

BraceSetTM Bracing Anchor

Compliance Document

RamsetTM BraceSetTM Bracing
Anchors comply with
AS 3850.1:2024



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BraceSet™ Bracing Anchor



Ramset™ BraceSet™ Bracing Anchor is the ideal solution for anchoring the slotted feet of concrete wall panel braces, at either end of the brace.



Figure 1:
BraceSet™ Bracing Anchor

BraceSet Bracing Anchor Key Features:

- Heavy Duty load controlled torque setting expansion anchor
- High tensile and shear capacities
- Uses a common 30mm AF hex head socket
- 20mm diameter drilled hole
- Ideal for use at either end of the precast panel brace
- Simple removal leaving no messy protrusions

Compliance Details

Table 1: AS 3850.1:2024 Compliance Details

Clause	Requirement	Compliant
2.2	WLL derived from testing in accordance with Appendix A	
2.5	Ductile materials. Washer sized to transfer load across brace foot slot.	
2.10	Statement of intended use 'BraceSet bracing anchor is intended to secure either end of a precast concrete panel brace (as defined in AS 3850.1:2024, when installed in accordance with this information.'	
Appendix A	Product Validation through testing to confirm compliance of critical specification requirements (dimensions and arrangement of the steel reinforcement, material properties and load bearing capacity where appropriate).	
A3	Comprehensive test report produced according to A9.7	
A4	Statistical evaluation of test results	
A9.4.1	Torque tests assessed according to A9.5.2	
A9.4.2	Basic tension tests assessed according to A9.5.3	
A9.4.3	Cyclic slip tension tests assessed according to A9.5.4	
A9.4.4	Shear tests assessed according to A9.5.5	



Ramset™ BraceSet™ Bracing Anchors comply with AS 3850.1:2024

Ramset™ BraceSet™ Bracing Anchor

Ramset™ BraceSet™ Bracing Anchor is the ideal solution for anchoring the slotted feet of concrete wall panel braces, at either end of the brace.

BraceSet is a Heavy Duty load controlled torque setting expansion anchor, using a common 30mm AF hex head socket. BraceSet provides high tensile and shear capacities. Ideal for use at either end of the precast panel brace, it is simple to remove leaving no messy protrusions.



Performance details

Part No.	Description	Anchor Size (mm)	Tensile Capacity (kN)	Shear Capacity (kN)	Pack Qty	Pallet Qty
BRACESET20	Ramset BraceSet Bracing Anchor	M14	16.8	43.4	40	1920

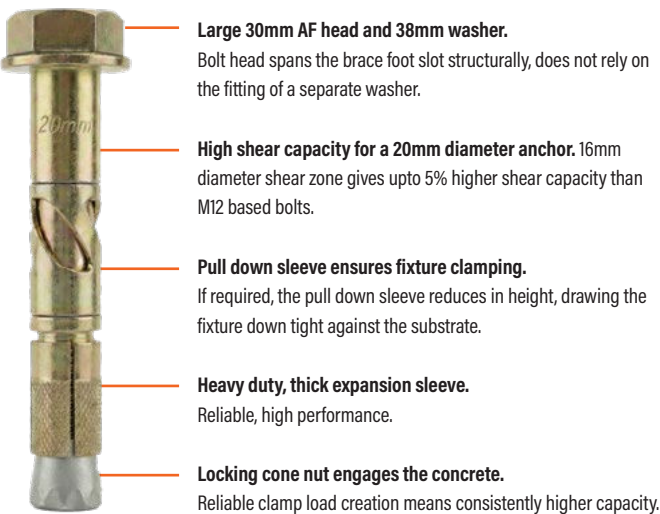
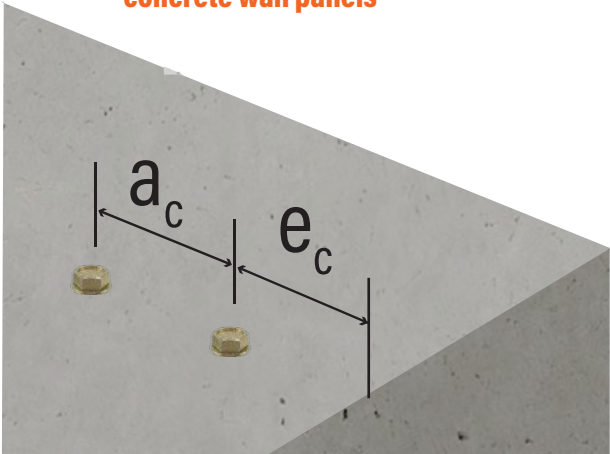


Figure 2: Installation details for bracing concrete wall panels



Installation details **bracing concrete wall panels**

Concrete Strength (min.)	Tightening Torque	Bracing Foot Slot Width	Nominal Fixture Thickness	Drilled Hole Dimensions		Installation Dimensions (Refer Figure 2.)		
				Drilled Hole Diameter	Drilled Hole Depth (min)	Substrate Thickness (min.)	Min. Edge Distance e_c	Min. Spacing a_c
20 MPa*	150 Nm	21-26 mm	20 mm	20 mm	120 mm	150 mm **	300 mm***	500 mm***

* Ensure min. concrete strength achieved is equal to or greater than 20MPa

** Slab on ground thickness may be 125mm provided drilling breakthrough is permitted

** Optimum Dimension to ensure the full capacity of the Ramset BraceSet Bracing Anchor is achieved without the influence of adjoining anchors or a concrete edge

BraceSet™ Installation

1. Position BraceSet Anchor at proposed bracing location ensuring specified min. edge distance & anchor spacing (see figure 2 - Page 4.)
2. Drill hole for BraceSet anchor ensuring correct Diameter & hole depth are achieved.
3. Blow/Vacuum dust from hole.
4. Position & drive the anchor with mash hammer into hole until it makes contact with Brace Foot.
5. Tighten anchor bolt with calibrated torque wrench to nominated assembly torque***
6. *** Use calibrated torque wrench only, In accordance with AS 3850.2:2024, Clause 5.1.2

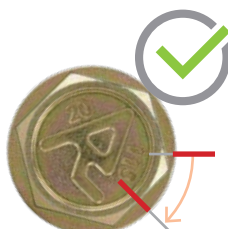


Post-Installation QA Check:

1. BraceSet™ Anchors should be verified at least weekly and after major weather events to ensure they are secure, in accordance with AS 3850.1:2024
2. Check if a bolt head can be turned by hand and if it turns, report it immediately to the responsible authority on site.
3. After installation of brace inserts with nominated assembly torque, put an alignment reference marks on the bolt head and the surrounding surface.
4. Using a calibrated torque wrench, apply 100 Nm torque in a clockwise direction.
5. If any anchor bolt turns more than 90° from the reference mark, then report this immediately to the responsible authority on site.
6. Total accumulated rotation of any bolt head should not exceed 180° from the first reference mark and if it does, report immediately to the responsible authority on site.
7. Ramset™ does not recommend retorquing to the initial installation torque of 150 Nm.



A - No Movement



B - Up to 45°



C - Up to 90°



D - Greater than 90°
Report to authority on site.

FAQ's

Q: Can I use BraceSet™ for fixing the top of the brace to the panel as well as at the base of the brace?

A: Yes - BraceSet™ will provide the same WLL when used at either end of the brace.

Q: How many sizes is BraceSet™ available in?

A: BraceSet™ is available in a single, optimal size.

Q: What floor slab thickness can I install BraceSet into?

A: A floor slab of 125mm thick will accept BraceSet, and will perform in accordance with this information even if the drill breaks through the bottom of the slab.

Q: What wall panel thickness can I install the BraceSet into?

A: A wall panel 150mm thick will accept BraceSet, the hole should be drilled to a maximum of 120mm deep to prevent the back of the panel blowing out when drilling. If the drill bit accidentally breaks out the back of the panel, BraceSet™ will still perform in accordance with this information.

Q: Is it easy to remove?

A: Yes - BraceSet™ is designed to be easily removed. The cone nut has points on it that engage the concrete when installed, ensuring that the cone nut does not spin when undoing the bolt. The kick out spacer can be removed without tools leaving the hole ready to grout up. No need to hammer in or grind off the anchor before grouting up the hole.

Q: How long is the anchor?

A: The total anchor length is 135mm with 117mm below the underside of the washer.

Q: What hole depth do I need?

A: The drill hole depth will depend on the brace foot fixture thickness. Please refer to the installation details above for the recommended minimum drill hole depth based on the nominal fixture thickness.

Q: Can I use the BraceSet™ for other jobs on my site ?

A: BraceSet™ has been designed specifically for panel bracing and lifting plate (5LP/MPLATE) applications and hence is supported for use in those applications. Ramset has a number of other excellent anchoring products suited to your other structural requirements on site.

Q: Is BraceSet™ re - usable?

A: No - BraceSet™ is designed for single use, ensuring that you receive the outstanding benefits of BraceSet™ with each panel you brace.

Quality and Compliance

AS 3850.1:2024
Compliant

All Ramset™ branded products are designed, manufactured, tested and supplied in compliance with our Quality Management System which has been independently audited and certified by SAI Global to ISO 9001:2015. Ramset™ undertake strict quality control processes to ensure performance specifications and metallurgical properties are maintained.

To reflect the continued progress of the industry and the new innovative uses of precast and tilt-up construction, Australian Standard AS 3850 Part 1, Part 2 and Part 3 has recently been updated. AS 3850 Part 1, Part 2 and Part 3 are detailed below.

- Part 1, called 'General requirements' details the updated performance and testing requirements for suppliers of componentry into the industry. These requirements are significantly different to AS 3850:2015 and should enable the industry to have greater confidence in the products that they are specifying and using.
- Part 2, called 'Building construction' aligns with the 2008 National Code of Practice for Precast, Tilt-Up and Concrete Elements in Building Construction and focuses on the interrelation of the various stages of manufacture, construction, transport and erection. It is specifically for the construction design and documentation of prefabricated concrete elements in building construction and provides guidance for the Erection Designer and highlights the importance of the Erection Design and Documentation. It was updated to align with the changes in Part 1 and the content in Part 3.
- Part 3, called 'Civil construction' provides requirements impacting prefabricated concrete elements in civil, infrastructure and non-building construction. Similar to Part 2, it focuses on various stages of safety, planning, manufacturing, construction design, casting, transportation, erection and incorporation into the final structure.

The new AS 3850.1:2024 is central for the safe, efficient and cost-effective manufacture, construction, transport and erection of prefabricated concrete elements.

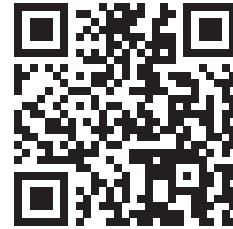


Quality and compliance are at the core of everything we do. Our commitment to ISO 9001:2015 certification ensures every Ramset™ product meets the highest standards of safety, performance, and reliability.



Resources Hub

Looking for technical information, or useful tools to assist in specification? We have all the information you need to complete your project and make sure the paperwork is in order. Access helpful software and calculators, download relevant safety data sheets (SDS), brochures, catalogues, manuals, test reports and certificates for Ramset products.



**Specifiers Anchoring
Resource Book**



**iExpert Anchor Design
Software**



**ChemSet™ Cartridge
Volume Calculator**



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Information in this documents is correct at the time of printing. Readers should contact Ramset™ or consult Ramset™ detailed technical information to ensure product is suitable for intended use prior to purchase.

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