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Product Bulletin.

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Reinforcing Headed Anchorage – Metric Ferrules

In line with the recently communicated NPCAA (National Precast Concrete Association of Australia) Member Alert pertaining to the Non-Compliant use of Metric Ferrules as reinforcing bar headed anchorage, Reid™ supports this stance & does not endorse the use of Metric Threaded Ferrules for this application based upon the following factors.

Standard Requirements:

AS3600:2018 (Concrete Structures) Cl19.3.1(c) requires that fixings for reinforcing bar connections must use a cast-in headed anchorage that develops the design capacity of the bar it is anchoring, and the connection must fail in a ductile manner.

Explanation:

AS3600:2018 requires ALL reinforcing connections between concrete elements to ultimately fail through 'Bar Break'. Bar Break occurs when the reinforcing bar yields elastically (stretches/bends) in the event of overload prior to a brittle failure of the concrete or headed anchor component can occur.

The use of Metric Threaded Ferrules for headed reinforcing bar connections does not comply with AS3600:2018, as due to the smaller foot diameter and minimal embedment depth provided by these components, only a limited capacity can ever be achieved.

Short Metric Ferrules cannot provide the capacity required to match that of connected reinforcing bar and ultimately the component will fail prior to achieving 'Bar break'.

Non-Compatible Reinforcing 'Systems':

As Reid does not sell metric threaded reinforcing bars into the construction market, we are unable to guarantee the combined performance of this reinforcing 'system' when 3rd party supplied bar components are installed in combination with Reid metric ferrules.

As the design and addition of the metric thread (Dia./length) to the end of the reinforcing bar may not match the internal length of the Reid ferrule, the pairing of the two components may result in either a reduced bar engagement (bar thread too short) or a reduced bar diameter at the mouth of the ferrule. Both scenarios would severely reduce the capacity of the connection. The use of 3rd party metric threaded reinforcing bars with Reid Metric Ferrules produces a connection that has unverified tensile properties, and therefore Reid cannot guarantee the performance of this system.

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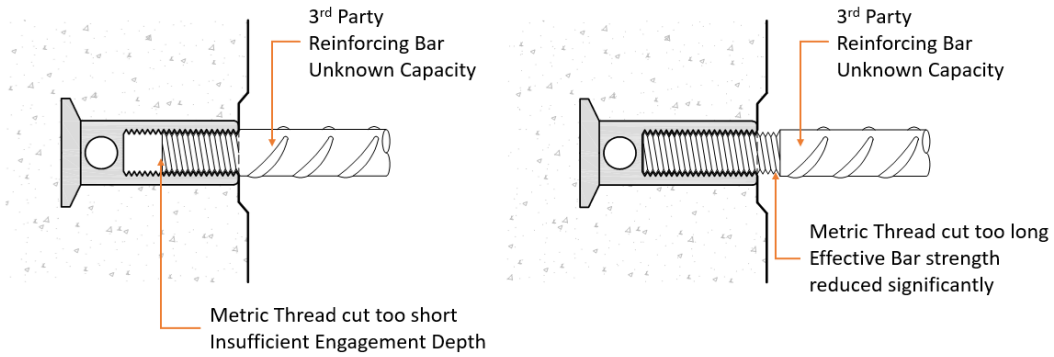

Non-Compliant Headed Anchorage Reinforcing System (Risks)

Does Reid provide a compliant alternative to the market?

When used as a system, The **Genuine ReidBar™** components (ReidBar & ReidBar Threaded Inserts (TI's)) provide a true headed anchorage reinforcing system that is compliant to AS3600:2018 and is fully endorsed by **Reid.**

As the **Genuine ReidBar System** ensures ductile failure of the bar prior to failure of the component, the system provides a known failure mode and known strength capacity which is in line with the standard requirements.

In addition to this, the **Genuine ReidBar System** can be value engineered to provide a ductile mode of failure with a higher design capacity. An optimised ReidBar headed anchorage connection may provide a potential lower in-place cost to the customer when compared to a Metric Ferrule system.

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Where can Reid Metric Ferrules continue to be used?

Reid Metric Ferrules continue to be suitable and endorsed for the following applications:

- Bracing, Pre-Cast Panel Strong-Backs, Safety barriers, Temporary Supports & Scaffolding.
- Structural Steel (bolted) connections
- Services Installations (HVAC, Plumbing, Electrical etc)
- Temporary works.

Please note, for the applications listed above, the Reid Metric Ferrule is suitable for a grade 4.6 Steel bolt only. Use of higher grade steel bolts or steel reinforcing bar could lead to an overload event which may result in non-ductile or premature component failure.

For further information regarding Reinforcing Headed Anchorage compliance, please contact us on 1300 780 250 or sales@reid.com.au