

ramset™ anchoring solutions

uplift tension capacity for bluescope™ enduroframe™ 75 & 90 framing system bottom plate (0.75 bmt) to concrete slab on ground connection.

solution 1 – wercs™ ankascrew™ screw in anchors

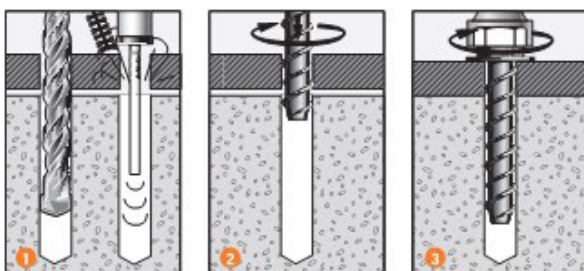


table 1 – ankascrew™ installation and performance at various slab edge distances

Anchor diam d_b (mm)	Product Code	Drilled Hole Diam, d_h (mm)	Fixture Hole Diam d_f (mm)	Torque Tr (Nm)	Anchor Effective Depth, h (mm)	Drilled Hole Depth h_d (mm)	Min Substr Thick b_m	Reduced Characteristic Tension Capacities ϕN_{uc} with Edge Reduction mm							
								35mm		45mm		60mm		150mm	
								20 MPa	25 MPa	20 MPa	25 MPa	20 MPa	25 MPa	20 MPa	25 MPa
6	AS06050WGM100	6	8	15	38	55	60	3.4	3.7	4.0	4.3	4.8	5.2	4.8	5.2
	AS06075WGM100				63	80	85	6.0	6.5	7.0	7.6	8.6	9.3	8.6	9.3
	AS060100WGM100				88	105	115	8.8	9.5	10.3	11.1	12.5	13.6	12.5	13.6
8	AS08060WGM100	8	10	40	48	65	75	4.2	4.5	4.8	5.2	5.7	6.2	7.0	7.5
	AS08075WGM100				63	80	90	6.0	6.4	6.8	7.4	8.2	8.8	9.9	10.8
	AS060100WGM100				88	105	115	9.2	10.0	10.6	11.4	12.6	13.7	15.4	16.6
10	AS10060WGM50	10	12	55	48	65	80	4.0	4.3	4.5	4.9	5.3	5.8	7.5	8.1
	AS10075WGM50				63	80	95	5.9	6.3	6.6	7.2	7.8	8.4	10.9	11.8
	AS10100WGM50				88	105	120	9.3	10.1	10.6	11.4	12.4	13.4	17.4	18.8
12	AS12075WGM50	12	15	80	63	80	100	6.0	6.5	6.7	7.2	7.8	8.4	10.8	11.7
	AS12100WGM50				88	105	125	9.7	10.5	10.9	11.8	12.7	13.7	17.6	19.0
	AS12150WGM20				138	155	175	18.7	20.3	21.0	22.7	24.4	26.4	33.8	36.6

notes:

- Tension Capacities based on fixture thickness of 5.75mm - 5mm washer and bottom plate BMT 0.75mm
- Minimum anchor spacing for all sizes 6* d_b mm (6 x anchor diameter)
- Uplift tension reduced characteristic capacities based on uncracked concrete
- Capacity Reduction Factor $\phi = 0.6$ for tension values
- 5mm Washers are to be adopted for all hold-downs unless recommended otherwise by Bluescope Steel™
- Where minimum dimensions are not achievable or washer thickness changes contact ramsetreid™ to verify capacities
- WERCST™ AnkaScrew™ available in zinc finish (Hot Dip Galvanised Product Codes shown in Table)
- For further Technical information go to www.ramset.com.au and refer to the Ramset™ Specifiers Anchoring Resource Book ANZ TS101 Edition**



Installation:

- Drill hole to correct diameter and depth. Clean thoroughly with brush. Remove debris by way of vacuum or hand pump, compressed air etc.
- Using a socket wrench, screw the WERCST™ AnkaScrew™ into the hole using slight pressure until the self-tapping action starts.
- Tighten the WERCST™ AnkaScrew™ until flush with fixture. If resistance is experienced when tightening, unscrew anchor one turn and re-tighten. Ensure not to over tighten.



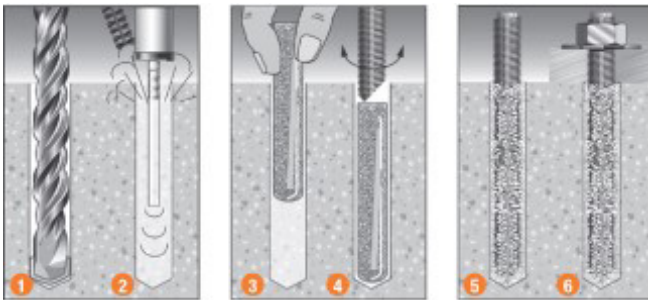
solution 2 – chemset™ maxima™ spin capsules

table 2 – chemset™ maxima™ installation and performance at various slab edges

Anchor Size d_b (mm)	ChemSet™ Maxima™ Capsule Product Code	ChemSet™ Anchor Stud Product Code	Drilled Hole Diam, d_n (mm)	Fixture Hole Diam d_f (mm)	Torque T_r (Nm)	Anchor Effective Depth, h (mm)	Drilled Hole Depth h_1 (mm)	Min Substr Thickness b_m	Reduced Characteristic Tension Capacities ϕ_{Nuc} with Edge Reduction mm			
									35mm		45mm	
									20 MPa	25 MPa	20 MPa	25 MPa
M10	CHEM10	CS10130GH	12	12	20	90	90	115	15.3	16.3	16.7	17.9
M12	CHEM12	CS12160GH	14	15	40	110	110	140	19.7	21.1	22.8	24.4

notes:

1. Tension Capacities based on fixture thickness of 5.75mm - 5mm washer and bottom plate BMT 0.75mm
2. Minimum anchor spacing M10 > 60mm and M12 > 75mm
3. Uplift tension reduced characteristic capacities based on uncracked concrete
4. Capacity Reduction Factor $\phi=0.6$ for tension values
5. 5mm Washers are to be adopted for all hold-downs unless recommended otherwise by Bluescope Steel™
6. Where minimum dimensions are not achievable or washer thickness changes contact ramsetreid™ to verify capacities
7. ChemSet™ Anchor Studs available also in zinc and gr316 Stainless. Refer to Table 3 below for information on Galvanized Anchor Studs
8. For further Technical information go to www.ramset.com.au and refer to the Ramset™ Specifiers Anchoring Resource Book ANZ TS101 Edition

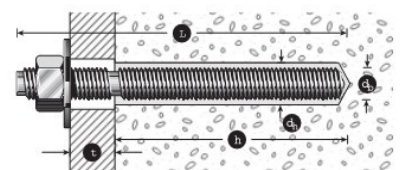


Installation:

1. Drill recommended diameter and depth hole.
2. Important: Use Ramset™ Dustless Drilling System to ensure holes are clean. Alternatively, clean dust and debris from hole with stiff wire or nylon brush and blower in the following sequence: blow x 4, brush x 3, blow x 4, brush x 3, blow x 4.
3. Insert correct size Spin capsule into the hole.
4. Using appropriate driver accessories, drive the ChemSet™ Anchor Stud into the hole using a hammer drill (on rotation).
5. Cure as per setting times.
6. Attach fixture and tighten nut in accordance with recommended tightening torque

table 3 – chemset™ anchor hdg studs m10 & m12 information

Anchor Size d_b (mm)	ChemSet™ Anchor Stud Product Code	Description	Pack Quantity	Overall Anchor Length, L (mm)	Max Fixture Thickness, t (mm)	Yield Strength f_y (MPa)	Carbon Steel UTS, f_u (MPa)	Section Modulus, Z (mm ³)
M10	CS10130GH	Chemset™ Anchor Stud M10 x 130mm long Galv	10	130	25	430	540	62.3
M12	CS12160GH	Chemset™ Anchor Stud M12 x 160mm long Galv	10	160	30	430	540	109.2





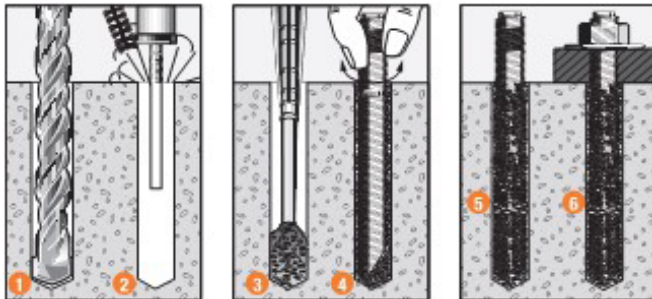
solution 3 – chemset™ reo502™

table 2 – chemset™ reo502™ installation and performance at various slab edge distances

Anchor Size d_b (mm)	Chemset™ Anchor Stud Product Code	Drilled Hole Diam, d_h (mm)	Fixture Hole Diam d_f (mm)	Torque T_f (Nm)	Anchor Effective Depth, h (mm)	Drilled Hole Depth h_1 (mm)	Min Substr Thicks b_m	Reduced Characteristic Tension Capacities ϕ_{Nuc} with Edge Reduction mm			
								35mm		45mm	
								20 MPa	25 MPa	20 MPa	25 MPa
M10	CS10130GH	12	12	20	90	90	115	19.5	20.4	21.4	22.4
M12	CS12160GH	14	15	40	110	110	140	25.7	26.9	29.8	31.2

notes:

1. Tension Capacities based on fixture thickness of 5.75mm - 5mm washer and bottom plate BMT 0.75mm
2. Minimum anchor spacing M10 > 60mm and M12 > 75mm
3. Uplift tension reduced characteristic capacities based on uncracked concrete
4. Capacity Reduction Factor $\phi=0.6$ for tension values
5. 5mm Washers are to be adopted for all hold-downs unless recommended otherwise by BlueScope Steel™
6. Where minimum dimensions are not achievable or washer thickness changes contact ramsetreid™ to verify capacities
7. ChemSet™ Anchor Studs available also in zinc and gr316 Stainless. Refer to Table 3 below for information on Galvanized Anchor Studs
8. For further Technical information go to www.ramset.com.au and refer to the Ramset™ Specifiers Anchoring Resource Book ANZ TS101 Edition



Installation:

1. Drill recommended diameter and depth hole.
2. Important: Use Ramset™ Dustless Drilling System to ensure holes are clean. Alternatively, clean dust and debris from hole with stiff wire or nylon brush and blower in the following sequence: blow x 4, brush x 3, blow x 4, brush x 3, blow x 4.
3. Insert mixing nozzle to bottom of hole. Fill hole to 3/4 the hole depth slowly, ensuring no air pockets form.
4. Insert Ramset™ ChemSet™ Anchor Stud/ rebar to bottom of hole while turning.
5. Allow ChemSet™ Reo 502™ to cure as per setting times.
6. Attach fixture.

figure 1 – anchor minimum edge distance

