



INFORMATION

Ultra-Bond 100 epoxy resin is a formulation derived from pure epoxy resin with very high bond strength. The two-component chemical anchoring injection system in a 3:1 ratio can achieve high loads and is used for high-performance structural applications where loading is critical. It can be used for installing threaded studs, rebar for structural applications such as:

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

BASE MATERIAL

- Concrete C20/25 To C50/60
- Cracked/Non-Cracked Concrete
- Dry/Wet/Flooded Holes
- Solid Brickwork
- Concrete Block
- Natural Stone

FEATURES

- 100 Years Working Life
- ETA Data for Diamond Drilling And Dust Free Drilling
- Post-Installed Rebar
- Ultra High Bond Strengths
- C1, C2 Seismic Performance
- Expansion Free
- Close Spacing And Edge Distance
- Reaction To Fire Class A1
- 24 Months Shelf Life
- Use in contact with Potable Water

APPROVALS

European Technical Approval
Option 1 Cracked Concrete



ETA-22/0755



C1, C2
Seismic Performance Categories



WRAS Listing Number
2108556

RELATED PRODUCTS



JTOOL600

Injection Resin Gun



Hole Cleaning Brushes and Pump*



Mixer Nozzle
JMN150E

Injection Accessories

* Check the ETA document for more details about the installation tools needed.

WORKING/LOADING TIME

Base Material Temperature °C	Usable Time T_{work} (mins)	Minimum Load Time in Dry Concrete T_{load} (hrs)	Minimum Load Time in Wet Concrete T_{load} (hrs)
+5°C	70	60	120
+10°C	32	40	80
+15°C	28	30	60
+20°C	25	18	36
+25°C	22	17	34
+30°C	20	16	32
+40°C	18	12	24

15°C < Ensure Cartridge Temperature is < 35°C

EMBEDDED THREADED ROD



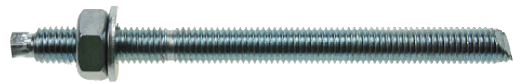
- High Tensile Grade 8.8 Chisel End Studs
- Zinc Plated & Yellow Passivated Min. 5µm or Hot Dipped Galvanised (BS EN ISO 1461:2009)



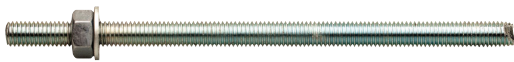
- Stainless Steel Grade A4/316 Chisel End Studs



- Stainless Steel Grade A4/316 Chisel End Studs
- Plain Ended



- Grade 5.8 Chisel End Studs
- Zinc Plated Min. 5µm or Hot Dipped Galvanised (BS EN ISO 1461:2009)



- Grade 5.8 Chisel End Studs
- Plain Ended





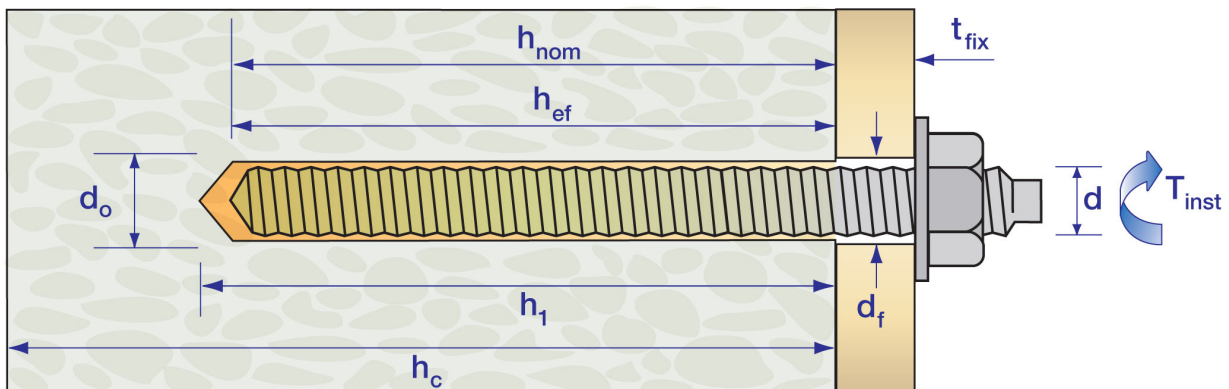
RANGE AND LOAD DATA

RANGE DATA											
Part Number	Thread Diam (d) mm	Stud Length (L) mm	Drill Hole Diam. (d _o) mm	Fixture Clearance Hole (d _f) mm	Standard Embedment		Shallow Embedment		Deep Embedment		Tightening Torque (T _{inst}) Nm
					Max. Fix. Thickness (t _{fix}) mm	Min. Hole Depth (h _o) mm**	Max. Fix. Thickness (t _{fix}) mm	Min. Hole Depth (h _o) mm	Max. Fix. Thickness (t _{fix}) mm	Min. Hole Depth (h _o) mm	
Grade 5.8 Zinc Plated and Clear Passivated Min. 5µm or Hot Dipped Galvanised (BS EN ISO 1461:2009) Chisel End Studs											
JSTUD08110(G)***	M8	110	10	10	22	80	42	60	*	160	10
JSTUD10130(G)	M10	130	12	12	30	90	60	60	*	200	20
JSTUD12160(G)	M12	160	14	14	37	110	77	70	*	240	40
JSTUD16190(G)	M16	190	18	18	47	125	92	80	*	320	80
JSTUD20260(G)	M20	260	22	22	69	170	149	90	*	400	150
JSTUD24300(G)	M24	300	28	26	64	210	178	96	*	480	200
JSTUD30380	M30	380	35	32	70	280	230	120	*	600	275
Grade 5.8 Zinc Plated and Clear Passivated Min. 5µm Plain Ended and Chisel End Studs											
JSTUD08150PE	M8	150	10	10	62	80	82	60	*	160	10
JSTUD10105PE	M10	105	12	12	5	90	35	60	*	200	20
JSTUD10150PE		150			50		80		*		
JSTUD10200PE		200			100		130		*		
JSTUD12110PE	M12	110	14	14	*	110	27	70	*	240	40
JSTUD12150PE		150			27		67		*		
JSTUD12200PE		200			77		117		*		
JSTUD16110PE	M16	110	18	18	*	125	12	80	*	320	80
JSTUD16250PE		250			107		152		*		
JSTUD16350PE		350			207		252		12		
JSTUD20200PE	M20	200	22	22	9	170	89	90	*	400	150
JSTUD20400PE		400			209		289		*		

* Deep Embedment Depth can be achieved by using suitable threaded rod cut to length: $L = h_{ef} + (t_{fix} + t_{Nut+Washer})$

** For the Ultra Bond 100: $h_o = h_{ef}$

*** The Hot Dipped Galvanised (BS EN ISO 1461:2009) version is available.





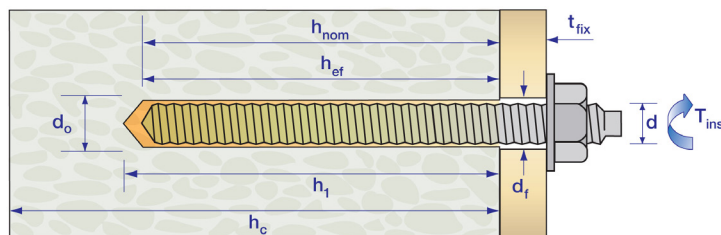
RANGE AND LOAD DATA

RANGE DATA											
Part Number	Thread Diam (d) mm	Stud Length (L) mm	Drill Hole Diam. (d _o) mm	Fixture Clearance Hole (d _f) mm	Standard Embedment		Shallow Embedment		Deep Embedment		Tightening Torque (T _{inst}) Nm
					Max. Fix. Thickness (t _{fix}) mm	Min. Hole Depth (h _o) mm**	Max. Fix. Thickness (t _{fix}) mm	Min. Hole Depth (h _o) mm	Max. Fix. Thickness (t _{fix}) mm	Min. Hole Depth (h _o) mm	
High Tensile Grade 8.8 Zinc Plated Yellow Passivated Min. 5µm or Hot Dipped Galvanised (BS EN ISO 1461:2009)											
JSTUD08110(G)™HT	M8	110	10	10	22	80	42	60	*	160	10
JSTUD10130(G)HT	M10	130	12	12	30	90	60	60	*	200	20
JSTUD12160(G)HT	M12	160	14	14	37	110	77	70	*	240	40
JSTUD16190(G)HT	M16	190	18	18	47	125	92	80	*	320	60
JSTUD20260(G)HT	M20	260	22	22	69	170	149	90	*	400	120
JSTUD24300(G)HT	M24	300	28	26	64	210	178	96	*	480	160
JSTUD30380(G)HT	M30	380	35	32	70	280	230	120	*	600	300
Stainless Steel Grade A4/316 Chisel End Studs											
JSTUD08110SSA4	M8	110	10	10	22	80	42	60	*	160	10
JSTUD10130SSA4	M10	130	12	12	30	90	60	60	*	200	20
JSTUD12160SSA4	M12	160	14	14	37	110	77	70	*	240	40
JSTUD16190SSA4	M16	190	18	18	47	125	92	80	*	320	60
JSTUD20260SSA4	M20	260	22	22	69	170	149	90	*	400	120
JSTUD24300SSA4	M24	300	28	26	64	210	178	96	*	480	160
Stainless Steel Grade A4/316 Plain Ended and Chisel End Studs											
JSTUD08150PESS	M8	150	10	10	62	80	82	60	*	160	10
JSTUD10105PESS	M10	105	12	12	5	90	35	60	*	200	20
JSTUD10150PESS		150			50		80		*		
JSTUD10200PESS		200			100		130		*		
JSTUD12110PESS	M12	110	14	14	*	110	27	70	*	240	40
JSTUD12150PESS		150			27		67		*		
JSTUD12200PESS		200			77		117		*		
JSTUD16110PESS	M16	110	18	18	*	125	12	80	*	320	60
JSTUD16250PESS		250			107		152		*		
JSTUD16350PESS		350			207		252		12		
JSTUD20200PESS	M20	200	22	22	9	170	89	90	*	400	120
JSTUD20400PESS		400			209		289		*		

* Deep Embedment Depth can be achieved by using suitable threaded rod cut to length: $L = h_{ef} + (t_{fix} + t_{Nut+Washer})$

** For the Ultra Bond 100: $h_o = h_{ef}$

*** The Hot Dipped Galvanised (BS EN ISO 1461:2009) version is available.





GRADE 5.8 STUDS - NON-CRACKED CONCRETE (FOR HAMMER DRILLING, 50 AND 100 YEARS SERVICE LIFE)

SHALLOW EMBEDMENT

Grade 5.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 non-cracked concrete)

Thread Diam (d) mm	Minimum Hole Depth (h ₀) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	60	100	18.0	9.0	12.0	7.2	8.6	5.1	100	40	70	70
10	60	100	23.5	15.0	15.6	12.0	11.1	8.6	180	40	90	130
12	70	100	29.5	21.0	19.7	16.8	14.1	12.0	260	60	130	170
16	80	110	36.1	39.0	24.1	31.2	17.2	22.3	310	80	160	320
20	90	135	43.1	61.0	28.7	48.8	20.5	34.9	310	190	160	450
24	96	160	47.5	95.0	31.7	63.3	22.6	45.2	300	290	160	525
30	120	190	66.3	132.7	44.2	88.5	31.6	63.2	390	360	180	660

STANDARD EMBEDMENT

Grade 5.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 non-cracked concrete)

Thread Diam (d) mm	Minimum Hole Depth (h ₀) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	80	110	18.0	9.0	12.0	7.2	8.6	5.1	40	40	50	60
10	90	120	29.0	15.0	19.3	12.0	13.8	8.6	130	40	180	110
12	110	140	42.0	21.0	28.0	16.8	20.0	12.0	200	60	180	130
16	125	155	70.5	39.0	47.0	31.2	33.6	22.3	500	80	250	240
20	170	215	111.9	61.0	74.6	48.8	53.3	34.9	680	100	340	310
24	210	270	153.7	88.0	102.5	70.4	73.2	50.3	830	120	420	390
30	280	350	236.6	140.0	157.7	112.0	112.7	80.0	1150	140	560	520

DEEP EMBEDMENT

Grade 5.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 non-cracked concrete)

Thread Diam (d) mm	Minimum Hole Depth (h ₀) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	160	190	18.0	9.0	12.0	7.2	8.6	5.1	40	40	40	60
10	200	230	29.0	15.0	19.3	12.0	13.8	8.6	40	40	40	80
12	240	270	42.0	21.0	28.0	16.8	20.0	12.0	60	60	50	100
16	320	350	78.0	39.0	52.0	31.2	37.1	22.3	80	80	50	160
20	400	445	122.0	61.0	81.3	48.8	58.1	34.9	100	100	60	200
24	480	540	176.0	88.0	117.3	70.4	83.8	50.3	120	120	70	250
30	600	670	281.0	140.0	187.3	112.0	133.8	80.0	220	140	80	230





GRADE 5.8 STUDS - CRACKED CONCRETE (FOR HAMMER DRILLING, 50 AND 100 YEARS SERVICE LIFE)

SHALLOW EMBEDMENT

Grade 5.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 cracked concrete)												
Thread Diam (d) mm	Minimum Hole Depth (h _o) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	60	100	15.0	9.0	10.0	7.2	7.1	5.1	180	40	80	105
10	60	100	16.7	15.0	11.1	12.0	8.0	8.6	180	40	90	180
12	70	100	21.1	21.0	14.1	16.8	10.0	12.0	210	60	110	250
16	80	110	25.8	39.0	17.10	31.2	12.2	22.3	250	200	120	460
20	90	135	30.7	61.4	20.5	40.9	14.6	29.2	270	270	140	530
24	96	160	33.9	67.7	22.5	45.1	16.1	32.2	290	290	150	530
30	120	190	47.3	94.6	31.5	63.1	22.5	45.0	360	360	180	670

STANDARD EMBEDMENT

Grade 5.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 cracked concrete)												
Thread Diam (d) mm	Minimum Hole Depth (h _o) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	80	110	18.0	9.0	12.0	7.2	8.6	5.1	190	40	80	80
10	90	120	26.8	15.0	17.9	12.0	12.8	8.6	270	40	120	140
12	110	140	37.3	21.0	24.9	16.8	17.8	12.0	330	60	150	190
16	125	155	50.3	39.0	33.5	31.2	24.0	22.3	380	80	190	360
20	170	215	79.8	61.0	53.2	48.8	38.0	34.9	510	100	260	460
24	210	270	109.6	88.0	73.1	70.4	52.2	50.3	630	120	320	580
30	280	350	168.7	140.0	112.5	112.0	80.3	80.0	840	140	420	790

DEEP EMBEDMENT

Grade 5.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 cracked concrete)												
Thread Diam (d) mm	Minimum Hole Depth (h _o) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	160	190	18.0	9.0	12.0	7.2	8.6	5.1	40	40	80	80
10	200	230	29.0	15.0	19.3	12.0	13.8	8.6	40	40	80	110
12	240	270	42.0	21.0	28.0	16.8	20.0	12.0	60	60	90	130
16	320	350	78.0	39.0	52.0	31.2	37.1	22.3	80	80	100	200
20	400	445	122.0	61.0	81.3	48.8	58.1	34.9	100	100	120	275
24	480	540	176.0	88.0	117.3	70.4	83.8	50.3	120	120	160	330
30	600	670	281.0	140.0	187.3	112.0	133.8	80.0	220	140	330	440





GRADE 8.8 STUDS - NON-CRACKED CONCRETE (FOR HAMMER DRILLING, 50 AND 100 YEARS SERVICE LIFE)

SHALLOW EMBEDMENT

Grade 8.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 non-cracked concrete)

Thread Diam (d) mm	Minimum Hole Depth (h ₀) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	60	100	23.5	15.0	15.6	12.0	11.1	8.6	180	40	90	130
10	60	100	23.5	23.0	15.6	18.4	11.1	13.1	180	40	90	200
12	70	100	29.6	34.0	19.7	27.2	14.1	19.4	260	80	130	300
16	80	110	36.1	72.2	24.0	48.1	17.1	34.4	310	240	160	510
20	90	135	43.1	86.2	28.7	57.4	20.5	41.0	310	270	140	530
24	96	160	47.5	95.0	31.6	63.3	22.6	45.2	290	290	150	530
30	120	190	66.4	132.7	44.2	88.4	31.6	63.1	390	360	180	660

STANDARD EMBEDMENT

Grade 8.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 non-cracked concrete)

Thread Diam (d) mm	Minimum Hole Depth (h ₀) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	80	110	29.0	15.0	19.3	12.0	13.8	8.6	190	40	120	110
10	90	120	43.1	23.0	28.7	18.4	20.5	13.1	360	40	180	160
12	110	140	58.2	34.0	38.8	27.2	27.7	19.4	450	60	220	220
16	125	155	70.5	63.0	47.0	50.4	33.6	36.0	500	80	250	420
20	170	215	111.9	98.0	74.6	78.4	53.3	56.0	680	100	320	530
24	210	270	153.7	141.0	102.4	112.8	73.1	80.6	830	120	400	670
30	280	350	236.6	224.0	157.7	179.2	112.6	128.0	1120	140	550	920

DEEP EMBEDMENT

Grade 8.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 non-cracked concrete)

Thread Diam (d) mm	Minimum Hole Depth (h ₀) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	160	190	29.0	15.0	19.3	12.0	13.8	8.6	40	40	35	70
10	200	230	46.0	23.0	30.6	18.4	21.9	13.1	40	40	40	120
12	240	270	67.0	34.0	44.6	27.2	31.9	19.4	60	60	45	150
16	320	350	125.0	63.0	83.3	50.4	59.5	36.0	80	80	100	220
20	400	445	196.0	98.0	130.6	78.4	93.3	56.0	100	100	200	290
24	480	540	282.0	141.0	188.0	112.8	134.3	80.6	120	120	320	360
30	600	670	449.0	224.0	299.3	179.2	213.8	128.0	510	140	540	510





GRADE 8.8 STUDS - CRACKED CONCRETE (FOR HAMMER DRILLING, 50 AND 100 YEARS SERVICE LIFE)

SHALLOW EMBEDMENT

Grade 8.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 cracked concrete)												
Thread Diam (d) mm	Minimum Hole Depth (h _o) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	60	100	15.0	15.0	10.0	12.0	7.1	8.6	180	40	90	180
10	60	100	16.7	23.0	11.1	18.4	7.9	13.1	180	40	90	290
12	70	100	21.1	34.0	14.0	27.2	10.0	19.4	210	200	110	440
16	80	110	25.8	51.5	17.2	34.3	12.3	24.5	240	240	120	510
20	90	135	30.7	61.4	20.4	40.9	14.6	29.2	270	270	150	540
24	96	160	33.9	67.7	22.6	45.1	16.1	32.2	290	290	150	540
30	120	190	47.3	94.6	31.5	63.0	22.5	45.0	360	360	180	670

STANDARD EMBEDMENT

Grade 8.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 cracked concrete)												
Thread Diam (d) mm	Minimum Hole Depth (h _o) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	80	110	20.1	15.0	13.4	12.0	9.6	8.6	240	40	90	180
10	90	120	26.8	23.0	17.8	18.4	12.7	13.1	270	40	120	290
12	110	140	37.3	34.0	24.8	27.2	17.7	19.4	330	60	150	340
16	125	155	50.3	63.0	33.5	50.4	23.9	36.0	380	80	190	620
20	170	215	79.8	98.0	53.2	78.4	38.0	56.0	510	100	250	790
24	210	270	109.6	141.0	73.0	112.8	52.1	80.6	630	120	320	1000
30	280	350	168.7	224.0	112.4	179.2	80.3	128.0	850	140	420	1400

DEEP EMBEDMENT

Grade 8.8 Zinc Plated or Hot Dipped Galvanised (BS EN ISO 1461:2009) Studs Performance Data (C20/25 cracked concrete)												
Thread Diam (d) mm	Minimum Hole Depth (h _o) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	160	190	29.0	15.0	19.3	12.0	13.8	8.6	80	40	80	110
10	200	230	46.0	23.0	30.6	18.4	21.9	13.1	140	40	110	150
12	240	270	67.0	34.0	44.6	27.2	31.9	19.4	210	60	150	200
16	320	350	125.0	63.0	83.3	50.4	59.5	36.0	390	80	220	330
20	400	445	196.0	98.0	130.6	78.4	93.3	56.0	480	100	340	440
24	480	540	282.0	141.0	188.0	112.8	134.3	80.6	710	120	480	570
30	600	670	424.1	224.0	282.7	179.2	201.9	128.0	1100	140	670	800





GRADE A4-70 STAINLESS STEEL STUDS - NON-CRACKED CONCRETE (FOR HAMMER DRILLING, 50 AND 100 YEARS SERVICE LIFE)

SHALLOW EMBEDMENT

Grade A4-70 Stainless Steel Studs Performance Data (C20/25 non-cracked concrete)

Thread Diam (d) mm	Minimum Hole Depth (h ₀) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	60	100	26.0	13.0	13.9	8.3	9.9	5.9	140	40	80	80
10	60	100	23.4	20.0	15.6	12.8	11.1	9.1	180	40	90	140
12	70	100	29.6	30.0	19.7	19.2	14.1	13.7	260	60	130	200
16	80	110	36.1	55.0	24.0	35.2	17.1	25.1	310	120	160	360
20	90	135	43.1	86.0	28.7	55.1	20.5	39.4	310	250	160	510
24	96	160	47.5	95.0	31.6	63.3	22.6	45.2	290	290	160	530
30	120	190	66.3	132.7	44.2	88.4	31.6	63.1	390	360	180	660

STANDARD EMBEDMENT

Grade A4-70 Stainless Steel Studs Performance Data (C20/25 non-cracked concrete)

Thread Diam (d) mm	Minimum Hole Depth (h ₀) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	80	110	26.0	13.0	13.9	8.3	9.9	5.9	50	40	70	80
10	90	120	41.0	20.0	21.9	12.8	15.6	9.1	200	40	130	110
12	110	140	59.0	30.0	31.5	19.2	22.5	13.7	280	60	170	150
16	125	155	70.5	55.0	47.0	35.2	33.6	25.1	500	80	250	280
20	170	215	111.9	86.0	74.6	55.1	53.3	39.4	680	100	340	350
24	210	270	153.7	124.0	102.4	79.4	73.1	56.7	830	120	420	440
30	280	350	236.6	196.0	157.7	125.6	112.6	89.7	1150	140	560	600

DEEP EMBEDMENT

Grade A4-70 Stainless Steel Studs Performance Data (C20/25 non-cracked concrete)

Thread Diam (d) mm	Minimum Hole Depth (h ₀) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm	
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear
8	160	190	26.0	13.0	13.9	8.3	9.9	5.9	40	40	40	70
10	200	230	41.0	20.0	21.9	12.8	15.6	9.1	40	40	40	90
12	240	270	59.0	30.0	31.5	19.2	22.5	13.7	60	60	50	120
16	320	350	110.0	55.0	58.8	35.2	42.0	25.1	80	80	50	170
20	400	445	171.0	86.0	91.4	55.1	65.3	39.4	100	100	60	220
24	480	540	247.0	124.0	132.0	79.4	94.3	56.7	120	120	70	270
30	600	670	393.0	196.0	210.1	125.6	150.1	89.7	140	140	180	370





GRADE A4-70 STAINLESS STEEL STUDS - CRACKED CONCRETE (FOR HAMMER DRILLING, 50 AND 100 YEARS SERVICE LIFE)

SHALLOW EMBEDMENT

Grade A4-70 Stainless Steel Studs Performance Data (C20/25 cracked concrete)													
Thread Diam (d) mm	Minimum Hole Depth (h _o) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm		
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear	
8	60	100	15.0	13.0	10.0	8.3	7.1	5.9	180	40	80	120	
10	60	100	16.7	20.0	11.1	12.8	7.9	9.1	180	40	90	200	
12	70	100	21.1	30.0	14.0	19.2	10.0	13.7	210	80	110	300	
16	80	110	25.8	51.5	17.2	34.3	12.3	24.5	240	240	120	510	
20	90	135	30.3	61.4	20.2	40.9	14.4	29.2	270	270	140	530	
24	96	160	33.9	67.7	22.6	45.1	16.1	32.2	290	290	150	530	
30	120	190	47.3	94.6	31.5	63.0	22.5	45.0	360	360	180	670	

STANDARD EMBEDMENT

Grade A4-70 Stainless Steel Studs Performance Data (C20/25 cracked concrete)													
Thread Diam (d) mm	Minimum Hole Depth (h _o) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm		
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear	
8	80	110	20.1	13.0	13.4	8.3	9.6	5.9	170	40	90	110	
10	90	120	26.8	20.0	17.8	12.8	12.7	9.1	270	40	120	160	
12	110	140	37.3	30.0	24.8	19.2	17.7	13.7	330	60	150	220	
16	125	155	50.3	55.0	33.5	35.2	23.9	25.1	380	80	190	410	
20	170	215	79.8	86.0	53.2	55.1	38.0	39.4	510	100	260	530	
24	210	270	109.6	124.0	73.0	79.4	52.1	56.7	630	120	320	670	
30	280	350	168.7	196.0	112.4	125.6	80.3	89.7	850	140	420	910	

DEEP EMBEDMENT

Grade A4-70 Stainless Steel Studs Performance Data (C20/25 cracked concrete)													
Thread Diam (d) mm	Minimum Hole Depth (h _o) mm	Minimum Concrete Thickness (h _{min}) mm	Characteristic Resistance kN		Design Resistance kN		Approved Resistance kN		Design Spacing (S)* mm		Design Edge Distance (C)* mm		
			Tensile (N _{Rk})	Shear (V _{Rk})	Tensile (N _{Rd})	Shear (V _{Rd})	Tensile (N _{Ap})	Shear (V _{Ap})	Tensile	Shear	Tensile	Shear	
8	160	190	26.0	13.0	13.9	8.3	9.9	5.9	110	40	90	100	
10	200	230	41.0	20.0	21.9	12.8	15.6	9.1	160	40	110	130	
12	240	270	59.0	30.0	31.5	19.2	22.5	13.7	200	60	120	170	
16	320	350	110.0	55.0	58.8	35.2	42.0	25.1	330	80	200	260	
20	400	445	171.0	86.0	91.4	55.1	65.3	39.4	330	100	260	340	
24	480	540	247.0	124.0	132.0	79.4	94.3	56.7	200	120	230	360	
30	600	670	393.0	196.0	210.1	125.6	150.1	89.7	370	140	400	510	





RANGE AND LOAD DATA

* The significant large figures on the Performance Data tables are a direct consequence of the presumed minimum concrete thickness for each size and the low concrete class, categorized as C20/25. To reduce spacing and edge distances, it becomes imperative to input precise project-specific details into the advanced [JCP Anchor Calculator](#). By doing so, the anchors can be rigorously scrutinized and verified, assuring a safe and reliable assessment.

This accurate approach not only ensures enhanced safety but also guarantees adherence to the latest anchors' regulations, instilling confidence in the overall structural anchors assessment.

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

SUPPLEMENTARY DATA

INFLUENCE OF CONCRETE STRENGTH*					
Concrete strength		C20/25	C30/37	C40/50	C50/60
Cylinder	N/mm ²	20	30	40	50
Cube	N/mm ²	25	37	50	60
Factor	Non-cracked	1.0	1.10	1.18	1.25
	Cracked	1.0	1.09	1.16	1.22

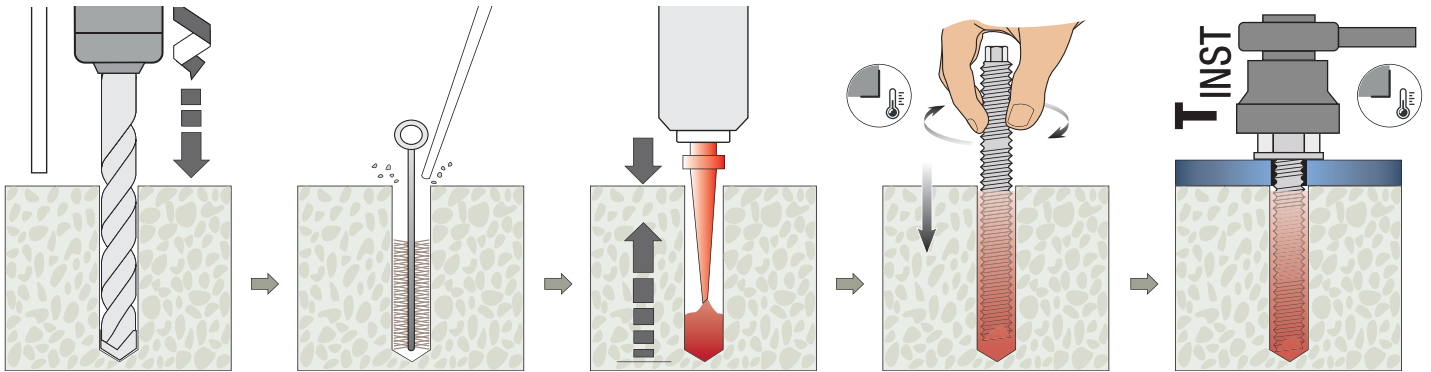
*: Important Note: When using concrete factors ensure that loads do not exceed Steel Design Resistance.

STEEL DESIGN RESISTANCE FOR SINGLE ANCHOR								
Load Type	Steel Grade	Threaded Rod Size						
		M8	M10	M12	M16	M20	M24	M30
Tensile (kN)	Grade 5.8	12.0	19.3	28.0	52.0	81.3	117.3	187.3
	Grade 8.8	19.3	30.7	44.7	84.0	130.7	188.0	299.3
	Stainless Steel Grade A4-70	13.9	21.9	31.6	58.8	92.0	132.1	210.2
Shear (kN)	Grade 5.8	7.2	12.0	16.8	31.2	48.8	70.4	112.0
	Grade 8.8	12.0	18.4	27.2	50.4	78.4	112.8	179.2
	Stainless Steel Grade A4-70	8.3	12.8	19.2	35.3	55.1	79.5	125.6





INSTALLATION INSTRUCTIONS



-Drill correct diameter hole to corresponding depth

-Clean hole by brushing, blowing to remove drilling debris and dust:
2xBlowing*
2xBrushing**
2xBlowing
2xBrushing
2xBlowing

-Attach nozzle to cartridge
-Extrude first part to waste until an even colour is achieved
-Fill hole 1/3 to 1/2 full starting from the bottom of the hole

-Insert stud into base material by hand using a twisting motion

-Allow resin to cure
-Attach fixture
-Tighten with torque wrench to recommended torque

* Manual air cleaning for bore hole diameters $d_o \leq 18\text{mm}$ and bore hole depth $h_o \leq 10d$. For other sizes follow the installation instructions mentioned in the product's [ETA](#).

** The brush must produce natural resistance as it enters the bore hole. If not, the brush is too small and must be replaced with the proper brush diameter. The brush size should be according to the [ETA document](#) and the following table.

Thread Diameter (d) mm	Drill Hole Diameter (d_o) mm	Brush Size (d_b) mm
M8	10	10
M10	12	12
M12	14	14
M16	18	18
M20	22	22
M24	28	28
M30	35	35

INSTALLATION INSTRUCTIONS VIDEO

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



[How to install the UltraBond100 Resin](#)





Chemical Resistance

Chemical Agent	Concentration	Resistant
Ammonia, aqueous solution	5	✓
Citric acid	10	✓
Concrete plasticiser	100	✓
Deionised water	100	✓
Diesel	100	✓
Petrol	100	✗
Ethylene glycol	100	✓
Hydraulic fluid	100	✓
Hydrochloric acid	36	✗
Hydrogen peroxide	10	✓
Machinery oil	100	✓
Nitric acid	10	✗
Nitric acid	15	✗
Sea water	100	✓
Sodium hydroxide	20	✓
Sodium hydroxide	50	✗
Sulfuric acid	10	✓
Sulfuric acid	30	✓
White Spirit	100	✓
Water	100	✓
Xylene	30	✓

Results shown above are applicable to brief periods of chemical contact with full cured resin (e.g. temporary contact during a spill.)

