



Features

Option 1 European Technical Assessment for use in cracked and non-cracked concrete

Through Fixing, Medium to heavy duty loads
Positive location, No expansion forces



ETA 15/0040



Fire rated

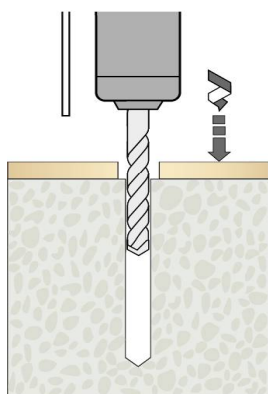
Range Data

Part Number	Drill Diam	Thread Diam	Anchor Length	Max Fixture Thick.	Fixture Clearance Hole	Min Hole Depth	Minimum Structure Thickness	Drive Socket Size	Tightening Torque
	mm	mm	mm	mm	mm	mm	mm	mm	Nm
V35156CE	8	10	80	5	12	90	120	15A/F	40
V35157CE			100	25					
V35158CE			130	55					
V35159CE			150	75					
V35162CE	10	12	100	15	14	100	125	17A/F	60
V35163CE			130	45					
V35164CE			150	65					
V35166CE	12	14	100	5	16	110	140	19A/F	80
V35167CE			130	35					
V35168CE			150	55					
V35169CE			200	105					
V35171CE	16	18	150	30	20	145	190	27A/F	100
V35172CE			200	80					

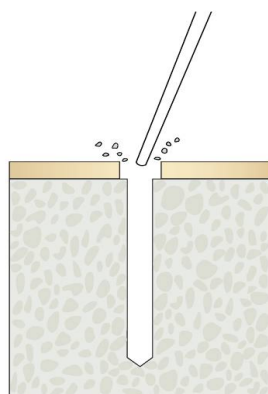
Anchor finish:-

8, 10 & 12mm are Zinc Plated and Yellow Passivated to minimum 5µm
16mm are Mechanically Galvanised 20-25µm

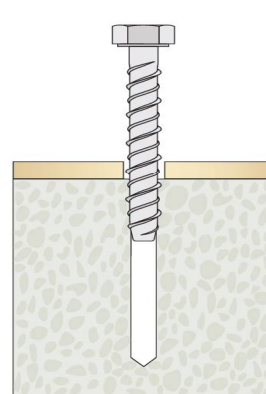
Installation Instructions



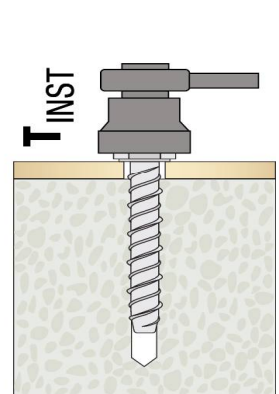
Drill the correct diameter hole to the correct depth



Remove dust from hole by blowing 3 times



Insert Anchor using suitable Impact Screwdriver



Tighten with torque wrench to recommended torque



ETA 15/0040



Fire rated

Performance Data (C20/25 non-cracked concrete)

Drill Diam (d _{nom})	Embedment Depth (h _{nom})	Minimum Concrete Thickness (h _{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing		Design Edge Distance	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	(s)		(c)	
mm	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
8	75	120	12.0	20.5	6.6	11.3	4.7	8.0	50	170	50	130
10	85	125	16.0	49.3	8.8	27.3	6.2	19.5	60	190	60	330
12	95	140	20.0	57.8	11.1	32.1	7.9	22.9	80	210	70	360
16	120	190	40.0	80.5	22.2	44.7	15.8	31.9	260	260	130	420

Performance Data (C20/25 cracked concrete)

Drill Diam (d _{nom})	Embedment Depth (h _{nom})	Minimum Concrete Thickness (h _{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing		Design Edge Distance	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	(s)		(c)	
mm	mm	mm	kN	kN	kN	kN	kN	kN	mm	mm	mm	mm
8	75	120	7.5	14.6	4.1	8.1	2.9	5.7	50	170	50	130
10	85	125	12.0	35.1	6.6	19.5	4.7	13.9	70	190	60	330
12	95	140	16.0	41.2	8.8	22.8	6.2	16.2	120	210	80	360
16	120	190	25.0	57.4	13.8	31.8	9.8	22.7	190	260	110	420

Influence of concrete strength

		8, 10 & 12mm			16mm		
Concrete strength		C30/37	C40/50	C50/60	C30/37	C40/50	C50/60
Cylinder	N/mm ²	20	40	50	20	40	50
Cube	N/mm ²	25	50	60	25	50	60
Factor		1.17	1.32	1.42	1.22	1.41	1.55

When using concrete factors check that loads do not exceed steel strength



ETA 15/0040



Fire rated

Steel Failure

Drill Diam	Thread Diameter	Tensile Resistance			Shear Resistance		
		Characteristic ($N_{Rk,s}$)	Design ($N_{Rd,s}$)	Approved ($N_{Ra,s}$)	Characteristic ($V_{Rk,s}$)	Design ($V_{Rd,s}$)	Approved ($V_{Ra,s}$)
mm	mm	kN	kN	kN	kN	kN	kN
8	10	44.2	31.6	22.6	28.5	19.0	13.5
10	12	70.1	50.1	35.8	46.4	30.9	22.0
12	14	101.2	72.3	51.6	57.2	38.1	27.2
16	18	183.9	131.4	93.8	84.4	60.2	43.0

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

Drill Diam	Embedment Depth	Minimum Concrete Thickness	Design Resistance				Approved Resistance			
			Tensile($N_{Rd,fi}$) or Shear($V_{Rd,fi}$)**				Tensile($N_{Ra,fi}$) or Shear($V_{Ra,fi}$)**			
mm	mm	mm	30min (R30)	60min (R60)	90min (R90)	30min (R120)	30min (R30)	30min (R30)	30min (R30)	30min (R30)
8	75	120	0.40	0.40	0.30	0.20	0.28	0.28	0.21	0.14
10	85	125	1.10	0.90	0.70	0.60	0.78	0.64	0.50	0.42
12	95	140	2.00	1.50	1.30	1.00	1.42	1.07	0.92	0.71
16	120	190	3.70	2.80	2.40	1.80	2.64	2.00	1.71	1.28

*The loads cover anchors with a fire attack from one side only. If the fire attack is from more than one side, the design method may be used only, if the edge distance is $C \geq 300\text{mm}$ and $\geq 2h_{ef}$

**For combined loads use the Anchor Calculation Program

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

Sales Offices

Stone:- 01785 819819, Dartford:- 01322 277733, Elland:- 01422 370121, Milton Keynes:- 01908 201600, Swindon:- 01793 527829

Technical Support

JCP Construction Products:- 020 8943 1800, Email:- jcpenquiries@hexstone.co.uk, Web:- www.jcpfixings.co.uk