

Building Product Information Sheet

Class 1

Product Name:ICCONS[®] THRU-BOLT[™] PRO Stud Anchor**Date of Report:**

07 / 11 / 2023

Product Line:ICCONS[®] THRU-BOLT[™] PRO**Product Description and its intended use:**

ICCONS[®] THRU-BOLT[™] PRO is a pre-assembled torque controlled mechanical stud anchor, which when tightened draws the tapered end of the bolt into the expander clip expanding it to create expansion forces against the wall of the hole. This anchor is ideal for quickly fixing steel and timber structures to a range of base materials (concrete, cracked concrete, brick, block, rock, and stone).

Now available with ETA in zinc, sherardised and stainless steel variants. Seismic approved for zinc finish only (selected sizes and lengths). This anchor is used in countless applications in both residential and commercial construction.

Key technical specifications:

- Product type: Stud Anchor
- Finish options: Carbon Steel Zinc Clear, Carbon Steel Galvanised (Sherardised).
- Head options: Nut hex head
- Base materials: concrete, cracked concrete
- Special features: European Assessment, Seismic Rated, Fire Rated.
- Load performance: Heavy Duty Loads
- Part specifications: drill diameter, head socket size etc varies based on part. Refer to document 'Seismic Thru-Bolt Technical Data', available in the link below:
https://sestofasteners.co.nz/products/thru-bolt-stud-anchor-galv?_pos=1&_sid=68b75b554&_ss=r

Product Identifier

Thru-Bolt PRO

Place of Manufacture:

Overseas

Manufacturer:

ICCONS PTY LTD

Importer:

Sesto Fasteners Limited

Address: 5e Piermark Drive
Rosedale, Auckland
Postcode: 0632
Website: www.sestofasteners.co.nz
Email: orders@sestofasteners.co.nz
Phone: +64 94158564
NZBN: 9429041704103

Relevant Building Code Clauses:

- B1 Structure: Performance clauses B1.1, B1.2, B1.3.1, B1.3.2, B1.3.3, B1.3.4
- B2 Durability: Performance clauses B2.2, B2.3.1(a), B2.3.2
- C6 Structural Stability (Fire Safety): Performance clauses C6.1, C6.2
- F2 Hazardous Building Materials: Performance clause F2.3.1

Statement on how the building product is expected to contribute to compliance:

- B1 Structure: clauses B1.1, B1.2, B1.3.1, B1.3.2, B1.3.3, B1.3.4:
 - The ICCONS Thru-Bolt Pro Stud Anchor is a pre-assembled torque controlled mechanical stud anchor. This anchor is ideal for quickly fixing steel and timber structures to a range of base materials (concrete, cracked concrete, brick, block, rock and stone).
 - ICCONS Thru-Bolt Pro Stud Anchors hold European Technical Assessment for use in cracked and uncracked concrete, ETA 20/0900 of 14/09/2022. ETA options vary based on part number and finish. Refer to document 'Thru-Bolt European Technical Assessment' for assessments available per part in the link below:
https://sestofasteners.co.nz/products/thru-bolt-stud-anchor-galv?_pos=1&_sid=68b75b554&_ss=r
 - ICCONS Thru-Bolt Pro Stud Anchors are compliant with the requirements referenced in the National Construction Code (NCC).
 - Compliant with standard AS 5216 (Design of post-installed and cast-in fastenings in concrete).
 - Seismic C1 and C2 load performance ratings are available for zinc and sheradised options. Seismic assessment varies based on part number. Refer to Annex B1, document 'Thru-Bolt European Technical Assessment' for the ETA Seismic values, and document 'Seismic Thru-Bolt Technical Data' for specific assessments per part.
 - Certain sizes of Thru-Bolt are not part of ETA assessment and are not compliant with AS 5216. Refer to the installation guide pages of document 'Seismic Thru-Bolt Technical Data'. For design in accordance with simplified design method please refer to document 'Non rated Thru-Bolt Technical Data'; TDS 1007.
 - Suitable for overhead applications.
 - Suitable for use as a bottom plate fixing in timber frame construction. ICCONS M12x135mm Thru-Bolt Stud Anchors (code TB12135G) have been independently tested according to Clause 7.5.12.3 & 4 of NZS 3604:2011 requirements for external wall applications. Tension, shear in plane and shear out of plane capacities in 20MPa concrete are available for this bolt size. See page 12, Swinburne University of Technology Test Report for the test results, document reference 'Independent Test Report for M12 x 135mm Bottom Plate Thru-Bolt'.
 - Refer to document 'Thru-Bolt Bottom Plate Technical Data' for the specification data for use as a bottom plate anchor in concrete slab.
 - Identification on bolt head for easy traceability.
 - Through fixing for fast installation.
 - ICCONS Thru-Bolt Pro Stud Anchors have been ETA tested for performance data in both cracked and uncracked concrete (ETA 20/0900). Values vary based on part. Refer to page 7, document 'Seismic Thru-Bolt Technical Data'. For detailed calculations please download the ICCONS Software - DesignPRO @ www.iccons.com.au/software/anchor-design software.
 - B2 Durability: Performance clauses B2.2
 - Refer to page 4, document 'Seismic Thru-Bolt Technical Data' for material specifications within the ETA Assessed range.
 - Finish options: Carbon Steel Zinc Clear, Carbon Steel Galvanised (Sheradised), 316 grade A4 Stainless Steel.
 - Sheradising is a process of galvanisation of ferrous metal surfaces, also called dry galvanising. The processing involves heating the steel up to 500 degrees C in a closed rotating drum the contains metallic zinc dust.
 - Engineered clip for optimum expansion and anti-rotation.
 - Red ETA embedment depth mark provides ease of installation on site.
 - ETA 20/0900 base materials (Annex B1):
 - Reinforced or unreinforced normal weight concrete without fibres according to EN 206-1:2013+A1:2016.
 - Strength classes C20/25 to C50/60 according to EN 206-1:2013+A1:2016
 - Cracked or uncracked concrete.
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- Bottom Plate Applications (TB12135G):
- Refer to document 'Thru-Bolt Bottom Plate Technical Data', available in the link below:
https://sestofasteners.co.nz/products/thru-bolt-stud-anchor-galv?_pos=1&_sid=68b75b554&_ss=r
 - The TB12135G stud anchor for use as a bottom plate fixing solution is coated with a galvanised coating of 45 microns thickness. The life expectancy of the TB12135G stud anchor will depend on the environment where the product is installed. For internal dry environments, the TB12135G stud anchor has a life expectancy of 50 years (minimum). The TB12135G also complies with durability requirements for all zones in a closed environment as stipulated in NZS 3604-2011, table 4.1.
 - Material specifications:
 - Expander clip: 400 series S/S
 - Washer: AISI1010
 - Nut: AISI1010
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- Anchor bolt: Class 5.8
 - Plating: Galvanised Coating thickness 45 microns (min).

Contact SESTO Fasteners for full independent report details on bottom plate testing conducted using the ICCONS Tb12135G Thru-Bolt Stud Anchor (Report: SSL-10010).

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- C6 Structural Stability (Fire Safety): Performance clauses C6.1, C6.2
- ICCONS Thru-Bolt Stud Anchors (zinc and sheradised finish) have been ETA assessed for safety in case of fire (ref 3.2, BWR 2).
- Data is available for essential characteristics under fire exposure for a range of bolt sizes. Refer to ETA document 20/0900, ref 'Thru-Bolt European Technical Assessment' available in the link below:
https://sestofasteners.co.nz/products/thru-bolt-stud-anchor-galv?_pos=1&_sid=68b75b554&_ss=r
- ICCONS Thru-Bolts are designed in accordance with EN 1992-4:2018. Refer to class A1, ETA 20/0900 for reaction to fire requirements, and annex C9 and C10 for resistance to fire values.

- F2 Hazardous Building Materials: Performance clause F2.3.1
- ICCONS Thru-Bolts are safe when handled.

Limitations on the use of the building product:

Bottom Plate Applications (TB12135G):

Warranty:

- This technical document has been prepared to provide guidance for design professionals and trades people in the correct selection and use of proprietary bottom plate fixings designed to comply with requirements stated in NZS 3604-2011, clause 7.5.1.2.3. & 4. ICCONS and SESTO Fasteners shall not be held liable for any claim, damage, demand expense, injury or loss, direct, incidental or consequential, based on product misuse and factors outside the control of both ICCONS and SESTO Fasteners.

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- ETA 20/0900: The performance values given in section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in annex B. The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the anchor of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a mean to choosing the right products in relation to the expected economically reasonable working life of the works.

- Refer to Annex B1, ETA 20/0900 for use conditions (environmental conditions). Thru-Bolt PRO SS anchorages are subjected to dry internal conditions, to external atmospheric exposure (including industrial and marine environment) or to permanent damp conditions if no particular aggressive conditions exist. Atmospheres under Corrosion Resistance Class CRC III according to EN 1993-1-4:2006+A1:2015 annex A.

- Certain specified bolts are not part of the ETA assessment, and are not compliant with AS 5216. Non rated size options comply with the limitations provided in TDS 1007, document 'Non rated Thru-Bolt Technical Data'. Note for non-rated sizes: Information contained in this technical document is based on testing by the manufacturer and should be reviewed and approved by a design professional responsible for the given application. Technical data contained in this document does not comply with AS5216. For safety critical fastening applications designed in accordance with AS5216, please refer to the ICCONS® website for a complete suite of compliant post-installed chemical and mechanical anchoring products.
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Design requirements that would support the use of the building product:

ICCONS Thru-Bolts have been designed for the following applications:

- Ideal for fastening columns and beams.
- Perfect for quickly fixing steel and timber structures to a range of base materials.
- Concrete
- Brick
- Block
- Marble
- Stone
- Suitable for both residential and commercial construction

Features that support use of the product:

- Torque controlled high performance anchor
- Through fixing for fast installation
- Engineered clip for optimum expansion and anti-rotation
- Red ETA embedment depth mark providing ease of installation on site
- Available in zinc and sheradised corrosion resistant finish
- ETA assessed - ETA 20/0900
- Uncracked and cracked concrete assessed
- AS 5216 compliant
- Seismic C1 and C2 assessed (Sheradised and Zinc)
- Fire assessed (zinc and sheradised finish)
- Identification code on bolt head for easy traceability.
- 12x135 mm bolts are suitable for use with up to a 10mm packer in a bottom plate application.

Installation requirements:

Refer to page 4, document 'Seismic Thru-Bolt Technical Data' for illustrated steps.

Installation steps:

1. Drilling: Use drill in hammer mode. Drill to specified diameter and depth for the required size.
2. Blow and clean: Clean the hole completely of dust and debris. Use blow pump and brush.
3. Install: Insert the anchor in the hole until the red ring mark is flat with the concrete surface. Use hammer if required: DOMTA tool can be used alternatively. The installation may be done through the fixture baseplate.
4. Apply torque: Apply nominal installation torque using a torque wrench. Once installed verification of the total length of the anchor can be made through the letter on the head.

Bottom Plate Applications (TB12135G):

Refer to page 2, document 'Thru-Bolt Bottom Plate Technical Data' for installation steps in a bottom plate fixing application.

Note: ICCONS Thru-Bolt stud anchor TB12135G must be installed in accordance with ICCONS published installation instructions in order to comply with the requirements stipulated in NZS 3604-2011, clause 7.5.1.2.3 & 4.

Installation steps:

1. Using a 12mm drill bit, drill a hole to the correct depth.
2. Clean dust and other material from the hole.
3. Insert anchor into position.
4. With correct size socket or spanner tighten anchor to specified torque. Installation complete!

Maintenance requirements:

N/A. no ongoing maintenance required.

Is the building product subject to warning or ban under section 26?:

No

