



Hexagon Nut

**Product Information**

A zinc plated, torque controlled through fixing suitable for use in cracked and non-cracked concrete range between C20/25 & C50/60.

**Features**

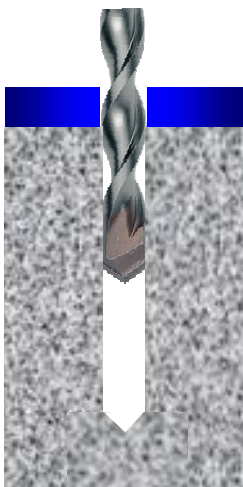
Through Fixing  
Heavy duty loads  
Torque controlled expansion  
Option 1 European Technical Approval  
Supplied pre-assembled for rapid installation



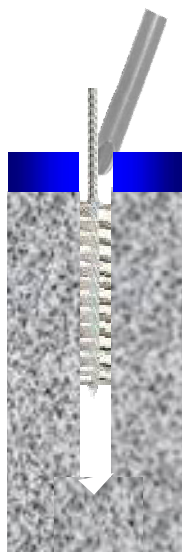
ETA 07/0331

Range Data

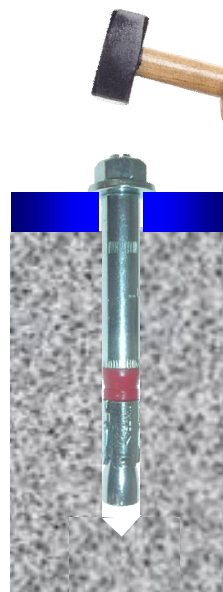
Part Number	Thread Diam	Anchor Length	Drill Hole Diam	Maximum Fixture Thickness	Fixture Clearance Hole	Embedment Depth	Minimum Hole Depth	Structure Thickness	Nut Across Flats	Installation Torque
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm
NHD0810	8	87	12	10	14	70	80	125	13.0	30
NHD0830		107		30						
NHD0850		127		50						
NHD1015	10	108	15	15	17	85	95	145	17.0	50
NHD1025		118		25						
NHD1045		138		45						
NHD1210	12	117	18	10	20	95	105	165	19.0	80
NHD1220		127		20						
NHD1240		147		40						
NHD1270		177		70						
NHD1620	16	152	24	20	26	120	130	205	24.0	160
NHD1650		182		50						



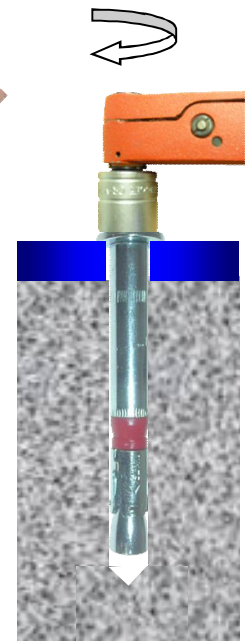
Position fixture and drill correct diameter hole to correct depth



Clean hole by brushing and blowing to remove all dust and drilling debris



Insert assembled anchor through fixture into concrete



Tighten with torque wrench to recommended torque



## Non-Cracked concrete

Performance Data (20/25 Concrete)									
Thread Diam mm	Characteristic Resistance kN		Design Resistance ( $\gamma_{Ms}$ frpm ETA) kN		Approved Resistance ( $\gamma_F=1.4$ ) kN		Design Spacing mm	Design Edge Distance mm	
	Tensile	Shear	Tensile	Shear	Tensile	Shear	Tensile & Shear	Tensile	Shear
8	20.0	25.0	13.3	19.9	9.5	14.2	130	105	190
10	30.0	43.4	19.9	28.7	14.2	20.5	210	170	250
12	35.0	72.5	23.3	48.1	16.6	34.3	225	200	400
16	50.0	101.0	33.3	67.2	23.7	48.0	290	250	485

Shear Loads towards a free edge are for single anchors where Spacing  $\geq 3 \times$  Edge Distance

## Cracked concrete

Performance Data (20/25 Concrete)									
Thread Diam mm	Characteristic Resistance kN		Design Resistance ( $\gamma_{Ms}$ frpm ETA) kN		Approved Resistance ( $\gamma_F=1.4$ ) kN		Design Spacing mm	Design Edge Distance mm	
	Tensile	Shear	Tensile	Shear	Tensile	Shear	Tensile	Tensile	Shear
8	12.0	25.0	7.9	19.9	5.6	14.2	60 ( $C_{min} \geq 100$ )	60 ( $S_{min} \geq 120$ )	315
10	16.0	43.0	10.6	28.7	7.5	20.5	115 ( $C_{min} \geq 110$ )	70 ( $S_{min} \geq 215$ )	365
12	25.0	51.5	16.6	34.3	11.8	24.5	225 ( $C_{min} \geq 120$ )	115 ( $S_{min} \geq 245$ )	405
16	36.0	72.0	23.9	48.0	17.0	34.2	300 ( $C_{min} \geq 150$ )	150 ( $S_{min} \geq 300$ )	490

(  $C_{min}$  = Minimum Edge Distance for Spacing,  $S_{min}$  = Minimum Spacing for Edge Distance )

Shear Loads towards a free edge are for single anchors where Spacing  $\geq 3 \times$  Edge Distance

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

## Influence of concrete strength

Concrete strength		C20/25	C25/30	C30/37	C40/50	C45/55	C50/60
Cylinder	N/mm <sup>2</sup>	20	25	30	40	45	50
Cube	N/mm <sup>2</sup>	25	30	37	50	55	60
Factor		1.0	1.1	1.22	1.41	1.48	1.55

When using concrete factors take care not to exceed Characteristic Steel Failure available from ETA