



NON-CRACKED CONCRETE

Performance Data (C20/25 non-cracked concrete)

Drill Diam (d ₀)	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
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
14	110	170	35.0	70.9	19.4	39.3	13.8	28.0	230	240	130	390
16	120	190	40.0	80.5	22.2	44.7	15.8	31.9	260	260	130	420

CRACKED CONCRETE

Performance Data (C20/25 cracked concrete)

Drill Diam (d ₀)	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
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
14	110	170	20.0	50.5	11.1	28.0	7.9	20.0	140	240	90	390
16	120	190	25.0	57.4	13.8	31.8	9.8	22.7	190	260	110	420

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