

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. 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)

RANGE AND LOAD DATA

RANGE DATA														
Part Number	Drill Hole Diameter	Thread Diameter	Anchor Length	Fixture Clearance Hole	Shallow Embedment				Deep Embedment				Width Across Flats	Tightening Torque
					Red. Max Fixture Thickness	Red. Min Hole Depth	Red. Embedment Depth	Red. Min Structure Thickness	Max Fixture Thickness	Min Hole Depth (h ₁)	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)		
	(d _g)	(d _{nom})	(L)	(d _f)	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm
HEXAGON FLANGE HEAD														
<i>JAB06/08050SS*</i>			50		<i>5</i>				<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>		
JAB06/08075SS	6	8	75	9	<i>30</i>	<i>55</i>	<i>45</i>	<i>90</i>	5	80	70	110	10	20
JAB06/08100SS			100		<i>55</i>		30							
JAB08/10060SS	8	10	60	11	<i>8</i>	<i>65</i>	<i>52</i>	<i>100</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	13	31
JAB08/10075SS			75		<i>23</i>				<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>		
JAB08/10100SS			100		<i>48</i>				15	95	85	125		
<i>JAB10/12075SS</i>	10	12	75	13	<i>0</i>	<i>85</i>	<i>75</i>	<i>125</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	17	60
<i>JAB10/12100SS</i>			100		<i>25</i>				<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>		
<i>JAB10/12150SS</i>			150		<i>75</i>				<i>50</i>	<i>110</i>	<i>100</i>	<i>140</i>		
<i>JAB12/14100SS</i>	12	14	100	15	<i>25</i>	<i>85</i>	<i>75</i>	<i>125</i>	<i>N/A</i>	<i>130</i>	<i>120</i>	<i>170</i>	19	80

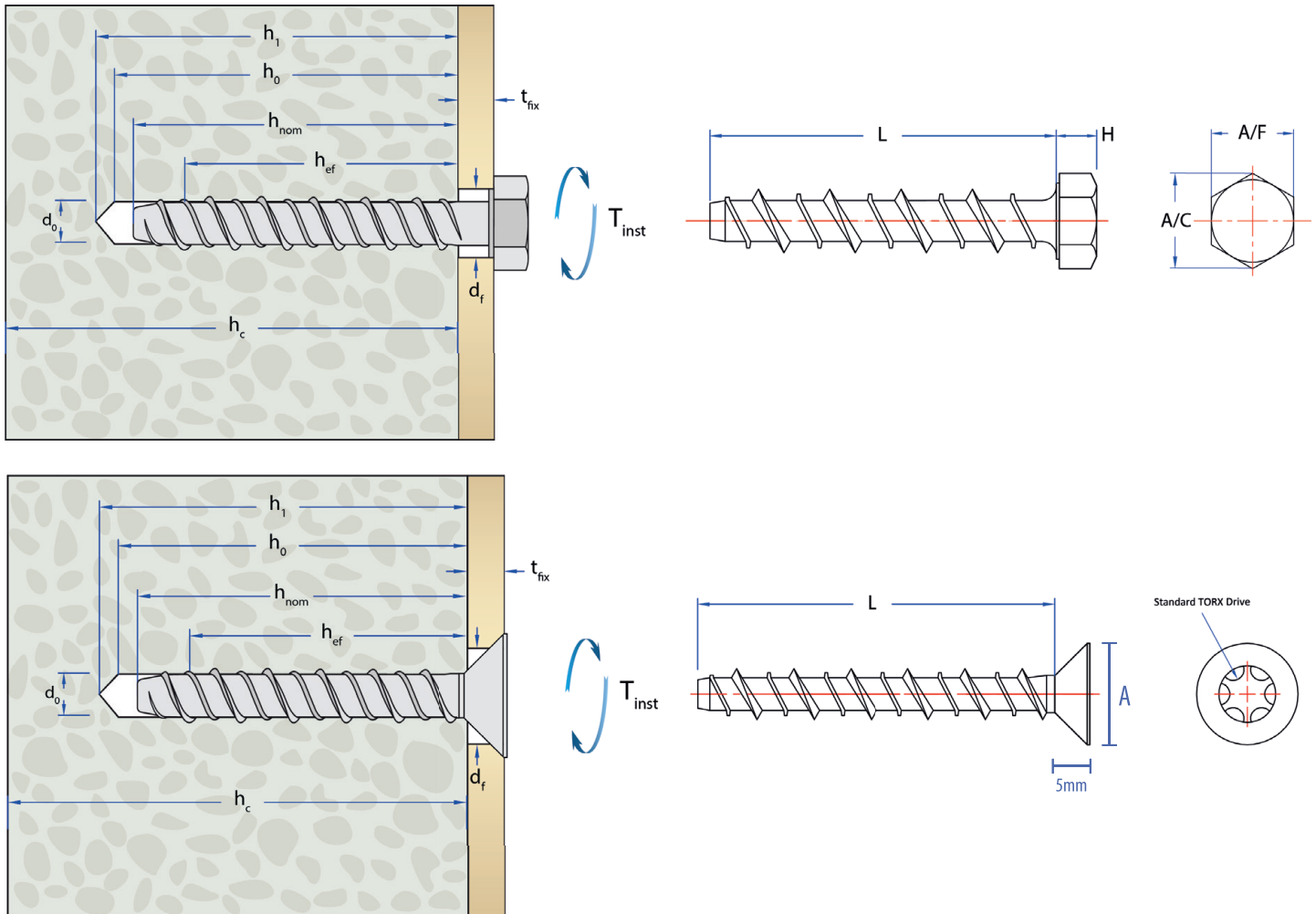
* The ***Bold-Italic*** figures are not included in ETA.





RANGE DATA															
Part Number	Drill Hole Dia.	Thread Dia.	Anchor Length	Fixture Clearance Hole	Shallow Embedment				Deep Embedment				Head Dia.	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})
COUNTERSUNK															
JAB06/08050CSSS*	6	8	50	9	2	60	50	90	N/A	N/A	N/A	N/A	15.5	Torx Drive T40	20
JAB06/08075CSSS			75		20	65	55	100	5	80	70	110			
JAB06/08100CSSS			100		45				30						

* The ***Bold-Italic*** figures are not included in ETA.



For variations in structure thickness, reduced spacing and edge calculations download the free **Anchor Calculation Program** from www.jcpfixings.co.uk





SHALLOW EMBEDMENT

Performance Data (C20/25 concrete)												
Drill Diam (d _v)	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
HEXAGON FLANGE HEAD												
6	45	90	1.8	5.1	1.2	3.4	0.8	2.4	70	70	45	45
8	52	100	2.0	5.8	1.3	3.8	0.9	2.7	75	75	50	50
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	50	90	1.6	6.1	1.0	4.8	0.7	3.4	80	80	55	55
6	55	100	2.1	6.1	1.4	4.8	1.0	3.4	95	95	65	65

DEEP EMBEDMENT

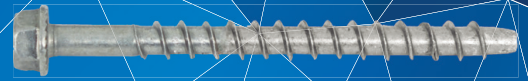
Performance Data (C20/25 concrete)												
Drill Diam (d _v)	Overall Embedment Depth (h _{nom})	Minimum Concrete Thickness (h _{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)		Design Edge Distance (c)	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	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
HEXAGON FLANGE HEAD												
6	70	110	5.0	9.0	3.3	7.2	2.3	5.1	130	130	90	90
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	70	110	3.5	6.1	2.3	4.8	1.6	3.4	130	130	90	90

SUPPLEMENTARY DATA

Influence Of Concrete Strength					
Concrete strength		C20/25	C30/37	C40/50	C50/60
Cylinder	N/mm ²	20	30	40	50
Cube	N/mm ²	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 _p)	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
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

* A partial safety factor (γ_{MS}) equal to 1.5 is included.
 ** A partial safety factor (γ_{MS}) equal to 1.25 is included.

FIRE RESISTANCE DATA



Fire Resistance Data											
Drill Diam (d _p)	Overall Embedment Depth (h _{nom})	Design Resistance**				Approved Resistance				Spacing (s _{cr,fi})	Edge Distance (c _{cr,fi})
		Tensile (N _{Rd,fi}) or Shear (V _{Rd,fi}) (kN)				Tensile (N _{Ra,fi}) or Shear (V _{Ra,fi}) (kN)					
mm	mm	30min (R30)	60min (R60)	90min (R90)	120min (R120)	30min (R30)	60min (R60)	90min (R90)	120min (R120)	mm	mm
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

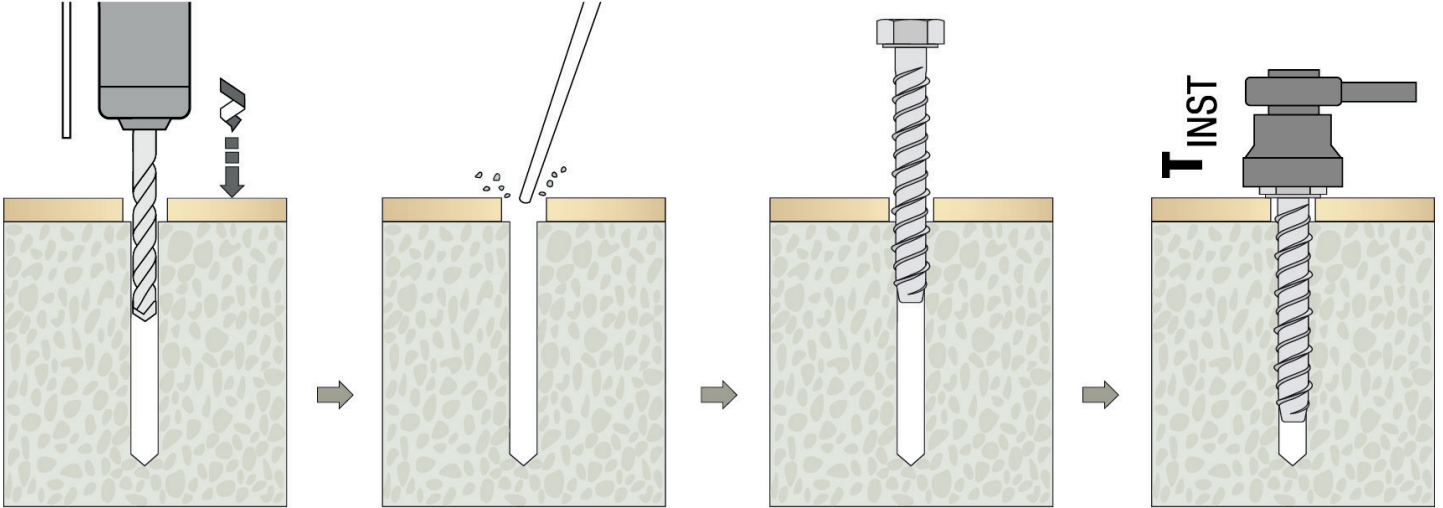
* If the fire attack is from more than one side, the design method may be taken only, if the edge distance of the anchor is c_{min} ≥ 300 mm.
 ** Steel failure

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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) and stop before the anchor touches the fixture

-Finish by tightening with torque wrench to recommended torque

Machine setting	
Drill Diam (d ₀)	Max. power output
mm	Nm
HEXAGON FLANGE HEAD	
6	120.0
8	185.0
10	185.0
12	185.0
COUNTERSUNK	
6	80.0

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>

