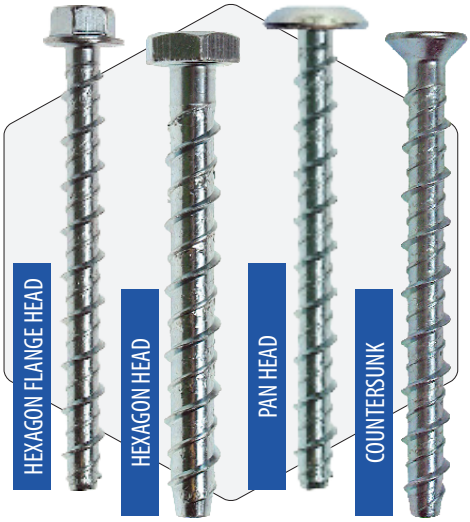
Ankerbolt





INFORMATION

The Ankerbolt is a zinc plated self tapping anchor for use in a variety of base materials.

The undercutting action provides a positive anchorage with no expansion forces.

The wide range of types and sizes gives flexibility of choosing the correct anchor according to the fixture thickness.

BASE MATERIAL

- Concrete C20/25 to C50/60
- Non-Cracked Concrete
- Hollow Concrete Planks
- Solid Brickwork
- Concrete Block
- Natural Stone

FEATURES

- Undercutting Action
- Fast And Secure Installation
- Expansion Free
- Through Fixing
- High Performance
- Zinc Plated Minimum 5µm (For Dry, Internal Applications Only)
- Mechanical Galvanised Minimum 40µm

RELATED PRODUCTS



SDS+ Drill Bits



Hole Cleaning Pump



Torx Driver Bits
(For Pan Head and Countersunk)

RANGE AND LOAD DATA

RANGE DATA														
Part Number	Drill Hole Diameter (d_0)	Thread Diameter (d_{nom})	Anchor Length (L)	Thread Length (L_t)	Fixture Clearance Hole (d_f)	Shallow Embedment			Deep Embedment			Min Structure Thickness (h_c)	Width Across Flats (A/F)	Tightening Torque (T_{inst})
						Max Fixture Thickness (t_{fix})	Min Hole Depth (h_1)	Embed-ment Depth (h_{nom})	Max Fixture Thickness (t_{fix})	Min Hole Depth (h_1)	Embed-ment Depth (h_{nom})			
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm
HEXAGON FLANGE HEAD														
JAB05/06050	5	6	50	50	8	25	35	25	13	50	37	100	8	15
JAB05/06075			75	75		50			38					
JAB05/06100			100	100		75			63					
JAB06/08030	6	8	30	30	10	5	35	25	N/A	55	45	100	10	25
JAB06/08050(G)*			50	50		20	40	30	5					
JAB06/08075(G)*			75	75		45			30					
JAB06/08100(G)*			100	100		70			55					
JAB06/08130			130	100		100			85					
JAB06/08150			150	100		120			105					
HEXAGON HEAD														
JAB08/10060(G)*	8	10	60	60	12	20	55	40	N/A	75	60	120	15	40
JAB08/10075			75	75		35			15					
JAB08/10100(G)*			100	100		60			40					
JAB08/10130			130	100		90			70					
JAB08/10150(G)*			150	100		110			90					

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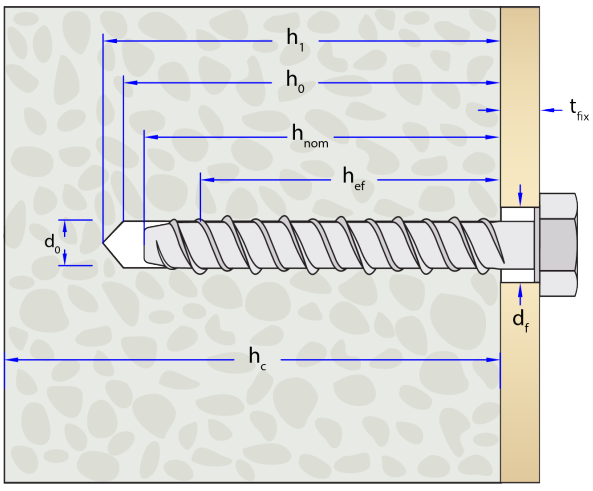
Technical Data Sheet

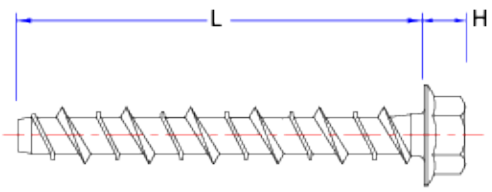
RANGE DATA														
Part Number	Drill Hole Diameter (d_0)	Thread Diameter (d_{nom})	Anchor Length (L)	Thread Length (L_t)	Fixture Clearance Hole (d_f)	Shallow Embedment			Deep Embedment			Min Structure Thickness (h_c)	Width Across Flats (A/F)	Tightening Torque (T_{inst})
						Max Fixture Thickness (t_{fix})	Min Hole Depth (h_1)	Embed-ment Depth (h_{nom})	Max Fixture Thickness (t_{fix})	Min Hole Depth (h_1)	Embed-ment Depth (h_{nom})			
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm
HEXAGON HEAD														
JAB10/12060(G)*	10	12	60	60	14	10	70	50	N/A	95	75	125	17	60
JAB10/12075			75	75		25			N/A					
JAB10/12100(G)*			100	100		50			25					
JAB10/12130			130	100		80			55					
JAB10/12150(G)*			150	100		100			75					
JAB12/14075	12	14	75	75	16	15	85	60	N/A	115	90	140	19	80
JAB12/14100(G)*			100	100		40			10					
JAB12/14130			130	110		70			40					
JAB12/14150(G)*			150	110		90			60					
JAB12/14200(G)*			200	110		140			110					
JAB14/16075	14	16	75	75	18	5	100	70	N/A	125	95	170	24	90
JAB14/16100			100	100		30			5					
JAB14/16130			130	120		60			35					
JAB14/16150			150	120		80			55					
JAB14/16200			200	120		130			105					

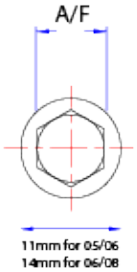
* *The Mechanical Galvanised (minimum 40µm) version is available.*

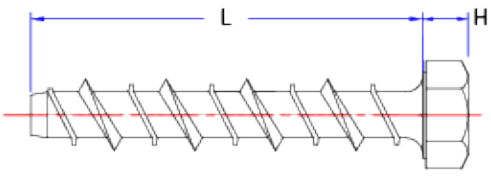
** *Mechanical Galvanised minimum 40µm.*

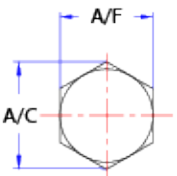












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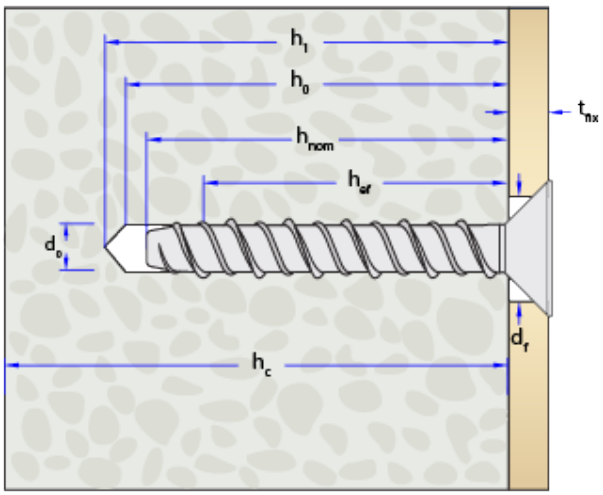
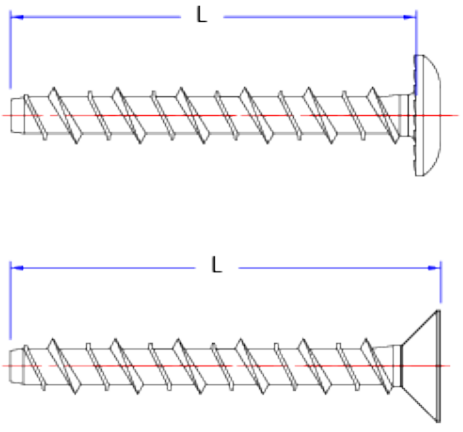
Technical Data Sheet

RANGE DATA														
Part Number	Drill Hole Diameter (d_0)	Thread Diameter (d_{nom})	Anchor Length (L)	Thread Length (L_t)	Fixture Clearance Hole (d_f)	Shallow Embedment			Deep Embedment			Min Structure Thickness (h_c)	Driver Size	Tightening Torque (T_{inst})
						Max Fixture Thickness (t_{fix})	Min Hole Depth (h_1)	Embed-ment Depth (h_{nom})	Max Fixture Thickness (t_{fix})	Min Hole Depth (h_1)	Embed-ment Depth (h_{nom})			
	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	-	Nm
PAN HEAD														
JAB05/06050PH	5	6	50	50	8	25	35	25	13	50	37	100	Torx Drive T25	15
JAB05/06075PH			75	75		50			38					
JAB05/06100PH			100	100		75			63					
JAB06/08030PH	6	8	30	30	10	5	35	25	N/A	55	45	100	Torx Drive T30	25
JAB06/08050PH			50	50		20	40	30	40					
JAB06/08075PH			75	75		45			30					
JAB06/08100PH			100	100		70			55					
COUNTERSUNK														
JAB05/06030CS	5	6	30	30	8	5	35	25	N/A	50	37	100	Torx Drive T25	15
JAB05/06050CS			50	50		25			13					
JAB05/06075CS			75	75		50			38					
JAB05/06100CS			100	100		75			63					
JAB06/08030CS	6	8	30	30	10	5	35	25	N/A	55	45	100	Torx Drive T30	25
JAB06/08050CS			50	50		20	40	30	5					
JAB06/08075CS			75	75		45			30					
JAB06/08100CS			100	100		70			55					
JAB06/08130CS			130	100		100			85					
JAB06/08150CS			150	100		120			105					
JAB08/10060CS	8	10	60	60	12	20	55	40	N/A	75	60	120	Torx Drive T45	40
JAB08/10075CS			75	75		35			15					
JAB08/10100CS			100	100		60			40					
JAB10/12060CS	10	12	60	60	14	10	70	50	N/A	95	75	125	Torx Drive T50	60
JAB10/12075CS			75	75		25			N/A					
JAB10/12100CS			100	100		50			25					







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NON-CRACKED CONCRETE - SHALLOW EMBEDMENT

Performance Data (C20/25 non-cracked concrete)												
Drill Diam (d_0)	Overall Embedment Depth (h_{nom})	Minimum Concrete Thickness (h_{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)		Design Edge Distance (c)	
			Tensile (N_{Rk})	Shear (V_{Rk})	Tensile (N_{Rd})	Shear (V_{Rd})	Tensile(N_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
mm	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
5	25	100	3.1	3.2	1.7	2.0	1.2	1.4	50	50	30	40
6	30	100	3.9	3.8	2.1	2.5	1.5	1.7	60	60	40	40
8	40	100	6.3	6.3	3.4	4.2	2.4	3.0	70	80	50	50
10	50	100	9.3	9.1	5.0	6.0	3.5	4.2	100	100	60	70
12	60	100	12.5	12.7	6.9	8.4	4.9	6.0	120	120	70	90
14	70	100	15.3	15.2	8.4	10.3	6.0	7.3	130	140	80	110
16	80	105	19.0	18.9	10.3	12.4	7.3	8.8	160	160	110	120

NON-CRACKED CONCRETE - DEEP EMBEDMENT

Performance Data (C20/25 non-cracked concrete)												
Drill Diam (d_0)	Overall Embedment Depth (h_{nom})	Minimum Concrete Thickness (h_{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)		Design Edge Distance (c)	
			Tensile (N_{Rk})	Shear (V_{Rk})	Tensile (N_{Rd})	Shear (V_{Rd})	Tensile(N_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
mm	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
5	37	100	5.0	6.6	2.7	4.4	1.9	3.1	40	80	30	60
6	45	100	7.5	8.7	4.1	5.6	2.9	4.0	70	90	40	70
8	60	120	10.0	13.7	5.5	9.1	3.9	6.5	70	130	50	90
10	75	125	15.0	20.0	8.3	13.1	5.9	9.3	90	160	60	120
12	90	140	19.0	40.5	10.5	32.3	7.5	23.0	90	160	70	300
14	95	170	22.0	54.1	12.2	35.7	8.7	25.5	130	200	80	300
16	115	190	34.0	74.9	18.8	49.9	13.4	35.6	200	250	110	390

SUPPLEMENTARY DATA

Influence Of Concrete Strength (Non-cracked Concrete)					
Concrete strength		C20/25	C30/37	C40/50	C50/60
Cylinder	N/mm²	20	30	40	50
Cube	N/mm²	25	37	50	60
Factor	M8, M10, M12	1.0	1.17	1.32	1.42
	M14, M16	1.0	1.22	1.41	1.55

Important Note:
When using concrete factors ensure that loads do not exceed Steel Design Resistance.

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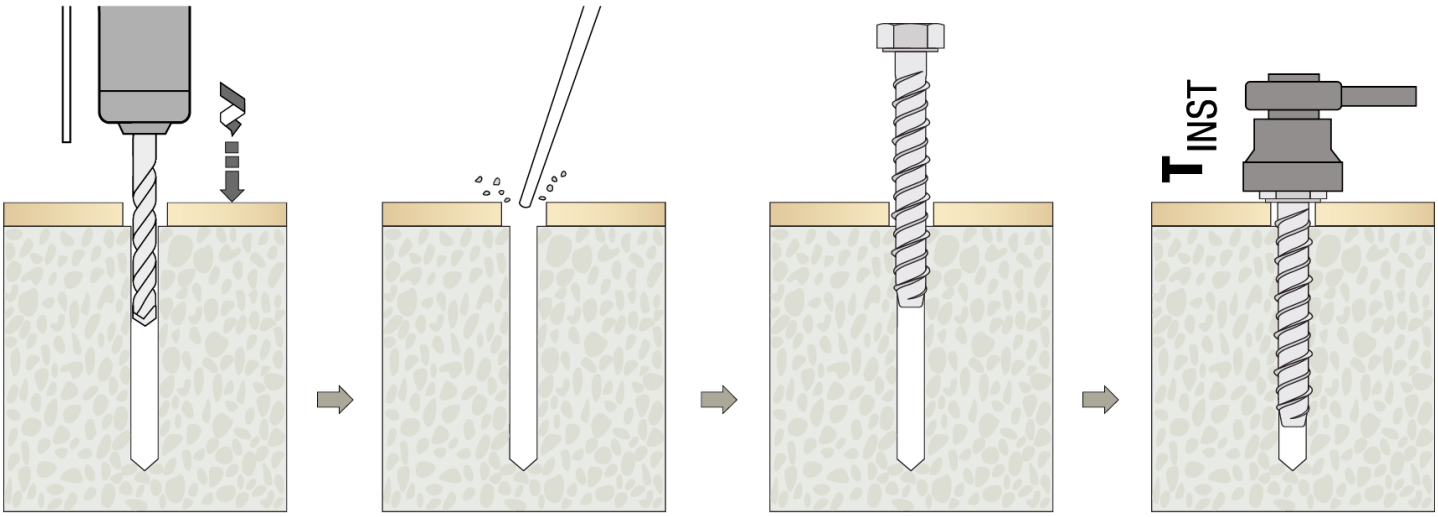
Steel Failure						
Drill Diam (d_0)	Tensile Resistance			Shear Resistance		
	Characteristic Resistance ($N_{Rk,s}$)	Design Resistance ($N_{Rd,s}$)*	Approved Resistance ($N_{Ra,s}$)	Characteristic Resistance ($V_{Rk,s}$)	Design Resistance ($V_{Rd,s}$)**	Approved Resistance ($V_{Ra,s}$)
mm	kN	kN	kN	kN	kN	kN
8	44.2	31.6	22.6	28.5	19.0	13.6
10	70.1	50.1	35.8	46.4	30.9	22.1
12	101.2	72.3	51.6	57.2	38.1	27.2
14	140.0	100.0	71.4	80.4	53.6	38.3
16	183.9	131.4	93.8	84.4	56.3	40.2

* A partial safety factor (γ_{MS}) equal to 1.4 is included.
** A partial safety factor (γ_{MS}) equal to 1.5 is included.

INSTALLATION INSTRUCTIONS



-Position fixture and drill correct diameter hole to corresponding depth by using the rotary hammer drilling mode

-Clean hole by blowing to remove drilling debris and dust

-Insert anchor through fixture into concrete using suitable impact wrench and stop before the anchor touches the fixture

-Finish by tightening with torque wrench to recommended torque

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Solid Brickwork

Performance Data (Solid Brickwork 20 N/mm²)												
Drill Diam (d_0)	Overall Embedment Depth (h_{nom})	Minimum Concrete Thickness (h_{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)		Design Edge Distance (c)	
			Tensile (N_{Rk})	Shear (V_{Rk})	Tensile (N_{Rd})	Shear (V_{Rd})	Tensile(N_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
mm	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
5	25	100	0.7	1.2	0.35	0.57	0.25	0.4	75	75	It is recommended to fix at least one brick in from an edge and 3 courses down from the top of a wall.	
6	30	100	0.9	1.5	0.43	0.71	0.31	0.51	90	90		
8	40	100	1.9	1.7	0.9	0.8	0.64	0.57	120	120		
10	50	100	2.4	2.4	1.14	1.14	0.81	0.81	Only 1 fixing per Brick			
12	60	100	3.5	3.4	1.66	1.62	1.19	1.15				

(Tests were carried out in standard 230 x 110 x 60 mm solid bricks)

Dense Concrete Blocks

Performance Data (7N/mm² Dense Concrete Blocks)												
Drill Diam (d_0)	Overall Embedment Depth (h_{nom})	Minimum Concrete Thickness (h_{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)		Design Edge Distance (c)	
			Tensile (N_{Rk})	Shear (V_{Rk})	Tensile (N_{Rd})	Shear (V_{Rd})	Tensile(N_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
mm	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
5	25	100	1.1	1.7	0.52	0.8	0.37	0.57	75	75	It is recommended to fix at least one block in from an edge and 3 courses down from the top of a wall.	
6	30	100	1.3	3.4	0.62	1.61	0.44	1.15	90	90		
8	40	100	1.7	6.7	0.8	3.19	0.57	2.27	120	120		
10	50	100	3.1	7.3	1.47	3.47	1.05	2.47	150	150		
12	60	100	3.8	10.1	1.8	4.8	1.28	3.42	180	180		

(Tests were carried out in 700 x 500 x 200 mm solid blocks)

Due to the variable nature of bricks and blocks the above figures are for guidance only. For critical applications a site test is recommended.

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