tenor Apartments



UoA Building 906



Selwyn Heights Village

The projects and pictures illustrated herein are only possible through the following industry partners:

Consulting Engineers: BGT Structures, MSC Consulting Group, Stephen Mitchell Engineers, Structure Design.

Precast Concrete Manufacturers: Concretec New Zealand, Nauhria Precast, Stresscrete, Wilco Precast, Wilson Precast.

Building Contractors: Aspec Construction, CMP Construction, Haydn & Rollett, Kalmar Construction, Scarbro Construction.

Related Products

ReidBar™ Grout Sleeve Set-Up hardware

Part No.	Bung Only	Overall Length	Thread dia.ø	Rubber Plug OD	Qty (per box)
RB12GSSET	RB12BUN6	80mm	M8	36-48mm	1
RB16GSSET	RB16BUN6	80mm	M8	32mm	1
RB20GSSET	RB20BUN6	80mm	M8	40mm	1
RB25GSSET	RB25BUN6	80mm	M8	48mm	1
RB32GSSET	RB32BUN6	80mm	M8	55mm	1



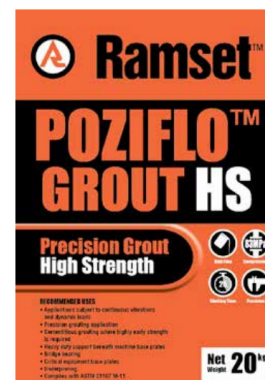
PF Rods

Part No.	Description	Diameter	Length	Qty (per box)
PFR0D06	Polyethylene Foam	6mm	50m Roll	1
PFR0D08	Polyethylene Foam	8mm	50m Roll	1
PFR0D08B	Polyethylene Foam	8mm	250m Roll	1
PFR0D10	Polyethylene Foam	10mm	50m Roll	1
PFR0D10B	Polyethylene Foam	10mm	250m Roll	1
PFR0D13	Polyethylene Foam	13mm	50m Roll	1
PFR0D15	Polyethylene Foam	15mm	50m Roll	1
PFR0D20	Polyethylene Foam	20mm	50m Roll	1
PFR0D25	Polyethylene Foam	25mm	2m Length	1
PFR0D30	Polyethylene Foam	30mm	2m Length	1
PFR0D40	Polyethylene Foam	40mm	2m Length	1
PFR0D50	Polyethylene Foam	50mm	2m Length	1



Ramset™ Poziflo™ Grout HS

Part No.	Chemical Type	Pack Size
RPGHS	Cement	20Kg



Refer to the latest Reid™ Product Catalogue for other related products such as bar chairs, reinforcement accessories and other ReidBar™ Components.

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[illegible]

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customer service

Reid™ Australia

Customer Service Centre

Tel: 1300 780 250

Email: sales@reid.com.au

Web: reid.com.au

Reid™ New Zealand

Customer Service Centre

Tel: 0800 88 22 12

Email: sales@ramsetreid.co.nz

Web: www.reids.co.nz

ramsetreid™ 1 Ramset Drive, Chirnside Park 3116

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