

## INFORMATION

The Bi-Metal Ankerbolt is a stainless steel self tapping anchor for use in a variety of base materials. It is designed for multiple use for non-structural applications and It is suitable for dry internal conditions as well as the anchorages subject to external atmospheric exposure including industrial and marine environment.

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
- Cracked/Non-Cracked Concrete
- Hollow Concrete Planks
- Solid Brickwork
- Concrete Block
- Natural Stone

## FEATURES

- Undercutting Action
- Fast And Secure Installation
- Expansion Free
- Through Fixing
- Stainless steel A4
- Reaction To Fire Class A1
- Fire Resistant Loadings

## APPROVALS

European Technical Assessment



ETAG 001-06  
ETA-20/0727



Fire Resistance  
ETA-20/0727

## RELATED PRODUCTS



SDS+ Drill Bits



Hole Cleaning Pump



Torx Driver Bits  
(For Countersunk and Pan head)

## RANGE AND LOAD DATA

RANGE DATA																
Part Number	Drill Hole Diameter	Thread Diameter	Anchor Length	Thread Length	Fixture Clearance Hole	Shallow Embedment				Deep Embedment				Width Across Flats / head size	Tightening Torque	
						Red. Max Fixture Thickness	Red. Min Hole Depth	Red. Embedment Depth	Red. Min Structure Thickness	Max Fixture Thickness	Min Hole Depth (h <sub>1</sub> )	Embedment Depth	Min Structure Thickness			
						(t <sub>fix,red</sub> )	(h <sub>1,red</sub> )	(h <sub>nom,red</sub> )	(h <sub>c,red</sub> )	(t <sub>fix</sub> )	(h <sub>1</sub> )	(h <sub>nom</sub> )	(h <sub>c</sub> )			(A/F) / (H)
HEXAGON FLANGE HEAD																
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm
JAB06/08050SS	6	8	50	45	9	5	55	45	90	N/A	N/A	N/A	N/A	10 / 6	-	
JAB06/08075SS			75	70		30				5	80	70	110			
JAB06/08100SS			100	70		55				30	70	110	110			
JAB08/10060SS	8	10	60	55	11	8	65	52	100	N/A	N/A	N/A	N/A	13 / 7.5	31	
JAB08/10075SS			75	65		23				N/A	N/A	N/A	N/A			
JAB08/10100SS			100	85		48				15	95	85	125			
JAB10/12075SS	10	12	75	75	13	5	85	75	125	N/A	N/A	N/A	N/A	17 / 9.5	-	
JAB10/12100SS			100	100		25				N/A	N/A	N/A	N/A			
JAB10/12135SS			135	100		60				35	110	100	140			
JAB10/12150SS			150	100		75				50	110	100	140			
JAB12/14100SS	12	14	100	75	15	25	85	75	125	N/A	N/A	N/A	N/A	19 / 11	-	

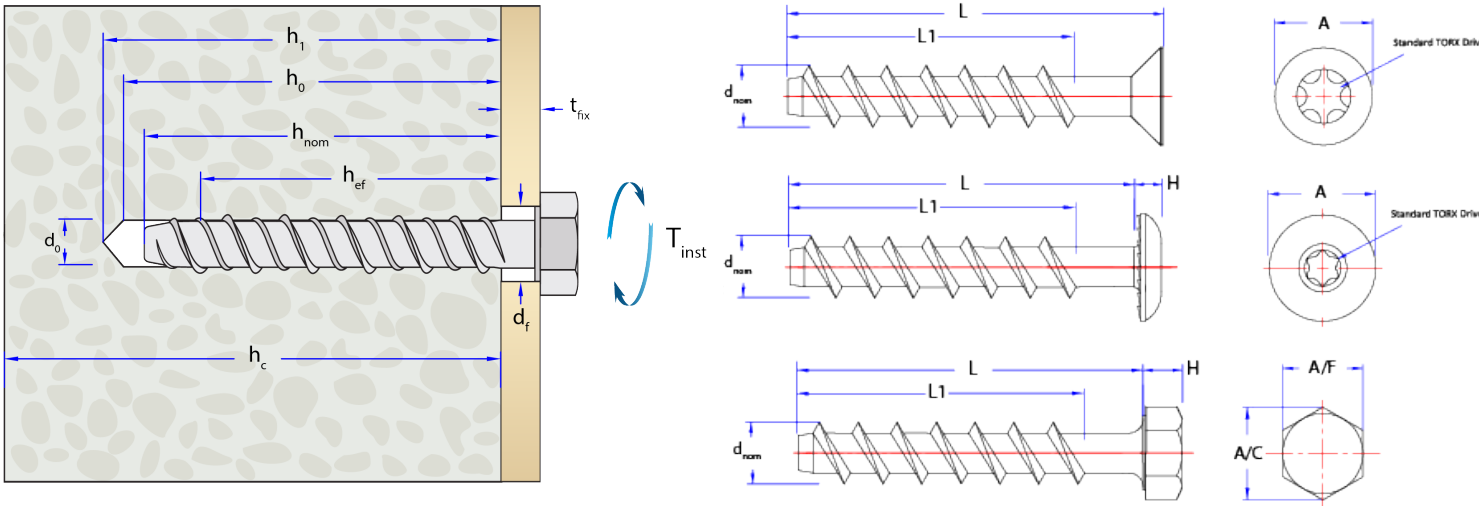




### RANGE DATA

Part Number	Drill Hole Dia.	Thread Dia.	Anchor Length	Thread Length	Fixture Clearance Hole	Shallow Embedment				Deep Embedment				Head diameter/ Head Size	Driver Size	Tightening Torque
						Red. Max Fixture Thickness	Red. Min Hole Depth	Red. Embedment Depth	Red. Min Structure Thickness	Max Fixture Thickness	Min Hole Depth	Embedment Depth	Min Structure Thickness			
						( $t_{fix,red}$ )	( $h_{1,red}$ )	( $h_{nom,red}$ )	( $h_{c,red}$ )	( $t_{fix}$ )	( $h_1$ )	( $h_{nom}$ )	( $h_c$ )			
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	-	( $T_{inst}$ )	Nm
<b>COUNTERSUNK</b>																
JAB06/08050CSSS	6	8	50	Full	9	5	55	45	90	N/A	N/A	N/A	N/A	15.5	T40	-
JAB06/08075CSSS			75	55		20	65	55	100	N/A	N/A	N/A	N/A			
JAB06/08100CSSS			100	70		45	30	80	70	110	N/A	N/A	N/A			
JAB08/10050CSSS	8	10	50	Full	11	5	55	45	90	N/A	N/A	N/A	N/A	18	T45	-
JAB08/10060CSSS			60	Full		15	55	45	90	N/A	N/A	N/A	N/A			
JAB08/10075CSSS			75	65		20	65	55	100	N/A	N/A	N/A	N/A			
JAB08/10100CSSS			100	85		45	15	95	85	125	N/A	N/A	N/A			
<b>PAN HEAD</b>																
JAB06/08050PHSS	6	8	50	45	9	5	55	45	90	N/A	N/A	N/A	N/A	16.5/ 3.5	T40	-
JAB06/08075PHSS			75	55		30				N/A	N/A	N/A	N/A			
JAB06/08100PHSS			100	70		55				30	80	70	110			

Technical Data Sheet





## SHALLOW EMBEDMENT

Performance Data (Cracked and uncracked C20/25 concrete)												
Drill Diam (d <sub>0</sub> )	Overall Embedment Depth (h <sub>nom</sub> )	Minimum Concrete Thickness (h <sub>min</sub> )	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)		Design Edge Distance (c)	
			Tensile (N <sub>Rk</sub> )	Shear (V <sub>Rk</sub> )	Tensile (N <sub>Rd</sub> )	Shear (V <sub>Rd</sub> )	Tensile (N <sub>Ra</sub> )	Shear (V <sub>Ra</sub> )	Tensile	Shear	Tensile	Shear
mm	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
HEXAGON FLANGE HEAD												
6	45	90	1.8	5.1	1.2	3.4	0.8	2.4	70	70	45	45
<b>8</b>	<b>52</b>	<b>100</b>	<b>2.0</b>	<b>5.8</b>	<b>1.3</b>	<b>3.8</b>	<b>0.9</b>	<b>2.7</b>	<b>75</b>	<b>75</b>	<b>50</b>	<b>50</b>
10	75	125	6.5	11.6	4.3	7.7	3.0	5.5	115	115	80	80
12	75	125	8.6	10.9	5.7	7.2	4.0	5.1	120	120	85	85
COUNTERSUNK												
6	45	90	1.6	6.1	1.0	4.8	0.7	3.4	80	80	55	55
8	45	90	1.7	3.8	1.1	3.0	0.7	2.1	95	95	65	65
PAN HEAD												
6	45	90	1.6	6.1	1.0	4.8	0.7	3.4	80	80	55	55

\* The ***Bold-Italic*** figures are included in ETA.

## DEEP EMBEDMENT

Performance Data (Cracked and uncracked C20/25 concrete)												
Drill Diam (d <sub>0</sub> )	Overall Embedment Depth (h <sub>nom</sub> )	Minimum Concrete Thickness (h <sub>min</sub> )	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)		Design Edge Distance (c)	
			Tensile (N <sub>Rk</sub> )	Shear (V <sub>Rk</sub> )	Tensile (N <sub>Rd</sub> )	Shear (V <sub>Rd</sub> )	Tensile (N <sub>Ra</sub> )	Shear (V <sub>Ra</sub> )	Tensile	Shear	Tensile	Shear
mm	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
HEXAGON FLANGE HEAD												
6	<b>70</b>	<b>110</b>	<b>5.0</b>	<b>9.0</b>	<b>3.3</b>	<b>7.2</b>	<b>2.3</b>	<b>5.1</b>	<b>130</b>	<b>130</b>	<b>90</b>	<b>90</b>
8	85	125	5.0	16.5	2.3	13.2	1.6	9.4	160	160	105	105
10	100	140	7.0	22.7	4.6	15.1	3.2	10.7	180	180	120	120
COUNTERSUNK												
6	<b>70</b>	<b>110</b>	<b>3.5</b>	<b>6.1</b>	<b>2.3</b>	<b>4.8</b>	<b>1.6</b>	<b>3.4</b>	<b>130</b>	<b>130</b>	<b>90</b>	<b>90</b>
8	85	125	4.5	11.2	2.1	8.9	1.5	6.3	160	160	105	105
PAN HEAD												
6	<b>70</b>	<b>110</b>	<b>2.5</b>	<b>6.1</b>	<b>1.6</b>	<b>4.8</b>	<b>1.1</b>	<b>3.4</b>	<b>130</b>	<b>130</b>	<b>90</b>	<b>90</b>

\* The ***Bold-Italic*** figures are included in ETA.

For variations in structure thickness, reduced spacing and edge calculations download the free **Anchor Calculation Program** from [www.jcpfixings.co.uk](http://www.jcpfixings.co.uk)





## SUPPLEMENTARY DATA

Influence Of Concrete Strength					
Concrete strength		C20/25	C30/37	C40/50	C50/60
Cylinder	N/mm <sup>2</sup>	20	30	40	50
Cube	N/mm <sup>2</sup>	25	37	50	60
Factor		1.0	1.20	1.37	1.51

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

Steel Failure						
Drill Diam (d <sub>p</sub> ) mm	Tensile Resistance			Shear Resistance		
	Characteristic Resistance (N <sub>Rk,s</sub> ) kN	Design Resistance (N <sub>Rd,s</sub> )* kN	Approved Resistance (N <sub>Ra,s</sub> ) kN	Characteristic Resistance (V <sub>Rk,s</sub> ) kN	Design Resistance (V <sub>Rd,s</sub> )** kN	Approved Resistance (V <sub>Ra,s</sub> ) kN
HEXAGON FLANGE HEAD						
6	18.1	12.1	8.6	9.0	7.2	5.1
8	33.0	22.0	15.7	13.2	10.6	7.5
10	53.7	35.8	25.6	26.8	21.4	15.3
12	78.1	52.1	37.2	39.0	31.2	22.3
COUNTERSUNK						
6	12.2	8.1	5.8	6.1	4.9	3.5
8	33.0	22.0	15.7	11.2	8.9	6.3
PAN HEAD						
6	12.2	8.1	5.8	6.1	4.9	3.5

\* A partial safety factor (γ<sub>MS</sub>) equal to 1.5 is included.

\*\* A partial safety factor (γ<sub>MS</sub>) equal to 1.25 is included.

## FIRE RESISTANCE DATA



Fire Resistance Data											
Drill Diam (d <sub>p</sub> ) mm	Overall Embedment Depth (h <sub>nom</sub> ) mm	Design Resistance**				Approved Resistance				Spacing (s <sub>cr,f</sub> ) mm	Edge Distance (c <sub>cr,f</sub> ) mm
		Tensile (N <sub>Rd,fr</sub> ) or Shear (V <sub>Rd,fr</sub> ) (kN)				Tensile (N <sub>Ra,fr</sub> ) or Shear (V <sub>Ra,fr</sub> ) (kN)					
		30min (R30)	60min (R60)	90min (R90)	120min (R120)	30min (R30)	60min (R60)	90min (R90)	120min (R120)		
6	70	0.23	0.20	0.16	0.11	0.16	0.14	0.11	0.07	180	90
8	52	0.80	0.70	0.50	0.40	0.57	0.50	0.35	0.28	90	45
10	100	1.70	1.30	1.00	0.90	1.21	0.92	0.71	0.64	240	120
12	120	2.90	2.40	2.00	1.60	2.07	1.71	1.42	1.14	300	150

\* If the fire attack is from more than one side, the design method may be taken only, if the edge distance of the anchor is c<sub>min</sub> ≥ 300 mm.

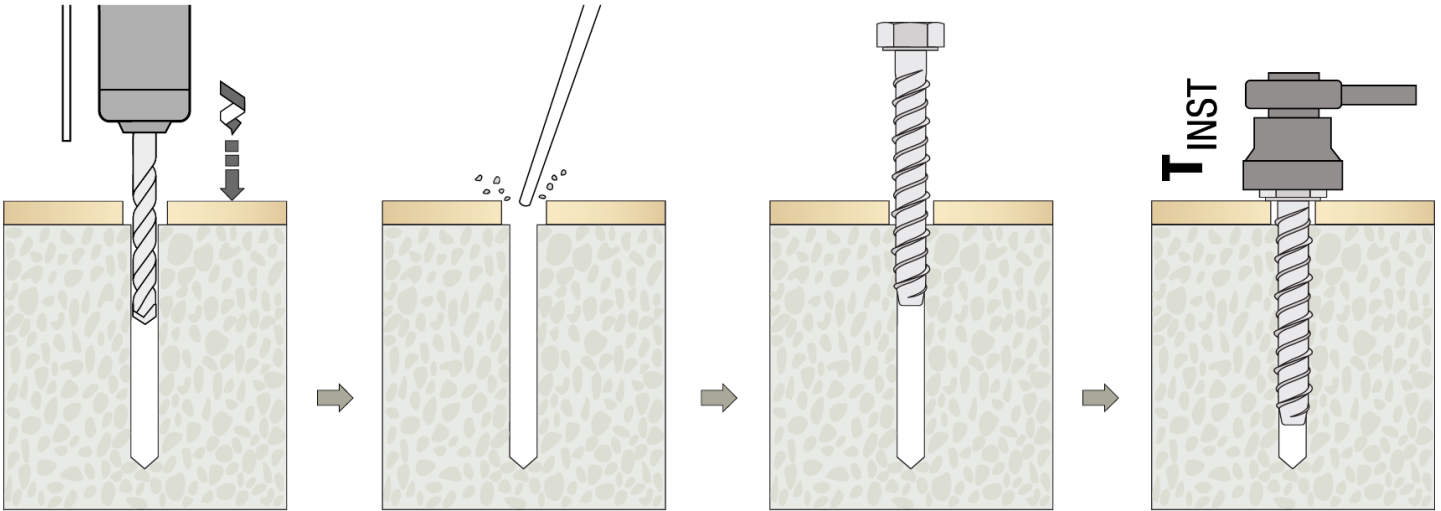
\*\* Steel failure

For variations in structure thickness, reduced spacing and edge calculations download the free **Anchor Calculation Program** from [www.jcpfixings.co.uk](http://www.jcpfixings.co.uk)





## 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 (maximum power setting according to the table below)

-Finish by tightening with torque wrench to recommended torque and Control of complete setting by having the screw head fully in contact with the fixture part

Machine setting	
Drill Diam ( $d_0$ )	Max. power output ( $T_{max} \leq$ )
mm	Nm
<b>HEXAGON FLANGE HEAD</b>	
6	120
8	120
10	185
12	185
<b>COUNTERSUNK</b>	
6	80
8	120
<b>PANE HEAD</b>	
6	80

## INSTALLATION INSTRUCTIONS VIDEO

To watch the video and subscribe, please click on the link or scan the QR code:

-How to install a Concrete Bolt (Hexagon Head) - JCP Fixings <https://www.youtube.com/watch?v=FcyEAJE8ybc>

