Heavy Duty Anchors

Product Information

The Heavy Duty Anchor is a torque controlled expansion anchor designed for rapid through fixing in cracked and non cracked concrete. With an ETA to Option 1. It may be used where resistance to fire or shock loading is a requirement. Finish available Zinc Plated and Clear Passivated min 5µm.

Features

1 Available in 3 head styles

2 Through Fixing

3 Torque controlled expansion

4 Heavy Duty applications

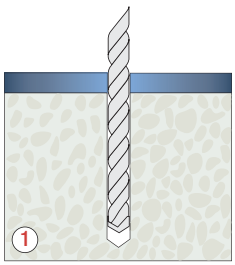
European Technical Approval
Option 1 Cracked concrete
ETA 07/0331

Range Data

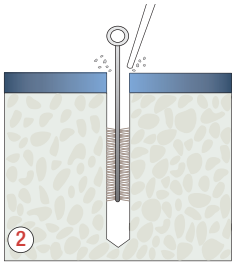
Part Number			Overall Anchor Length								
Hexagon Bolt	Stud & Nut	Thread Diameter mm	Hexagon Bolt mm	Stud & Nut mm	Maximum Fixture Thickness mm	Drill Hole Diameter mm	Minimum Hole Depth mm	Embedment Depth mm	Fixture Clearance Hole mm	Minimum Structure Thickness mm	Tightening Torque Nm
JHD06-10		6	75		10	10	65	60	12	100	15
JHD06-25			95		30						
JHD06-50			115		50						
JHD08-10	NHD0810	8	87	90	10	12	80	70	14	120	30
JHD08-25	NHD0830		107	110	30						
JHD08-50	NHD0850		127	130	50						
JHD10-10	NHD1015	10	108	111	15	15	95	85	17	140	50
JHD10-25	NHD1025		118	121	25						
JHD10-50	NHD1045		138	141	45						
JHD12-10	NHD1210	12	117	122	10	18	105	95	20	160	80
JHD12-20	NHD1220		127	132	20						
JHD12-40	NHD1240		147	152	40						
JHD12-70	NHD1270		177	182	70						
JHD16-10		16	132		10	24	130	120	26	200	160
JHD16-25	NHD1620		152	157	20						
JHD16-50	NHD1650		182	187	50						
JHD20-25		20	192		25	28	160	150	31	250	200
JHD20-50			222		50						

Part Number Countersunk Head	Head Diameter mm	Head Depth mm	Thread Diameter mm	Anchor Length mm	Maximum Fixture Thickness mm	Drill Hole Diameter mm	Minimum Hole Depth mm	Embedment Depth mm	Fixture Clearance Hole mm	Minimum Structure Thickness mm	Tightening Torque mm
SLSK10/10	16.5	3.9	M6	70	10	10	65	60	12	100	10
SLSK10/25				85	25						
SLSK10/50				105	45						
SLSK12/10	20.5	5.0	M8	80	10	12	80	70	14	120	25
SLSK12/25				95	25						
SLSK12/50				120	50						
SLSK15/10	24.5	5.7	M10	95	10	15	95	85	17	140	55
SLSK15/25				110	25						
SLSK15/50				135	50						
SLSK18/15	29.5	6.7	M12	115	20	18	105	95	20	160	70
SLSK18/40				135	40						

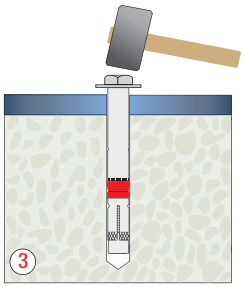
Installation Instructions



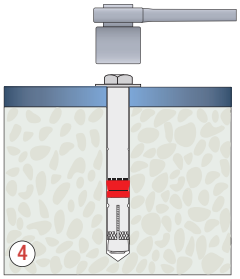
Position fixture and drill correct diameter hole to correct depth



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



Insert Anchor through fixture and lightly hammer into concrete



Tighten Bolt to Recommended Torque

Performance Data (20/25 Concrete)									
Thread Diameter mm	Characteristic Resistance kN		Design Resistance kN		Approved Load kN		Spacing mm	Edge Distance mm	
	Tensile	Shear	Tensile	Shear	Tensile	Shear	Tensile & Shear	Tensile	Shear
6	16.0	16.0	10.7	12.8	7.6	9.1	150	110	210
8	20.0	24.5	13.3	19.6	9.5	14.0	180	125	270
10	30.0	36.2	20.0	29.0	14.3	20.7	210	180	335
12	36.1	72.1	24.0	48.1	17.2	34.3	240	200	505
16	50.4	100.8	33.6	67.2	24.0	48.0	300	250	540
20	70.4	140.9	47.0	93.3	33.5	67.1	375	315	605

Shear Loads towards a free edge are for single anchors where Spacing ≥ 3 x Edge Distance

Reduced Design Resistance (kN) • Divide Loads by 1.4 for Recommended Loads

Edge Distance (C20/25 Concrete) for single anchors												
Edge mm	Tensile Resistance						Shear Resistance					
	M6	M8	M10	M12	M16	M20	M6	M8	M10	M12	M16	M20
50							3.2					
60							4.3	4.7				
70	8.0	10.7	14.9				5.2	5.9	6.5			
80	8.7	10.7	16.3	18.0			5.8	7.2	7.9	8.6		
100	10.1	11.7	16.7	20.0	25.2		7.0	8.7	10.8	12.0	13.7	
110	10.7	12.5	16.7	20.0	26.7		7.8	9.4	11.5	13.6	15.8	
125		13.3	16.7	20.0	26.7		8.4	10.4	12.8	15.1	19.1	
150			17.7	20.0	26.7		9.8	12.1	14.9	17.6	23.2	
165			19.0	20.8	26.7		10.6	13.1	16.1	19.0	25.2	
180			20.0	22.2	26.7	33.3	11.4	14.1	17.3	20.5	27.1	34.4
190				23.1	27.4	33.3	11.9	14.8	18.1	21.4	28.3	36.0
200				24.0	28.4	34.4	12.5	15.4	18.9	22.3	29.5	37.5
210					29.4	35.4	12.8	16.1	19.7	23.3	30.8	39.1
230					31.5	37.5		17.6	21.2	25.1	33.2	42.2
250					33.6	39.7		18.6	22.8	26.9	35.6	45.2
270						42.0		19.6	24.3	28.7	37.9	48.2
315						47.0			27.8	32.6	43.1	54.8
335									29.0	34.6	45.4	57.7
400										39.8	52.6	66.9
450										43.9	58.1	73.8
505										48.1	63.9	81.2
540											67.2	85.9
605												93.9

Spacing (C20/25 Concrete)						
Spacing mm	Tensile Resistance per Pair of Anchors					
	M6	M8	M10	M12	M16	M20
50	15.8					
55	16.2					
60	16.6	20.8				
70	17.4	21.7	26.7			
80	18.2	22.6	27.7	32.1		
90	19.0	23.4	28.8	33.1		
100	19.8	24.3	29.5	34.1	44.8	
110	20.6	25.2	30.5	35.1	45.9	
120	21.3	26.0	31.4	36.1	47.0	
130	21.3	26.7	32.4	37.1	48.2	63.2
140	21.3	26.7	33.3	38.1	48.3	64.5
150	21.3	26.7	34.3	39.1	50.4	65.7
165		26.7	35.7	40.6	52.1	67.6
180		26.7	37.1	42.1	53.8	69.5
195			38.5	43.6	55.4	71.4
210			39.9	45.1	57.1	73.3
225				46.6	58.8	75.1
240				48.1	60.5	77.0
270					63.8	80.8
300					67.2	84.5
320						87.0
340						89.5
375						93.9

Influence of Concrete Strength

Concrete Strength		C20/25	C25/30	C30/37	C40/50	C45/55	C50/60
Cylinder	N/mm²	20	25	30	40	45	50
Cube	N/mm²	25	30	37	50	55	60
Factor		1.00	1.10	1.22	1.41	1.48	1.55

When using concrete factors check all other information to ensure Steel Tensile and Shear Resistance is not exceeded

Steel Design Resistance for single anchor

		M6	M8	M10	M12	M16	M20
Tension	kN	10.7	19.3	30.7	44.7	84.0	130.7
Shear	kN	14.2 (12.8)	23.9 (19.6)	38.5 (29.0)	58.2 (50.5)	100.8 (73.0)	120.0 (97.6)

Figures in brackets are for Stud & Nut version

Anchor Mechanical Properties

		M6	M8	M10	M12	M16	M20
Tensile Strength	N/mm²	800	800	800	800	800	800
Yield Strength	N/mm²	640	640	640	640	640	640
Nut A/F	mm	10.0	10.0	13.0	17.0	24.0	30.0
Washer Diameter	mm	16.0	20.0	24.5	30.0	40.0	50.0
C/S Socket A/F	mm	4	5	6	8		