

# NZS3101.1&2:2006 Amendment 3 and ReidBar™ Grout Sleeves

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The recent update of NZS3101.1&2:2006 Concrete Structures Standard (Amendment 3) contains new provisions.

## What has changed in Amendment 3?

- a. Mechanical anchors and couplers manufactured from cast-iron are not permitted in Amendment 3.
- b. Reference to ISO 15835-1 and 2, Residual Elongation and High Cycle Fatigue respectively.

## When does the new NZS3101 Amendment 3 take effect?

NZS3101:2006 Amendment 3 was cited in the New Zealand Building Code on April 1st, 2018. There are two stages of Grace Periods, which apply to cast-iron mechanical anchor and coupler systems.


- **1st April – 2nd July:**  
General NZS3101:2006 Amendment 3 grace period. Engineers may design to either Amendment 2 or Amendment 3 for buildings consented during this period, both considered valid.
- **3rd July – 1st November\*:**  
Additional grace period which applies to cast-iron mechanical anchors and couplers. Engineers must design to Amendment 3, with the exception that cast-iron mechanical anchors and couplers may be specified in buildings consented up to 1st November 2018.
- **2nd November onwards:**  
Amendment 3 in full effect. Cast-iron mechanical anchors and couplers are not permitted.

**\* Reference:**

<https://www.building.govt.nz/assets/Uploads/building-code-compliance/b-stability/b1-structure/asvm/b1-structure-1st-edition-amendment-16.pdf>

## How does the above affect ReidBar Grout Sleeves?

### System Performance Requirements:

Building Consent Timeframe	General Amendment 3 Grace Period	Amendment 3 additional Cast-Iron Grace Period	Amendment 3
 Epcon™ C8 XTREM™ Filler	<ul style="list-style-type: none"> <li>• Amendment 2 - Not Required</li> <li>• Amendment 3 - Required</li> </ul>	Epcon C8 Required	Epcon C8 Required
Cast-Iron Mechanical Anchors & Couplers	Permitted	Permitted	Not Permitted

**How do ReidBar Grout Sleeves perform against NZS3101:2006 Amendment 3 performance requirements:**

NZS3101:2006 A3	Performance Requirements	Status
Chapter 8.6.11	Ultimate Tensile Strength $\geq$ 750MPa	
	Mode of Failure by ductile yielding of bar	*
Chapter 8.7.5	Elongation limit at stress level of 0.7fy	
Chapter 8.9.1	ISO 15835-2 Cl. 5.6.2	

\*For sizes 25mm and above, failure by grout pullout at the grouted part of the connection occasionally encountered. Mechanical, threaded part of the system always remained intact.

**Additional key notes:**

- Tests were performed utilising Ramset™ Poziflo™ Grout, prepared following the 'flowable' mixing procedure. Refer to [www.ramset.co.nz](http://www.ramset.co.nz) for further information.
- ReidBar Grout Sleeves were made of Spheroidal Graphite (SG) Iron by casting process otherwise known as Ductile Cast Iron.

**How about projects which have been designed with ReidBar Grout Sleeves?**

ramsetreid are committed to continue the supply of ReidBar Grout Sleeves to ongoing and commencing projects until their completion.

As it is important that we are aware of upcoming requirements for your projects, please contact our Engineering Team at [emanuele.naccini@ramsetreid.co.nz](mailto:emanuele.naccini@ramsetreid.co.nz) to coordinate your project requirements.

**If you have any questions about this communication, please contact your ramsetreid representative or Phone ramsetreid Engineering Services 0800 88 22 12**