

NEW PRODUCT

WEDGE

Anchor

SA TS 101:2015

Expansion anchor designed to fix steel & timber components to concrete

FEATURES

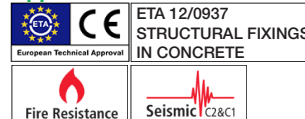
- ✓ **Complies Australian Standard for concrete anchors - SA TS 101:2015**
- ✓ **ETA Approval - 12/0397, Option 1**
- ✓ **For use in cracked and non cracked concrete**
- ✓ **Hex Nut**
- ✓ **Class 5.8 Steel**
- ✓ **Galvanised**
- ✓ **Available in Trade Box Pack**
- ✓ **Designed for medium to heavy loads**

CODE	SIZE	BOX QTY	BARCODE
38AG10070	10mm x 70mm	100	230381
38AG10090	10mm x 90mm	100	230398
38AG12080	12mm x 80mm	50	230404
38AG12110	12mm x 110mm	50	230411
38AG12130	12mm x 130mm	50	230428
38AG12150	12mm x 150mm	50	230435
38AG12180	12mm x 180mm	50	230442
38AG16125	16mm x 125mm	25	230459
38AG16145	16mm x 145mm	25	230466
38AG16175	16mm x 175mm	25	230473

Barcode Prefix: 9312862

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Approvals & Certifications



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CHARACTERISTICS

- Functioning by roughness; installation by controlled torque.
- Use for medium loads.
- Easy installation.
- Use in cracked and uncracked concrete.
- Use for static or cuasi-static loads.
- Approved for fire resistance R30 to R120.

APPLICATIONS

- Structural fixing in cracked concrete in indoor applications.
- Safety fences.
- Sprinklers installation.
- Fixing of steel beams, channels, machinery, boilers, signals, etc.
- Fixings of wood structures to concrete.

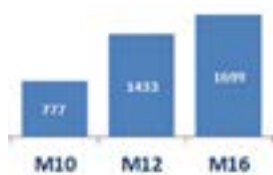
BASE MATERIALS

Designed to use in concrete.

APPLICATION EXAMPLES



RECOMMENDED TENSION RESISTANCES IN UNCRACKED CONCRETE (KG)



SIZE RANGE

M10-M16

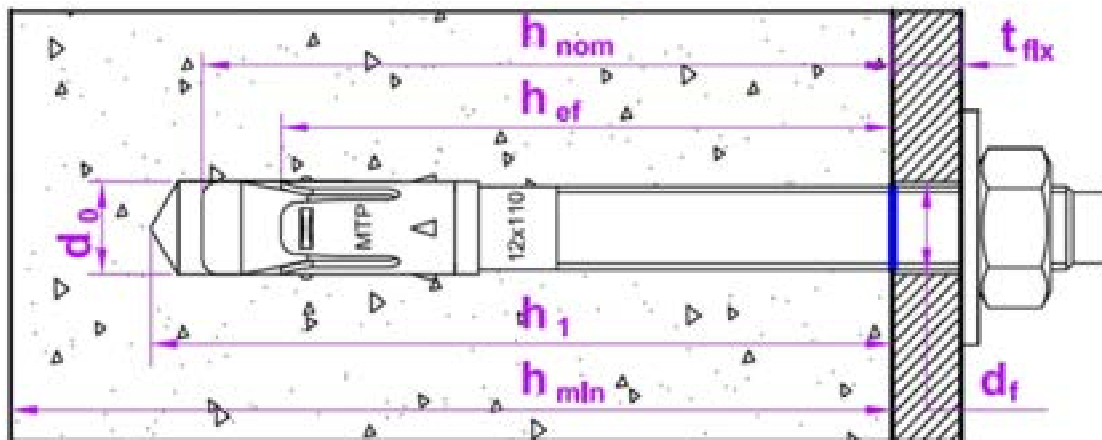
DRILL CONDITION



APPROVALS



INSTALLATION DATA



Installation Parameters		Assessed	Nominal Drill Bit	Installation Torque	Min. Concrete Thickness	Drill Hole Depth	Embed. Depth	Effective Depth	Max. Fixture Thickness	Critical Spacing	Critical Edge Distances	Min. Spacing	Min. Edge Distance
Code	Size	ETA	d_0 (mm)	T_{inst} (Nm)	h_{min} (mm)	h_1 (mm)	h_{nom} (mm)	h_{ef} (mm)	t_{fix} (mm)	S_{cr} (mm)	C_{cr} (mm)	S_{min} (mm)	C_{min} (mm)
38AG10070	M10 x 70mm		10	40	100	60	53	45	5	180	90	60	60
38AG10090	M10 x 90mm		10	40	120	75	68	60	25	180	90	60	60
38AG10120	M10 x 120mm		10	40	120	75	68	60	35	180	90	60	60
38AG12080	M12 x 80mm		12	60	100	65	60	50	4	210	105	70	70
38AG12110	M12 x 110mm		12	60	140	85	80	70	14	210	105	70	70
38AG12130	M12 x 130mm		12	60	140	85	80	70	34	210	105	70	70
38AG12150	M12 x 150mm		12	60	140	85	80	70	54	210	105	70	70
38AG12180	M12 x 180mm		12	60	140	85	80	70	84	20	105	70	70
38AG16125	M16 x 125mm		16	100	170	105	97	85	8	255	128	128	128
38AG16145	M16 x 145mm		16	100	170	105	97	85	28	255	128	128	128
38AG16175	M16 x 175mm		16	100	170	105	97	85	58	255	128	128	128

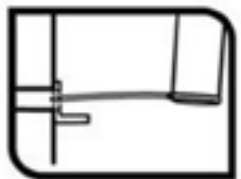
Critical distances are those where anchors in an anchor group are not influenced by one another with regard to tension load effects. For smaller distances, down to minimum distances, corresponding reduction coefficients must be applied.

PRODUCT INSTALLATION



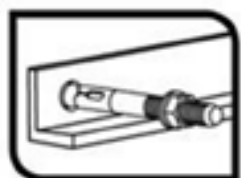
1. DRILLING

Check the concrete base is compact and porosity is insignificant.
Suitable for wet, dry or flooded drill holes.
Use drill in hammer mode.
Drill to the specified diameter and depth values.



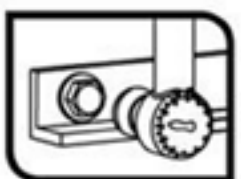
2. BLOW AND CLEAN

Clear the drill holes completely of dust and fragments.
Use air pump and brush.



3. INSTALL

Insert the anchor in the hole until the red ring mark is flat with concrete surface.
Use hammer in case of need; DOMTA tool could be used alternatively.
The installation could be done through the fixture baseplate.



4. APPLY TORQUE

Apply nominal installation torque using a torque wrench.

Once installed it can be verified the total length of the anchor through the letter on bolt tip.

RESISTANCES

Characteristic resistances for C20/25 concrete for an isolated anchor (without considering anchor-to-anchor or anchor-to-edge distance effects).

Code	Size	Assessed ETA	Tension resistance in C20/25 concrete		Coefficient for higher concrete resistances			Tension partial safety coefficient	Shear resistance		Shear partial safety coefficient	
			Uncracked	Cracked	C30/37	C40/45	C50/60		Uncracked	Cracked	Uncracked	Cracked
			N _{Rk} (kN)	N _{Rk} (kN)	Ψ (-)	Ψ (-)	Ψ (-)	Y _M (-)	V _{Rk} (kN)	V _{Rk} (kN)	Y _M (-)	Y _M (-)
38AG10070	M10 x 70mm		6,7	4,8	1,16	1,31	1,41	1,5	17,4	17,4	1,25	1,25
38AG10090	M10 x 90mm	Yes	16,0	9,0								
38AG10120	M10 x 120mm	Yes										
38AG12080	M12 x 80mm		12,0	8,0	1,22	1,41	1,55	1,5	25,3	25,4	1,25	1,5
38AG12110	M12 x 110mm	Yes	30,0	16,0						25,3		1,25
38AG12130	M12 x 130mm	Yes										
38AG12150	M12 x 150mm	Yes										
38AG12180	M12 x 180mm	Yes										
38AG16125	M16 x 125mm	Yes	35,0	25,0	1,22	1,41	1,55	1,5	47,1	56,4	1,25	1,5
38AG16145	M16 x 145mm	Yes										
38AG16175	M16 x 175mm	Yes										

Characteristic resistances for seismic performance C1 and C2 for C20/25 concrete for an isolated anchor (without considering anchor-to anchor or anchor-to-edge distance effects), assuming there is no gap between anchor and baseplate.

Code	Size	Tension resistance in C20/25 concrete		Coefficient for higher concrete resistances			Tension partial safety coefficient		Shear resistance		Shear partial safety coefficient
		C1	C2	C30/37	C40/45	C50/60	C1	C2	C1	C2	C1/C2
		N _{Rk, P, seis} (kN)	N _{Rk} (kN)	Ψ (-)	Ψ (-)	Ψ (-)	Y _M (-)	Y _M (-)	V _{Rk} (kN)	V _{Rk} (kN)	Y _M (-)
38AG10070	M10 x 70mm	5,3	-	1,16	1,31	1,41	1,5	-	12,2	-	1,25
38AG10090	M10 x 90mm										
38AG10120	M10 x 120mm										
38AG12080	M12 x 80mm	8,4	5,2	1,22	1,41	1,55	1,5	1,5	17,8	17,8	1,25
38AG12110	M12 x 110mm										
38AG12130	M12 x 130mm										
38AG12150	M12 x 150mm										
38AG12180	M12 x 180mm										
38AG16125	M16 x 125mm										
38AG16145	M16 x 145mm	17,5	8,9	1,22	1,41	1,55	1,5	1,5	33,0	33,0	1,25
38AG16175	M16 x 175mm										

1 kN = 100Kg

A load safety factor of $\gamma_F = 1,4$ is recommended.

Design example:

Fixing a tension load of 500kg (=4,91 kN) IN C30/37 cracked concrete using a M10 38AG anchor.

Check to be done: Design load < Design resistance

Design load = service load * load safety factor = 4,91 * 1,4 = 6,87 kN

Design resistance = characteristic resistance * concrete coefficient / tension partial safety coefficient = 9 *

1,16 / 1,5 = 6,96 kN

Check: 6,87 < 6,96 kN: anchorage is safe.

OFFICIAL DOCUMENTATION

The following documents are available through our website www.macsim.com.au

- European Technical Assessment ETA-12/0397 for use in concrete, according to ETAG 001 guideline, option 1, from M8 to M24.
- Certificate of constancy of performances 1219-CPR-0053
- Declaration of Performances DoP 38AG