

AS 5216:2026 COMPLIANCE

Design of post-installed and cast-in fastenings in concrete.

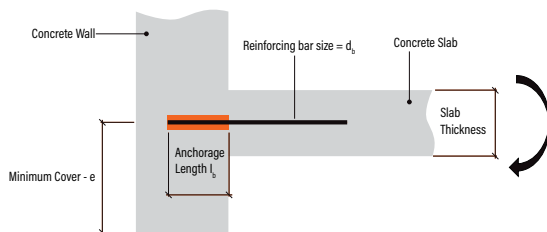
AS 5216:2026 was released in April 2026 and replaces AS 5216:2021.

What is the difference between AS 5216:2021 and AS 5216:2026?

The 4 major changes in the 2026 update of AS 5216 are:

(a) Design of bond-splitting behaviour

Appendix D provides a design method for post-installed reinforcing bars in moment-resisting connections where structural elements are cast at different times. Design considering bond-splitting behaviour is only permitted where the injection system has been assessed in accordance with EAD 332402. Verification of ultimate strength is required for multiple failure modes, including reinforcement steel yielding, concrete cone failure, and bond-splitting failure, with the governing mode adopted for design. The minimum embedment depth shall be not less than the maximum of 100 mm, 30 % of the basic development length, and 10 times the nominal bar diameter.



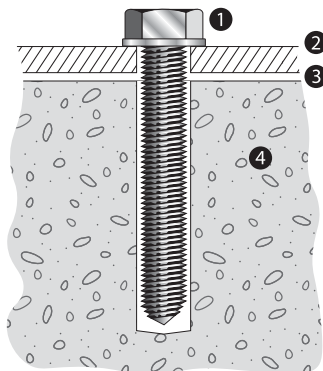
Further information on post-installed reinforcing bars with improved bond-splitting can be found in AEFAC TN 8 - Post Installed Rebar Connection Vol 2 <https://www.aefac.org.au/resources.php>.

(b) Durability of fasteners

Section 10 outlines requirements for assessing the durability of fasteners over their intended working life, taking into account both the local environment and fastener surface conditions at the installation.

The assessment requires consideration of four distinct micro-environmental zones.

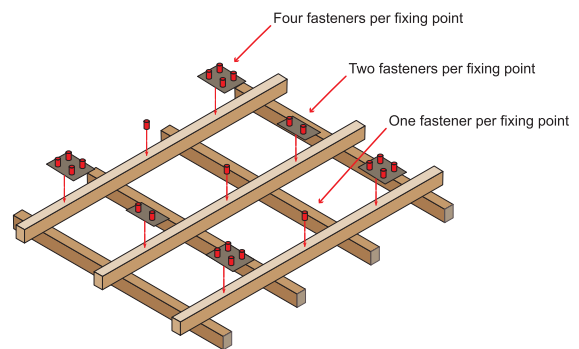
- 1) Environment around the exposed parts of the fastener
- 2) Fixture (with or without clearance hole)
- 3) Intermediate layer between the fixture and base material
- 4) Base material (potentially including gap and contaminants)



For the assessment of fastener durability in the absence of product prequalification documentation, reference should be made to AEFAC TN-15 – Durability of Fasteners <https://www.aefac.org.au/resources.php>.

(c) Power-actuated fasteners in redundant non-structural systems

Appendix E of AS 5216:2026 has been updated to include the use of power-actuated fasteners for the design of redundant, non-structural lightweight systems. The appendix outlines design assumptions for statically indeterminate systems where individual fastening points may slip or fail without affecting the overall function of the attached element. A minimum of three fixing points is required, with the design load on any single fixing limited to 2 kN where three fixings are used and 3 kN where more than three fixings are provided.



Further information on Power Actuated Fasteners (PAFs) can be found in AEFAC TN 11 - Power Actuated Fasteners <https://www.aefac.org.au/resources.php>.

(d) Design of fasteners under fatigue loading

Appendix G sets out requirements for the design of post-installed fasteners subjected to fatigue loading. It defines when fatigue verification is recommended and provides design provisions for fasteners under cyclic tension, cyclic shear, and combined cyclic actions, including consideration of steel and concrete failure modes and fastener groups.

Loading	When Fatigue Loading Applies	Fatigue Failure Modes Checked
Tension (cyclic)	• Number of Tension cycles ≥ 1000 • Stress due to climatic variation $> 100\text{MPa}$	• Steel fracture • Concrete cone • Pull-out • Concrete splitting • Concrete blow-out • Combined pull-out and concrete cone
Shear (cyclic)	• Number of Shear cycles ≥ 100 • Stress due to climatic variation $> 60\text{MPa}$	• Steel shear • Concrete pry-out • Concrete edge

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What are the product qualification requirements for AS 5216?

Post-installed anchors must be tested in accordance with EAD 330232 and EAD 330499 (which is essentially the same as the formerly known ETAG001 Part 1 to Part 5 referenced in SA TS101:2015, which is now superseded).

Post-installed reinforcing bar (rebar) connection systems using mortar shall be tested and assessed in accordance with EAD 330087. Ramset™ has also had ChemSet™ Reo 502™ Xtrem™ tested and assessed in alignment with EAD 332402, which covers post-installed reinforcing bar connections with improved bond-splitting behaviour.

Pre-qualification to AS 5216:2026 is demonstrated by an assessment report, which may be issued by the product supplier or via an independent third party such as a European Technical Assessment (ETA).

When does AS 5216 take affect?

AS 5216:2026 was published on 10 April 2026 and the NCC 2025 (National Construction Code) was released on 1 May 2026. AS 5216:2021 is currently referenced by NCC 2025, however, AS 5216:2026 will also be referenced once it appears on the register of alternative reference documents of the NCC 2025. This register can be found at the following site.

<https://ncc.abcb.gov.au/ncc-2025/ncc-2025-notices/ncc-2025-register-alternative-referenced-documents>

For the latest NCC 2025 adoption status by state and territory, refer to the official NCC website:

<https://ncc.abcb.gov.au/ncc-2025/ncc-2025-state-and-territory-adoption-information>

Need Expert Advice?

As a founding member of AEFAC (Australian Engineered Fasteners and Anchoring Council), the initiator and author of SA TS 101/ AS 5216, Ramset™ are well placed to provide expert advice on post-installed anchor design.

What Ramset™ products are qualified to AS 5216:2026?

Anchor Type	Product Name	Test Method	Test Report No
Mechanical	TruBolt™ Xtrem™	EAD 330232	ETA 21/0973
	SpaTec™ Xtrem™		ETA 10/0276
	AnkaScrew™ Xtrem™		ETA 20/0731
Chemical	ChemSet™ Reo 502™ Xtrem™	EAD 330499	ETA 25/0648
	ChemSet™ 801 Xtrem™		ETA 18/0045
	ChemSet™ Maxima™		ETA 18/0197
	ChemSet™ 101 PLUS		ETA 13/0681
	UltraFix™ PLUS		ETA 13/0681
Chemical	ChemSet™ Reo 502™ Xtrem™	EAD 330087	ETA 25/0647
	ChemSet™ 801 Xtrem™		ETA 18/0154
Chemical	ChemSet™ Reo 502™ Xtrem™	EAD 332402	ETA 25/0646

Contact Ramset™ Engineering on 1300 780 063 for Expert Advice.



For fast, easy design of Ramset™ post-installed anchoring products to AS 5216:2026, iExpert Design Software is recommended.

<https://ramset.com.au/resources-hub/i-expert/>

For further information, please contact Ramset™

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