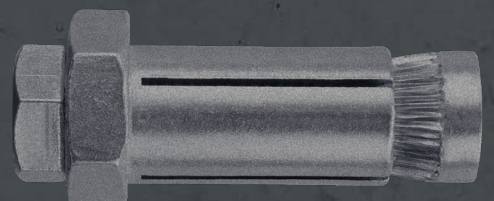




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TDS | 1053.3

UNI-BOLT™





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UNI-BOLT™

UNI-BOLT™ features a sleeve that expands inside the steel connection, creating a robust geometric interlock. It's versatile, designed for use with rectangular, square, and even circular hollow sections. The hexagonal head design allows for easy installation using a standard spanner.

Available in Hot Dipped Galvanized, UNI-BOLT™ offers excellent durability in both mild and harsh environments. It comes in three different lengths, making it suitable for nearly any application.

UNI-BOLT™ is ETA assessed and suitable for design in accordance with AS 4100 (Steel Structures Standard), ensuring confidence and peace of mind for both designers and users.

ADVANTAGES

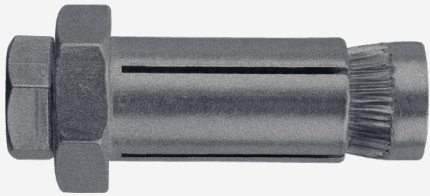
- Best approved performance
- Lowest labor costs
- Easy to use
- All section shapes
- Approved and Certified ETA loads
- Aesthetic finish
- Ideal for combined loads
- Different corrosion resistant options

APPLICATIONS

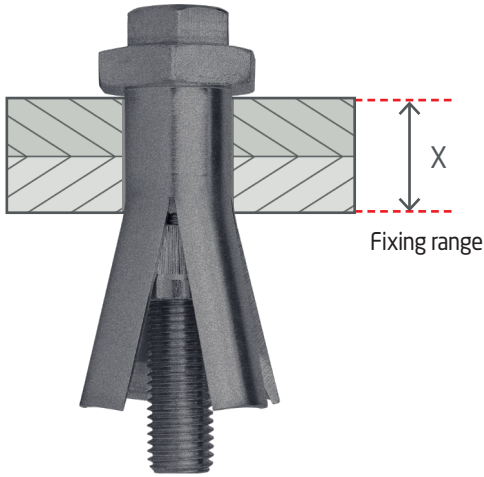
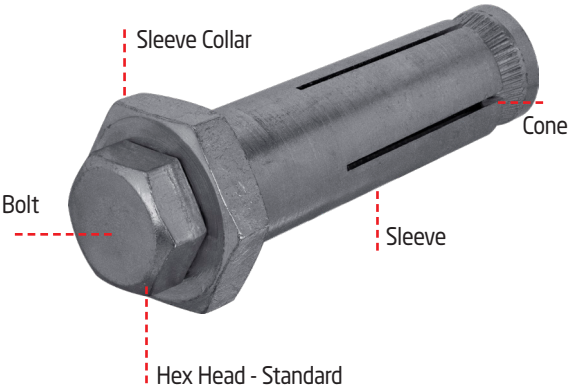
- ✓ Two hollow sections at 90 degrees using an end plate
- ✓ Hollow section below an I-Beam at 90 degrees using a combination of UNI-BOLT™ and BEAMCLAMP fixings
- ✓ Two hollow sections at 90 degrees using angle brackets
- ✓ Hollow section sleeve connection creating an aesthetic joint from the outside
- ✓ Angle to vertical hollow section post
- ✓ Rigging point to outside of hollow section
- ✓ Side fixing of handrail base to hollow section
- ✓ Top fixing of handrail base to hollow section
- ✓ Glazing bracket to hollow section

RANGE IDENTIFICATION

UNIBH-M____G



Item	Designation	
1	Bolt	DIN 933 class 8.8 ISO 898-1, hot dip galvanised EN-ISO 10684
2	Sleeve	Carbon steel, hot dip galvanised ENISO 10684
3	Cone	Carbon steel, hot dip galvanised ENISO 10684





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UNI-BOLT™

Carbon Steel Galvanised

Galvanised Part No.	Description	Set Screw Length (mm)	Clearance (mm)	Fixing Range (mm)	Torque (Nm)	 qty.	 qty.
UNIBH-M08050G	UNI-BOLT™ M8 X 50 - ETA	50	14	5-26	25	25	120
UNIBH-M08070G	UNI-BOLT™ M8 X 70 - ETA	70		26-46		20	120
UNIBH-M08090G	UNI-BOLT™ M8 X 90 - ETA	90		46-66		20	120
UNIBH-M10050G	UNI-BOLT™ M10 X 50 - ETA	50	18	5-22	45	20	120
UNIBH-M10070G	UNI-BOLT™ M10 X 70 - ETA	70		22-42		20	120
UNIBH-M10090G	UNI-BOLT™ M10 X 90 - ETA	90		42-62		20	120
UNIBH-M12055G	UNI-BOLT™ M12 X 55 - ETA	55	20	5-25	80	20	80
UNIBH-M12080G	UNI-BOLT™ M12 X 80 - ETA	80		23-50		20	
UNIBH-M12100G	UNI-BOLT™ M12 X 100 - ETA	100		48-70		20	
UNIBH-M16075G	UNI-BOLT™ M16 X 75 - ETA	75	26	8-35	190	10	60
UNIBH-M16100G	UNI-BOLT™ M16 X 100 - ETA	100		35-60		10	
UNIBH-M16120G	UNI-BOLT™ M16 X 120 - ETA	120		60-80		10	
UNIBH-M20100G	UNI-BOLT™ M20 X 100 - ETA	100	33	12-43	300	5	30
UNIBH-M20120G	UNI-BOLT™ M20 X 120 - ETA	120		43-63		5	
UNIBH-M20150G	UNI-BOLT™ M20 X 150 - ETA	150		63-93		5	



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LIMIT STATE DESIGN PERFORMANCE DATA UNI-BOLT

Description & Part Number		Dimensional / Installation Information										Design Capacities	
UNI-BOLT	Product code	Set screw length (mm)	Fixing range (dim x)		Across Flats of collar (mm)	Collar thickness (mm)	Bolt Socket (mm)	Dim A (mm)	Dim B (mm)	Dim C Hole Diameter (mm)	Installation Torque (Nm)	Galvanised Tension (kN)	Shear (kN)
			Min	Max									
M8	UNIBH-M08050G	50	5	26	22	6.3	13	35	13	14 +1.0,-0.20	23	23.1	29.1
	UNIBH-M08070G	70	26	46									
	UNIBH-M08090G	90	46	66									
M10	UNIBH-M10050G	50	5	22	24	7.3	17	40	15	18 +1.0,-0.20	45	35.8	47.4
	UNIBH-M10070G	70	22	42									
	UNIBH-M10090G	90	42	62									
M12	UNIBH-M12055G	55	5	25	26	8.3	19	50	18	20 +1.0,-0.20	80	41.1	64.2
	UNIBH-M12080G	80	23	50									
	UNIBH-M12100G	100	48	70									
M16	UNIBH-M16075G	75	8	35	36	9.3	24	55	20	26 +2.0,-0.20	190	81.2	116.5
	UNIBH-M16100G	100	35	60									
	UNIBH-M16120G	120	60	80									
M20	UNIBH-M20100G	100	12	43	46	11.3	30	70	25	33 +2.0,-0.20	300	106.2	183.3
	UNIBH-M20120G	120	43	63									
	UNIBH-M20150G	150	63	93									

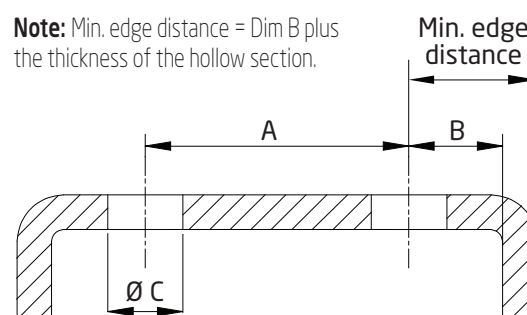
Note:

- The above loads are Design Capacities based on independent testing conducted in accordance with EAD 330001-00-0602 and referenced in ETA 25/0374. Design Capacities may be used in design according to AS 4100. Design Capacities above incorporate a Capacity Factor (ϕ) for Strength Limit States of 0.8 in accordance with table 3.4 of AS 4100 for Bolted Connections.
- For combined loading applications (Tension & Shear) UNI-BOLT must comply with the requirements highlighted in AS 4100 section 9.3.2.3 (Bolts subject to combined shear and tension).
- The strength of the material UNI-BOLT is connecting into should be checked for structural capacity by a suitability qualified structural engineer responsible for the application.

UNI-BOLT™ DIAMETER AND POSITIONING OF HOLES

Dia	Dim A (mm)	Dim B (mm)	Dim C (mm)
M08	35	13	14 +1.0,-0.20
M10	40	15	18 +1.0,-0.20
M12	50	18	20 +1.0,-0.20
M16	55	20	26 +2.0,-0.20
M20	70	25	33 +2.0,-0.20

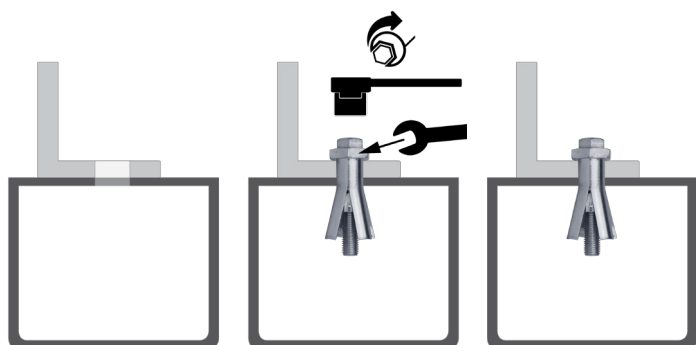
Note: Min. edge distance = Dim B plus the thickness of the hollow section.



INSTALLATION



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Drill the sections to be fixed, ensuring that the holes required have the correct diameter and spacing. (See Dim C).

De-burr the holes.

Position the sections flush against each other, ensuring:

- The two sections are lined up and are flush without any gap. If necessary, use a clamp to hold the two sections and prevent a gap forming
- The holes are aligned, using a mandrel if necessary

Position the Bolts in the holes. Check the collar is resting flat on the section with no gap.

Hold the collar in position using a suitable open-ended wrench, then tighten the bolt to the torque specified. An impact tool/wrench is recommended for initial tightening to speed up installation.

Do not over tighten the UNI-BOLT™.

A torque wrench should always be used for final tightening to the correct torque value as specified in this document.

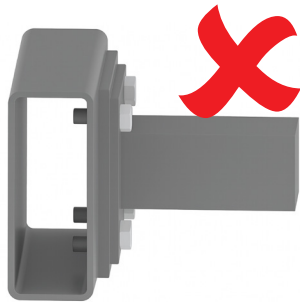
Remove the tool and check the tightening torque on the bolt. If necessary, correct the tightening torque. (Always use the manufacturers recommended torque on the reverse of this page, column headed "Torque" in the technical table.)



UNI-BOLT™ VS OTHER FIXINGS

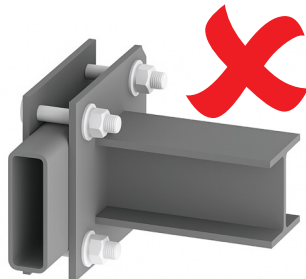


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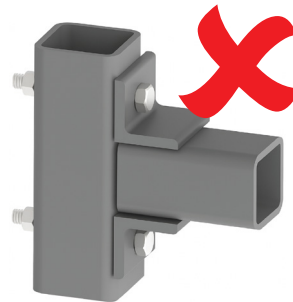
DRILLING & TAPPING

- Drill pilot holes
- Tap holes
- Connect bolts
- Tighten bolts to torque
- Weak connection



STRAPPING

- Place plate and bolts around one side
- Place plate on other side and align bolts
- Connect nuts and washers
- Tighten equally to avoid twisting



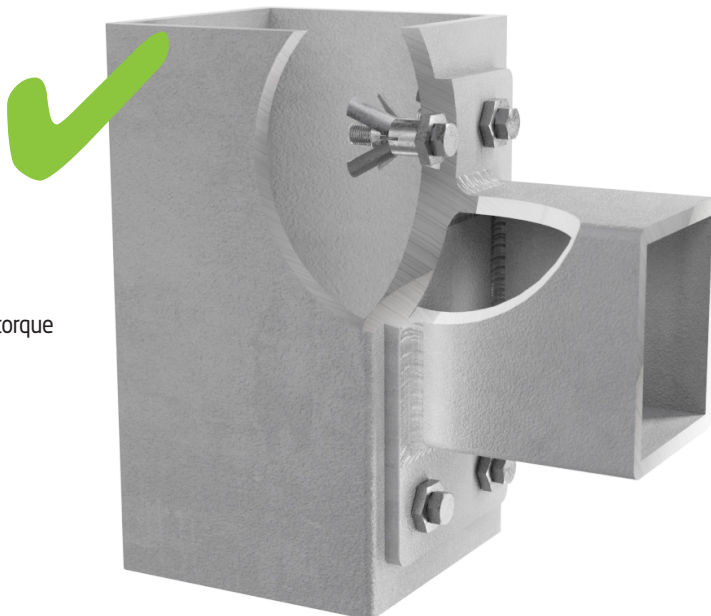
THRU BOLTING

- Drill clearance holes
- Drill clearance holes other side
- Connect bolts through aligned holes
- Tighten bolts to torque



WELDING

- Prepare surfaces to weld
- Position welding equipment
- Perform weld
- Leave to cool (under supervision)
- Perform proof test on the weld



UNI-BOLT™

- Drill clearance holes
- Insert UNI-BOLT™
- Tighten UNI-BOLT™ to torque



NOTES



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Notes section with horizontal lines for writing.



AS 5216 COMPLIANT NCC ANCHOR DESIGN



Design of fastenings
under seismic
actions



Design of redundant
non-structural
systems



Combined loading
and displacement
calculations



Unique all-in-one
screen interface
with easy data input
and results display

- ✓ Interactive 3D model display for clear anchor and baseplate layout including rotation functionality
- ✓ Integrated FEA (Finite Element Analysis) for quick base plate thickness calculations
- ✓ Offers design solutions for rigid and elastic baseplates

- ✓ Flexible custom anchor and base plate geometry design for complex shapes and applications
- ✓ Utilises Australian steel profiles and material grades
- ✓ All product and all failure modes individually checked for precise anchor analysis and selection
- ✓ Summary or detailed design report options available to save or print

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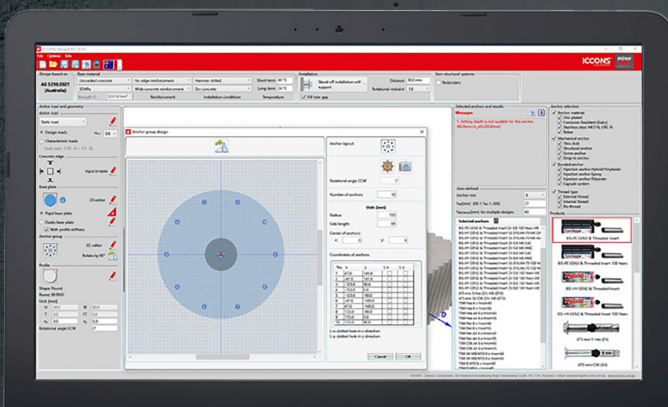
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