

### INFORMATION

The torque controlled Heavy Duty Anchor Hexagon Nut is a stainless steel A4/316 high performance anchor for use in cracked/non-cracked concrete and structural applications such as:

- Columns
- Guard rails
- Façades
- Staircases
- Silo installation
- Machines
- Cantilever beams

### BASE MATERIAL

- Concrete C20/25 to C50/60
- Cracked Concrete
- Non-Cracked Concrete

### FEATURES

- High Performance
- C1, C2 Seismic Performance
- Wide Range Of Sizes
- Fast And Secure Installation
- Through Fixing
- Three way Expansion Sleeve
- Stainless Steel A4/316
- Close Spacing And Edge Distance
- Reaction To Fire Class A1
- Fire Resistant Loading

### APPROVALS

European Technical Assessment  
Option 1 Cracked Concrete



ETA-07/0331  
Fire Resistance



ETA-07/0331



C1, C2  
Seismic Performance Categories

### RELATED PRODUCTS

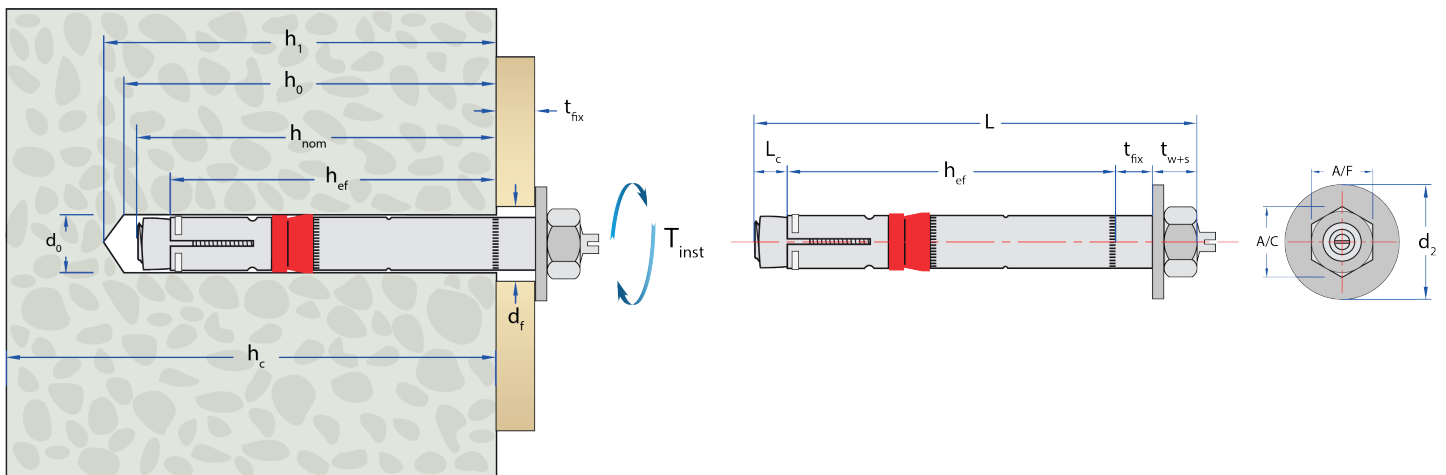


SDS+ Drill Bits



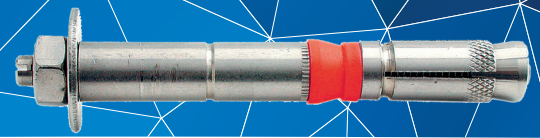
Hole Cleaning Pump

### RANGE AND LOAD DATA



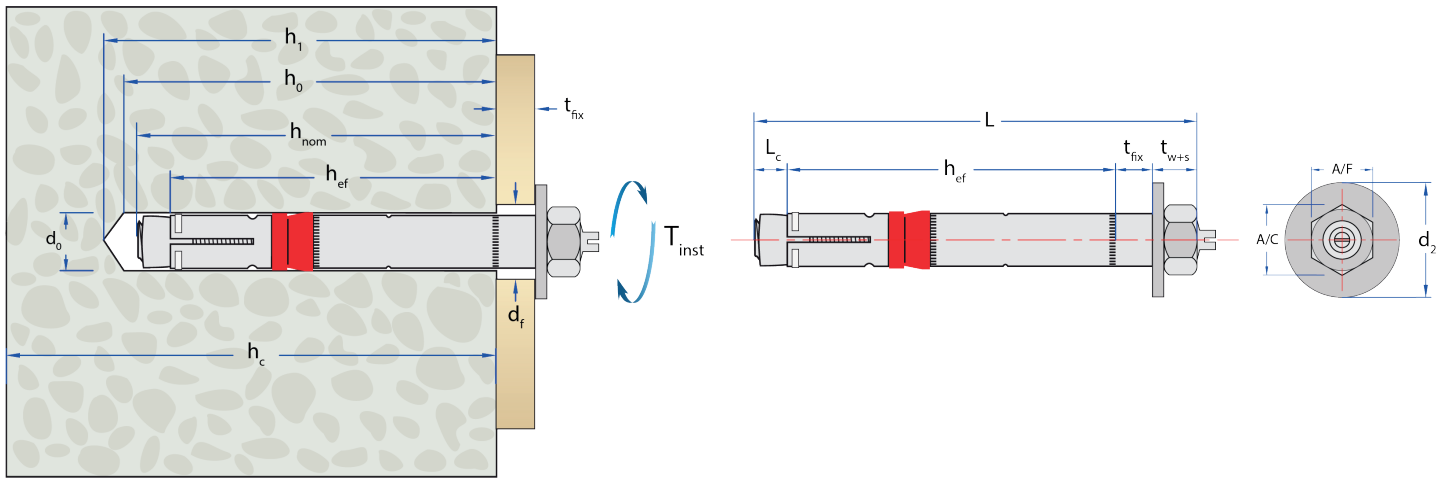
For combined loads, variations in structure thickness, reduced spacing and edge calculations download the free **Anchor Calculation Program** from [www.jcpfixings.co.uk](http://www.jcpfixings.co.uk)





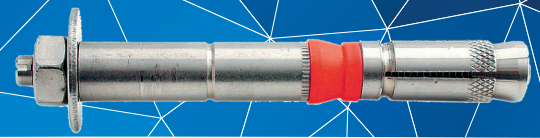
### RANGE AND LOAD DATA

RANGE DATA													
Part Number	Size of Thread	Min. Structure Thickness ( $h_c$ )	Drill Hole Diameter ( $d_o$ )	Min Hole Depth ( $h_1$ )	Fixture Clearance Hole ( $d_f$ )	Cone Length ( $L_c$ )	Effective Embedment Depth ( $h_{ef}$ )	Max Fixture Thickness ( $t_{fix}$ )	Washer and Screw Thickness ( $t_{w+s}$ )	Total Length (L)	Width Across Flats (A/F)	Washer Outer diameter ( $d_2$ )	Tightening Torque ( $T_{inst}$ )
	-	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm
SLB12/10SS	M8	120	12	80	14	11	60	10	8.8	90	13	20	35
SLB12/30SS								30		110			
SLB14/15SS	M10	140	15	95	17	14	71	15	10.9	111	17	25	55
SLB14/25SS								25		121			
SLB18/20SS	M12	160	18	105	20	16	80	20	13.8	132	19	30	90
SLB18/40SS								40		152			



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### NON-CRACKED CONCRETE

Performance Data (C20/25 non-cracked concrete)

Size Of Thread	Effective Embedment Depth ( $h_{ef}$ )	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	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
M8	60	120	16.0	24.0	10.6	19.2	7.5	13.7	130	50	110	190
M10	71	140	25.0	37.0	16.6	29.6	11.8	21.1	310	100	190	270
M12	80	160	35.0	72.2	23.3	48.1	16.6	34.3	500	240	260	410

### CRACKED CONCRETE

Performance Data (C20/25 cracked concrete)

Size Of Thread	Effective Embedment Depth ( $h_{ef}$ )	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	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
M8	60	120	9.0	24.0	6.0	19.2	4.2	13.7	50	130	50	280
M10	71	140	16.0	43.0	10.6	28.6	7.5	20.4	110	220	70	380
M12	80	160	25.7	51.5	17.1	34.3	12.2	24.5	240	240	120	410

### FIRE RESISTANCE DATA



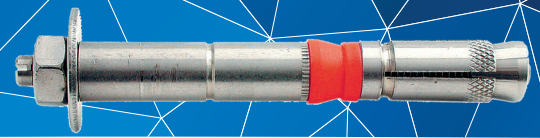
Fire Resistance Data (C20/25 to C50/60 cracked or non-cracked concrete)\*

Size Of Thread	Effective Embedment Depth ( $h_{ef}$ )	Minimum Concrete Thickness ( $h_{min}$ )	Design Resistance**								Approved Resistance							
			30min (R30)		60min (R60)		90min (R90)		120min (R120)		30min (R30)		60min (R60)		90min (R90)		120min (R120)	
			Tensile ( $N_{Rd,f}$ )	Shear ( $V_{Rd,f}$ )	Tensile ( $N_{Rd,f}$ )	Shear ( $V_{Rd,f}$ )	Tensile ( $N_{Rd,f}$ )	Shear ( $V_{Rd,f}$ )	Tensile ( $N_{Rd,f}$ )	Shear ( $V_{Rd,f}$ )	Tensile ( $N_{Ra,f}$ )	Shear ( $V_{Ra,f}$ )	Tensile ( $N_{Ra,f}$ )	Shear ( $V_{Ra,f}$ )	Tensile ( $N_{Ra,f}$ )	Shear ( $V_{Ra,f}$ )	Tensile ( $N_{Ra,f}$ )	Shear ( $V_{Ra,f}$ )
-	mm	mm	kN		kN		kN		kN		kN		kN		kN		kN	
M8	60	120	6.1	14.3	4.4	11.1	2.6	7.9	1.8	6.3	4.4	10.2	3.1	7.9	1.9	5.6	1.3	4.5
M10	71	140	10.2	22.7	7.3	17.6	4.3	12.6	2.8	10.0	7.3	16.2	5.2	12.6	3.1	9.0	2.0	7.1
M12	80	160	15.7	32.8	11.1	25.5	6.4	18.3	4.1	14.6	11.2	23.4	7.9	18.2	4.6	13.1	2.9	10.4

\* The determination covers anchors with a fire attack from one side only. 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  $c \geq 300$  mm and  $\geq 2 h_{ef}$ .

\*\*For combined loads, use Anchor Calculation Program.





### SUPPLEMENTARY DATA

Influence Of Concrete Strength (Cracked/Non-cracked Concrete)					
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	1.22	1.41	1.55

Important Note:

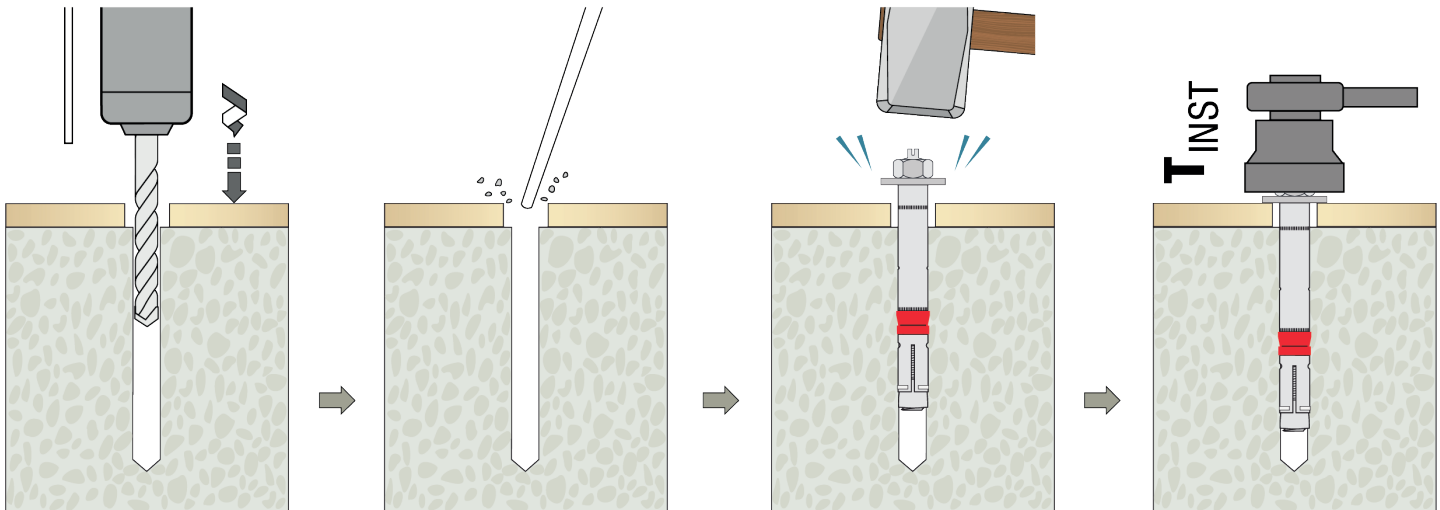
When using concrete factors ensure that loads do not exceed Steel Design Resistance.

Size Of Thread	Steel Failure					
	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 ( $V_{Ra,s}$ )
-	kN	kN	kN	kN	kN	kN
M8	26.0	17.3	12.3	24.0	19.2	13.7
M10	41.0	27.3	19.5	37.0	29.6	21.1
M12	60.0	40.0	28.5	62.0	49.6	35.4

\* A partial safety factor ( $\gamma_{MS}$ ) equal to 1.5 is included.

\*\* A partial safety factor ( $\gamma_{MS}$ ) equal to 1.25 is included.

### INSTALLATION INSTRUCTIONS



-Position fixture and drill correct diameter hole to corresponding depth

-Clean hole by blowing to remove drilling debris and dust

-Insert anchor through fixture into concrete and lightly hammer into concrete

-Tighten with torque wrench to recommended torque

### INSTALLATION INSTRUCTIONS VIDEO

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

[How to install a Heavy Duty Anchor](#)

