

Styrene-free Injection Resins



Benefits of the VJT Injection Resin Range

HPE 385 and 585 deliver
superb performance

New mixing system
for V420+

Unique EC410+ Express
Cure version

Ideal working times at a
wide range of temperatures

Fire rated Vinylester Resin
and Pure Epoxy Resin.

Excellent loading values
for rebar of all sizes

Easy flow High
Performance Epoxy

Grey colour neutral
against concrete

BUILDING CONFIDENCE



www.vjtechnology.com

The Styrene Free Range

V.J. Technology has a range of resins which can satisfy every possible need of the construction industry. Manufactured exclusively for VJT the range consists of the high performing Pure Epoxy Resin (HPE series), the Vinylester resin (V series) and the Epoxy Acrylate resin (E series).

Benefits of the VJT Range

HPE 385 and 585 deliver superb performance in oversized and wet holes.

New mixing system for V420+

Unique EC410+ Express Cure version for the colder, winter months.

Ideal working times at a wide range of temperatures:

Substrate temperature from -5°C – 40°C.

Fire rated Vinylester Resin and Pure Epoxy Resin.

Excellent loading values for rebar of all sizes.

Easy flow High Performance Epoxy.

V and HPE are virtually odour free.

Suitable for pneumatic drill, rotary hammer drill and diamond core holes.

Grey colour neutral against concrete.



V420+ HIGH PERFORMANCE VINYLESTER RESIN

Accessories

- Sturdy applicator gun
- Blow-out pump
- Bottle brushes
- Extension tubes

Available in two kit forms:

1. Cartridges and nozzles with applicator gun, blow-out pump and brush.
2. Cartridges and nozzles only.

Both kits supplied in a free sturdy storage box.

VJT Code	Description	Box Content
06000110	VJ Resin Storage Box	Empty
06000120	VJ V420+ Resin Site Box	12 Cartridges + 24 Nozzles
06000130	VJ V420+ Resin Kit	12 Cartridges + 24 Nozzles + Applicator Gun, Blow-out Pump & Brush



Overview of the Range & Accessories

HPE 385 / 585

HPE is a high performance pure epoxy resin available in 385ml and 585ml cartridges. (A 1400ml cartridge is available to special order).

HPE holds ETA-10/0087 Option 1, cracked and non cracked concrete, for threaded studs and rebar, and is fire rated to DIN EN 1363-1:1999-10 from the iBMB, Braunschweig, Germany.

HPE is a free flowing, non shrink resin with an extended cure time making it ideal for deep holes for starter bars. HPE can be used in flooded holes and in diamond drilled holes.

HPE is included in the new VJ Technology iCalc software.

V420+

V420+ is a high quality, low odour, fire rated vinylester resin in a 420ml cartridge.

V420+ holds ETA-10/0131 Option 7, non cracked concrete, for threaded studs and rebar, ETA -10/0136 for "post installed rebars" and is fire rated to DIN EN 1363-1:1999-10 from the iBMB, Braunschweig, Germany.

V420+ has a new mixing system and an easy grip cap.

V420+ is suitable for most base materials and can be used with Chemical Anchor Studs, Internally Threaded Sockets, and Sieves in hollow materials. V420+ can be used in flooded holes.

V420+ is included in the new VJ Technology iCalc software.

E / EC 410+

High performance Epoxy Acrylate Resin, available in 410ml co-axial cartridge and can also be supplied in a 910ml Jumbo cartridge to order.

Available in standard cure and express cure versions (express cure for winter).

Suitable for most base materials and can be used with Chemical Anchor Studs, Internally Threaded Sockets, sieves in hollow base material and Rebar.

E/EC410+ is included in the new VJ Technology iCalc software.

Chemical Anchor Studs

Chemical Anchor Studs are stocked in all standard sizes in Zinc Plated, Galvanised and Stainless Steel.

Grade 8.8 steel and special lengths are available to order.

Dispensing Guns

Dispensing Guns are available for all sizes of resin cartridge.

Pneumatic and battery guns are also available for high volume usage.

Bottle brushes

Bottle brushes are available in various sizes and must be used for dust removal in conjunction with the air pump.

Air pump

An air pump is required to remove all dust and debris after brushing the hole.

On site compressed air can also be used.



HPE 385

Pure Epoxy, styrene-free resin

All data applies to:

single anchor, no edge or spacing influence
non-cracked concrete C 20/25, normal reinforcement



Embedment depth and base material thickness for the basic load data.

Anchor size	M8	M10	M12	M16	M20	M24	M30
Embedment depth $h_{ef} = h_{ef,typ}$ [mm]	80	90	110	125	170	210	270
Base material thickness $h = h_{min}$ [mm]	110	120	140	161	218	266	340

Zinc Plated Steel

Characteristic resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rk} Zinc plated 5.8 Stud [kN]	18.0	28.2	41.4	70.58	111.93	153.68	224.1
Shear V_{Rk} Zinc plated 5.8 Stud [kN]	9.0	15.0	21.0	39.0	61.0	88.0	168.0

Design resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rd} Zinc plated 5.8 Stud [kN]	12.0	18.8	27.6	39.21	53.3	73.18	106.7
Shear V_{Rd} Zinc plated 5.8 Stud [kN]	7.2	12.0	16.8	31.2	48.8	70.4	112.0

Recommended loads: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{rec} Zinc plated 5.8 Stud [kN]	8.6	13.4	19.7	28.0	38.07	52.27	76.2
Shear V_{rec} Zinc plated 5.8 Stud [kN]	5.1	8.6	12.0	22.3	34.9	50.3	80.0

Stainless Steel

Characteristic resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rk} Stainless steel A4 [kN]	20.1	28.2	41.4	58.8	93.3	128.1	224.1
Shear V_{Rk} Stainless steel A4 [kN]	13.0	20.0	30.0	55.0	86.0	124.0	140.0

Design resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rd} Stainless steel A4 [kN]	13.4	18.8	27.6	39.2	62.2	85.4	124.5
Shear V_{Rd} Stainless steel A4 [kN]	8.3	12.8	19.2	35.3	55.1	79.5	58.8

Recommended loads: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{rec} Stainless steel A4 [kN]	9.6	13.4	19.7	28.0	44.4	61.0	88.9
Shear V_{rec} Stainless steel A4 [kN]	5.9	9.1	13.7	25.2	39.4	56.8	42.0

Influence of Anchor Spacing

Spacing [mm]	M8	M10	M12	M16	M20	M24	M30
40	0.63						
50	0.66	0.64					
60	0.69	0.67	0.64				
80	0.75	0.72	0.68	0.66			
100	0.81	0.78	0.73	0.70	0.65		
120	0.88	0.83	0.77	0.74	0.68	0.64	
140	0.94	0.89	0.82	0.78	0.71	0.67	
160	1.00	0.94	0.86	0.82	0.74	0.69	0.65
180		1.00	0.91	0.86	0.76	0.71	0.67
200			0.95	0.90	0.79	0.74	0.69
220			1.00	0.94	0.82	0.76	0.70
230				0.96	0.84	0.77	0.71
250				1.00	0.87	0.80	0.73
300					0.94	0.86	0.78
340					1.00	0.90	0.81
380						0.95	0.85
420						1.00	0.89
480							0.94
540							1.00

Influence of Edge Distance

Edge [mm]	M8	M10	M12	M16	M20	M24	M30
40	0.64						
50	0.73	0.68					
60	0.82	0.76	0.67				
70	0.91	0.84	0.74	0.68			
75	0.96	0.88	0.77	0.71			
80	1.00	0.92	0.80	0.74			
90		1.00	0.87	0.80	0.66		
110			1.00	0.91	0.75	0.66	
115				0.94	0.77	0.67	
125				1.00	0.81	0.71	0.61
150					0.92	0.79	0.68
170					1.00	0.86	0.73
190						0.93	0.79
210						1.00	0.84
240							0.92
270							1.00



VJT Code	Description	Box Qty
06000100	HPE385 Epoxy Resin & Nozzle	12

Influence of Concrete Strength

Concrete Class	Factor
C20/25	1.0
C30/37	1.04
C40/50	1.08
C50/60	1.10





HPE 385

Pure Epoxy, styrene-free resin

CAS Mechanical Properties

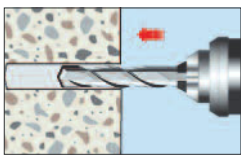
Thread diameter	M8	M10	M12	M16	M20	M24	M30
Stud Length (mm)	110	130	160	190	260	300	380
Stressed cross section (mm ²)	36.6	58.0	84.3	157.0	245.0	353.0	561.0
Nominal tensile strength Grade 5.8 (N/mm ²)	500	500	500	500	500	500	500
Yield strength Grade 5.8 (N/mm ²)	400	400	400	400	400	400	400
Nominal tensile strength Stainless Steel (N/mm ²)	700	700	700	700	700	700	500
Yield strength Stainless Steel (N/mm ²)	450	450	450	450	450	450	210
Width across the flats (mm)	13	17	19	24	30	36	36

Installation Parameters

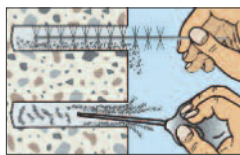
Anchor sizes		M8	M10	M12	M16	M20	M24	M30
Nominal diameter of drill bit [mm]	d _o	10	12	14	18	24	28	35
Embed depth & Drill hole depth [mm]	h _{ef}	80	90	110	125	170	210	270
Axial distance (2.0 x hef) [mm]	S _{cr1n}	160	180	220	250	340	420	540
Min axial distance (5.0 x d) [mm]	S _{min}	40	50	60	80	100	120	150
Edge distance (1.0 x hef) [mm]	C _{er1n}	80	90	110	125	170	210	270
Min edge distance (5.0 x d) [mm]	C _{min}	40	50	60	80	100	120	150
Tightening Torque [Nm]	T _{inst}	10	20	40	80	120	160	200
Base material thickness [mm]	h _{min}	110	120	140	161	218	266	340
Diameter of hole in fixture [mm]	d _r	9	12	14	18	22	26	33



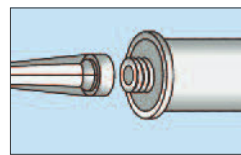
Installation Procedure



1. Drill correct size hole



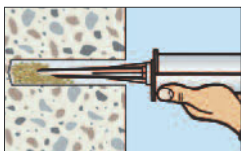
2. Clean hole by brushing & blowing at least 3 times



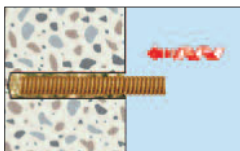
3. Screw mixer onto the cartridge



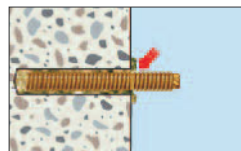
4. Extrude to waste until resin is an even colour



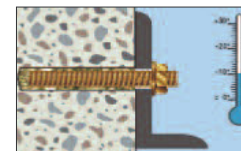
5. Starting from the back, inject resin until hole is at least 1/2 full



6. Insert anchor to base of hole with a twisting action



7. Visual check to ensure sufficient resin used



8. Allow full cure time before attaching fixture and applying torque.

IBMB Fire Rated Approval

Fire resistance times in combination with threaded studs (M8 to M24) made of zinc plated steel, property class 5.8 or higher as well as stainless steel A4-70

Designation Fire resistance time t _r [min]	V J Technology HPE 385 Bonded Anchor					
	Maximum tensile load F [kN]					
	M8	M10	M12	M16	M20	M24
30	0.90	3.20	4.20	8.25	17.25	24.85
60	0.50	1.80	2.30	5.30	10.20	14.75
90	0.30	1.10	1.40	3.80	6.70	9.70
120	0.20	0.75	0.90	3.00	5.00	7.20

The fire tests were undertaken by:
The Institute für Baustoffe, Massivbau und Brandschutz. Braunschweig, Germany.

Reaction Times

Base Material Temp.	Gel Time	Standard Cure Time
0°C	180 min	50 hours
10°C	120 min	24 hours
20°C	30 min	10 hours
30°C	20 min	6 hours
40°C	12 min	4 hours

For wet conditions multiply cure times by two.



HPE 385 Pure Epoxy

Rebar Fixing Data

Dimensional Data and Mechanical Properties

Rebar diameter (mm)	H8	H10	H12	H14	H16	H20	H25	H28	H32
Hole diameter (mm)	12	14	16	18	20	24	32	35	37
Embed depth & Drilling depth [mm]	80	90	110	125	125	170	210	270	300
Base material thickness [mm]	100	120	140	170	170	220	270	340	380
Stress area [mm ²]	50.3	78.5	113.1	153.9	201.1	314.2	490.9	615.8	804.2
Tensile strength [N/mm ²]	550								
Yield stress [N/mm ²]	500								



Characteristic resistance: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Tensile	22.12	31.10	41.47	54.98	59.69	96.13	148.44	201.88	256.35
Shear	14.00	22.00	31.00	42.00	55.00	86.00	135.00	169.00	221.00

Design resistance: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Tensile	12.29	17.28	23.04	30.54	53.3	45.78	70.69	96.13	122.07
Shear	9.33	14.67	20.67	28.00	36.67	57.33	90.00	112.67	147.33

Recommended loads: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Tensile	8.78	12.34	16.46	21.82	38.07	32.70	50.49	68.67	87.20
Shear	6.66	10.48	14.76	20.00	26.19	40.95	64.29	80.48	105.24

Embedment Depth to exceed rebar ultimate tensile strength C20/25 Concrete (with no influences)

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Embedment Depth (mm)	8.78	12.34	16.46	21.82	38.07	32.70	50.49	68.67	87.20

Influence of Anchor Spacing

Spacing [mm]	H8	H10	H12	H14	H16	H20	H25	H28	H32
40	0.63								
50	0.66	0.64							
60	0.69	0.67	0.64						
80	0.75	0.72	0.68	0.66	0.66				
100	0.81	0.78	0.73	0.70	0.70	0.65			
120	0.88	0.83	0.77	0.74	0.74	0.68	0.64		
140	0.94	0.89	0.82	0.78	0.78	0.71	0.67	0.63	
160	1.00	0.94	0.86	0.82	0.82	0.74	0.69	0.65	
180		1.00	0.91	0.86	0.86	0.76	0.71	0.67	0.64
200			0.95	0.90	0.90	0.79	0.74	0.69	0.65
220			1.00	0.94	0.94	0.82	0.76	0.70	0.67
230				0.96	0.96	0.84	0.77	0.71	0.67
250				1.00	1.00	0.87	0.80	0.73	0.69
300						0.94	0.86	0.78	0.73
340						1.00	0.90	0.81	0.76
380							0.95	0.85	0.79
420							1.00	0.89	0.82
490								0.95	0.87
540								1.00	0.91
600									0.95
660									1.00

Influence of Edge Distance

Edge [mm]	H8	H10	H12	H14	H16	H20	H25	H28	H32
40	0.64								
50	0.73	0.68							
60	0.82	0.76	0.67						
70	0.91	0.84	0.74	0.68	0.68				
75	0.96	0.88	0.77	0.71	0.71				
80	1.00	0.92	0.80	0.74	0.74				
90		1.00	0.87	0.80	0.80	0.66			
110			1.00	0.91	0.91	0.75	0.66		
115				0.94	0.94	0.77	0.67		
125				1.00	1.00	0.81	0.71		
150						0.92	0.79	0.68	
170						1.00	0.86	0.73	0.69
190							0.93	0.79	0.74
210							1.00	0.84	0.78
250								0.95	0.88
270								1.00	0.93
285									0.96
300									1.00

Reaction Times

Base Material Temp.	Gel Time	Standard Cure Time
0°C	180 Min.	50 Hours
10°C	120 Min.	24 Hours
20°C	30 Min.	10 Hours
30°C	20 Min.	6 Hours
40°C	12 Min.	4 Hours

For wet conditions multiply cure times by two.





HPE 585

Pure Epoxy, styrene-free resin

All data applies to:

single anchor, no edge or spacing influence
non-cracked concrete C 20/25, normal reinforcement



Embedment depth and base material thickness for the basic load data.

Anchor size	M8	M10	M12	M16	M20	M24	M30
Embedment depth $h_{ef} = h_{ef,typ}$ [mm]	80	90	110	125	170	210	270
Base material thickness $h = h_{min}$ [mm]	110	120	140	161	218	266	340

Zinc Plated Steel

Characteristic resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rk} Zinc plated 5.8 Stud [kN]	18.0	28.2	41.4	70.58	111.93	153.68	224.1
Shear V_{Rk} Zinc plated 5.8 Stud [kN]	9.0	15.0	21.0	39.0	61.0	88.0	168.0

Design resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rd} Zinc plated 5.8 Stud [kN]	12.0	18.8	27.6	39.21	53.3	73.18	106.7
Shear V_{Rd} Zinc plated 5.8 Stud [kN]	7.2	12.0	16.8	31.2	48.8	70.4	112.0

Recommended loads: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{rec} Zinc plated 5.8 Stud [kN]	8.6	13.4	19.7	28.0	38.07	52.27	76.2
Shear V_{rec} Zinc plated 5.8 Stud [kN]	5.1	8.6	12.0	22.3	34.9	50.3	80.0

Stainless Steel

Characteristic resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rk} Stainless steel A4 [kN]	20.1	28.2	41.4	58.8	93.3	128.1	224.1
Shear V_{Rk} Stainless steel A4 [kN]	13.0	20.0	30.0	55.0	86.0	124.0	140.0

Design resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rd} Stainless steel A4 [kN]	13.4	18.8	27.6	39.2	62.2	85.4	124.5
Shear V_{Rd} Stainless steel A4 [kN]	8.3	12.8	19.2	35.3	55.1	79.5	58.8

Recommended loads: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{rec} Stainless steel A4 [kN]	9.6	13.4	19.7	28.0	44.4	61.0	88.9
Shear V_{rec} Stainless steel A4 [kN]	5.9	9.1	13.7	25.2	39.4	56.8	42.0

Influence of Anchor Spacing

Spacing [mm]	M8	M10	M12	M16	M20	M24	M30
40	0.63						
50	0.66	0.64					
60	0.69	0.67	0.64				
80	0.75	0.72	0.68	0.66			
100	0.81	0.78	0.73	0.70	0.65		
120	0.88	0.83	0.77	0.74	0.68	0.64	
140	0.94	0.89	0.82	0.78	0.71	0.67	
160	1.00	0.94	0.86	0.82	0.74	0.69	0.65
180		1.00	0.91	0.86	0.76	0.71	0.67
200			0.95	0.90	0.79	0.74	0.69
220			1.00	0.94	0.82	0.76	0.70
230				0.96	0.84	0.77	0.71
250				1.00	0.87	0.80	0.73
300					0.94	0.86	0.78
340					1.00	0.90	0.81
380						0.95	0.85
420						1.00	0.89
480							0.94
540							1.00

Influence of Edge Distance

Edge [mm]	M8	M10	M12	M16	M20	M24	M30
40	0.64						
50	0.73	0.68					
60	0.82	0.76	0.67				
70	0.91	0.84	0.74	0.68			
75	0.96	0.88	0.77	0.71			
80	1.00	0.92	0.80	0.74			
90		1.00	0.87	0.80	0.66		
110			1.00	0.91	0.75	0.66	
115				0.94	0.77	0.67	
125				1.00	0.81	0.71	0.61
150					0.92	0.79	0.68
170					1.00	0.86	0.73
190						0.93	0.79
210						1.00	0.84
240							0.92
270							1.00



VJT Code	Description	Box Qty
06000105	HPE585 Epoxy Resin & Nozzle 12	

Influence of Concrete Strength

Concrete Class	Factor
C20/25	1.0
C30/37	1.04
C40/50	1.08
C50/60	1.10





HPE 585

Pure Epoxy, Styrene-free Resin

CAS Mechanical Properties

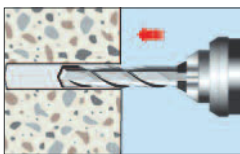
Thread diameter	M8	M10	M12	M16	M20	M24	M30
Stud Length (mm)	110	130	160	190	260	300	380
Stressed cross section (mm ²)	36.6	58.0	84.3	157.0	245.0	353.0	561.0
Nominal tensile strength Grade 5.8 (N/mm ²)	500	500	500	500	500	500	500
Yield strength Grade 5.8 (N/mm ²)	400	400	400	400	400	400	400
Nominal tensile strength Stainless Steel (N/mm ²)	700	700	700	700	700	700	500
Yield strength Stainless Steel (N/mm ²)	450	450	450	450	450	450	210
Width across the flats (mm)	13	17	19	24	30	36	36

Installation Parameters

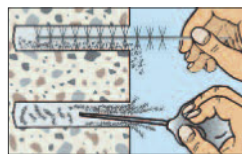
Anchor sizes		M8	M10	M12	M16	M20	M24	M30
Nominal diameter of drill bit [mm]	d _o	10	12	14	18	24	28	35
Embed depth & Drill hole depth [mm]	h _{ef}	80	90	110	125	170	210	270
Axial distance (2.0 x hef) [mm]	S _{cr1n}	160	180	220	250	340	420	540
Min axial distance (5.0 x d) [mm]	S _{min}	40	50	60	80	100	120	150
Edge distance (1.0 x hef) [mm]	C _{cr1n}	80	90	110	125	170	210	270
Min edge distance (5.0 x d) [mm]	C _{min}	40	50	60	80	100	120	150
Tightening Torque [Nm]	T _{inst}	10	20	40	80	120	160	200
Base material thickness [mm]	h _{min}	110	120	140	161	218	266	340
Diameter of hole in fixture [mm]	d _r	9	12	14	18	22	26	33



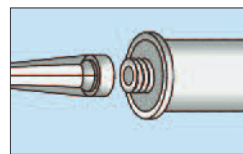
Installation Procedure



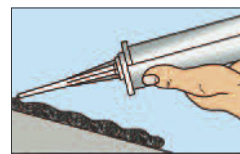
1. Drill correct size hole



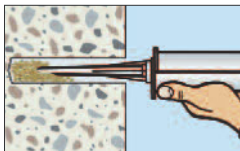
2. Clean hole by brushing & blowing at least 3 times



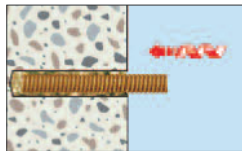
3. Screw mixer onto the cartridge



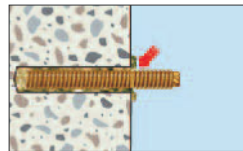
4. Extrude to waste until resin is an even colour



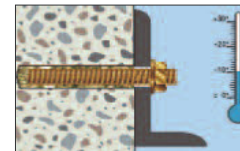
5. Starting from the back, inject resin until hole is at least 1/2 full



6. Insert anchor to base of hole with a twisting action



7. Visual check to ensure sufficient resin used



8. Allow full cure time before attaching fixture and applying torque.

IBMB Fire Rated Approval

Fire resistance times in combination with threaded studs (M8 to M24) made of zinc plated steel, property class 5.8 or higher as well as stainless steel A4-70

Designation Fire resistance time t _a [min]	V J Technology HPE 585 Bonded Anchor					
	Maximum tensile load F [kN]					
	M8	M10	M12	M16	M20	M24
30	0.90	3.20	4.20	8.25	17.25	24.85
60	0.50	1.80	2.30	5.30	10.20	14.75
90	0.30	1.10	1.40	3.80	6.70	9.70
120	0.20	0.75	0.90	3.00	5.00	7.20

The fire tests were undertaken by:
The Institute für Baustoffe, Massivbau und Brandschutz, Braunschweig, Germany.

Reaction Times

Base Material Temp.	Gel Time	Standard Cure Time
0°C	180 min	50 hours
10°C	120 min	24 hours
20°C	30 min	10 hours
30°C	20 min	6 hours
40°C	12 min	4 hours

For wet conditions multiply cure times by two.





HPE 585 Pure Epoxy

Rebar Fixing Data

Dimensional Data and Mechanical Properties

Rebar diameter (mm)	H8	H10	H12	H14	H16	H20	H25	H28	H32
Hole diameter (mm)	12	14	16	18	20	24	32	35	37
Embed depth & Drilling depth [mm]	80	90	110	125	125	170	210	270	300
Base material thickness [mm]	100	120	140	170	170	220	270	340	380
Stress area [mm ²]	50.3	78.5	113.1	153.9	201.1	314.2	490.9	615.8	804.2
Tensile strength [N/mm ²]	550								
Yield stress [N/mm ²]	500								



Characteristic resistance: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Tensile	22.12	31.10	41.47	54.98	59.69	96.13	148.44	201.88	256.35
Shear	14.00	22.00	31.00	42.00	55.00	86.00	135.00	169.00	221.00

Design resistance: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Tensile	12.29	17.28	23.04	30.54	53.3	45.78	70.69	96.13	122.07
Shear	9.33	14.67	20.67	28.00	36.67	57.33	90.00	112.67	147.33

Recommended loads: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Tensile	8.78	12.34	16.46	21.82	38.07	32.70	50.49	68.67	87.20
Shear	6.66	10.48	14.76	20.00	26.19	40.95	64.29	80.48	105.24

Embedment Depth to exceed rebar ultimate tensile strength C20/25 Concrete (with no influences)

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Embedment Depth (mm)	105	125	165	195	235	310	385	455	520

Influence of Anchor Spacing

Spacing [mm]	H8	H10	H12	H14	H16	H20	H25	H28	H32
40	0.63								
50	0.66	0.64							
60	0.69	0.67	0.64						
80	0.75	0.72	0.68	0.66	0.66				
100	0.81	0.78	0.73	0.70	0.70	0.65			
120	0.88	0.83	0.77	0.74	0.74	0.68	0.64		
140	0.94	0.89	0.82	0.78	0.78	0.71	0.67	0.63	
160	1.00	0.94	0.86	0.82	0.82	0.74	0.69	0.65	
180		1.00	0.91	0.86	0.86	0.76	0.71	0.67	0.64
200			0.95	0.90	0.90	0.79	0.74	0.69	0.65
220			1.00	0.94	0.94	0.82	0.76	0.70	0.67
230				0.96	0.96	0.84	0.77	0.71	0.67
250				1.00	1.00	0.87	0.80	0.73	0.69
300						0.94	0.86	0.78	0.73
340						1.00	0.90	0.81	0.76
380							0.95	0.85	0.79
420							1.00	0.89	0.82
490								0.95	0.87
540								1.00	0.91
600									0.95
660									1.00

Influence of Edge Distance

Edge [mm]	H8	H10	H12	H14	H16	H20	H25	H28	H32
40	0.64								
50	0.73	0.68							
60	0.82	0.76	0.67						
70	0.91	0.84	0.74	0.68	0.68				
75	0.96	0.88	0.77	0.71	0.71				
80	1.00	0.92	0.80	0.74	0.74				
90		1.00	0.87	0.80	0.80	0.66			
110			1.00	0.91	0.91	0.75	0.66		
115				0.94	0.94	0.77	0.67		
125				1.00	1.00	0.81	0.71		
150						0.92	0.79	0.68	
170						1.00	0.86	0.73	0.69
190							0.93	0.79	0.74
210							1.00	0.84	0.78
250								0.95	0.88
270								1.00	0.93
285									0.96
300									1.00

Reaction Times

Base Material Temp.	Gel Time	Standard Cure Time
0°C	180 min	50 hours
10°C	120 min	24 hours
20°C	30 min	10 hours
30°C	20 min	6 hours
40°C	12 min	4 hours

For wet conditions multiply cure times by two.



V420+ Vinylester based, Styrene-free Resin

All data applies to:

single anchor, no edge or spacing influence
non-cracked concrete C 20/25, normal reinforcement



Embedment depth and base material thickness for the basic load data.

Anchor size	M8	M10	M12	M16	M20	M24	M30
Embedment depth $h_{ef} = h_{ef,typ}$ [mm]	80	90	110	125	170	210	270
Base material thickness $h = h_{min}$ [mm]	110	120	140	161	218	266	340



Zinc Plated Steel

Characteristic resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rk} Zinc plated 5.8 Stud [kN]	18.0	28.2	41.4	70.58	111.93	153.68	224.1
Shear V_{Rk} Zinc plated 5.8 Stud [kN]	9.0	15.0	21.0	39.0	61.0	88.0	168.0

Design resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rd} Zinc plated 5.8 Stud [kN]	12.0	18.8	27.6	39.21	53.3	73.18	106.7
Shear V_{Rd} Zinc plated 5.8 Stud [kN]	7.2	12.0	16.8	31.2	48.8	70.4	112.0

Recommended loads: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{rec} Zinc plated 5.8 Stud [kN]	8.6	13.4	19.7	28.0	44.4	61.0	88.9
Shear V_{rec} Zinc plated 5.8 Stud [kN]	5.1	8.6	12.0	22.3	34.9	50.3	80.0

Stainless Steel

Characteristic resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rk} Stainless steel A4 [kN]	20.1	28.2	41.4	58.8	93.3	128.1	224.1
Shear V_{Rk} Stainless steel A4 [kN]	13.0	20.0	30.0	55.0	86.0	124.0	140.0

Design resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{Rd} Stainless steel A4 [kN]	13.4	18.8	27.6	39.2	62.2	85.4	124.5
Shear V_{Rd} Stainless steel A4 [kN]	8.3	12.8	19.2	35.3	55.1	79.5	58.8

Recommended loads: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24	M30
Tensile N_{rec} Stainless steel A4 [kN]	9.6	13.4	19.7	28.0	44.4	61.0	88.9
Shear V_{rec} Stainless steel A4 [kN]	5.9	9.1	13.7	25.2	39.4	56.8	42.0

Influence of Anchor Spacing

Spacing [mm]	M8	M10	M12	M16	M20	M24	M30
40	0.63						
50	0.66	0.64					
60	0.69	0.67	0.64				
80	0.75	0.72	0.68	0.66			
100	0.81	0.78	0.73	0.70	0.65		
120	0.88	0.83	0.77	0.74	0.68	0.64	
140	0.94	0.89	0.82	0.78	0.71	0.67	
160	1.00	0.94	0.86	0.82	0.74	0.69	0.65
180		1.00	0.91	0.86	0.76	0.71	0.67
200			0.95	0.90	0.79	0.74	0.69
220			1.00	0.94	0.82	0.76	0.70
230				0.96	0.84	0.77	0.71
250				1.00	0.87	0.80	0.73
300					0.94	0.86	0.78
340					1.00	0.90	0.81
380						0.95	0.85
420						1.00	0.89
480							0.94
540							1.00

Influence of Edge Distance

Edge [mm]	M8	M10	M12	M16	M20	M24	M30
40	0.64						
50	0.73	0.68					
60	0.82	0.76	0.67				
70	0.91	0.84	0.74	0.68			
75	0.96	0.88	0.77	0.71			
80	1.00	0.92	0.80	0.74			
90		1.00	0.87	0.80	0.66		
110			1.00	0.91	0.75	0.66	
115				0.94	0.77	0.67	
125				1.00	0.81	0.71	0.61
150					0.92	0.79	0.68
170					1.00	0.86	0.73
190						0.93	0.79
210						1.00	0.84
240							0.92
270							1.00



VJT Code	Description	Box Qty
06000075	V 420+ Vinylester Resin & Nozzle	12

Influence of Concrete Strength

Concrete Class	Factor
C20/25	1.0
C30/37	1.04
C40/50	1.08
C50/60	1.10





V420+

Vinylester based, Styrene-free Resin

CAS Mechanical Properties

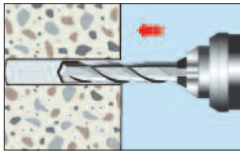
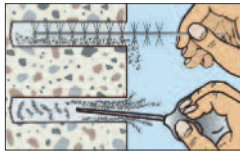
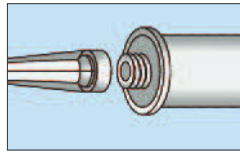
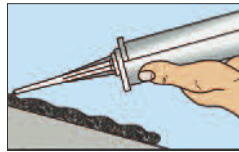
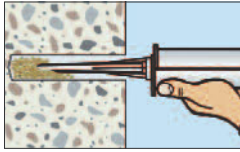
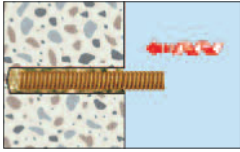
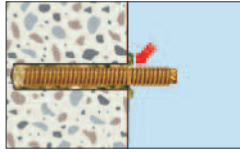
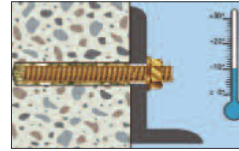
Thread diameter	M8	M10	M12	M16	M20	M24	M30
Stud Length (mm)	110	130	160	190	260	300	380
Stressed cross section (mm ²)	36.6	58.0	84.3	157.0	245.0	353.0	561.0
Nominal tensile strength Grade 5.8 (N/mm ²)	500	500	500	500	500	500	500
Yield strength Grade 5.8 (N/mm ²)	400	400	400	400	400	400	400
Nominal tensile strength Stainless Steel (N/mm ²)	700	700	700	700	700	700	500
Yield strength Stainless Steel (N/mm ²)	450	450	450	450	450	450	210
Width across the flats (mm)	13	17	19	24	30	36	36

Installation Parameters

Anchor sizes		M8	M10	M12	M16	M20	M24	M30
Nominal diameter of drill bit [mm]	d _o	10	12	14	18	24	28	35
Embed depth & Drill hole depth [mm]	h _{ef}	80	90	110	125	170	210	270
Axial distance (2.0 x h _{ef}) [mm]	S _{cr1n}	160	180	220	250	340	420	540
Min axial distance (5.0 x d) [mm]	S _{min}	40	50	60	80	100	120	150
Edge distance (1.0 x h _{ef}) [mm]	C _{cr1n}	80	90	110	125	170	210	270
Min edge distance (5.0 x d) [mm]	C _{min}	40	50	60	80	100	120	150
Tightening Torque [Nm]	T _{inst}	10	20	40	80	120	160	200
Base material thickness [mm]	h _{min}	110	120	140	161	218	266	340
Diameter of hole in fixture [mm]	d _f	9	12	14	18	22	26	33



Installation Procedure

-  1. Drill correct size hole
-  2. Clean hole by brushing & blowing at least 3 times
-  3. Screw mixer onto the cartridge
-  4. Extrude to waste until resin is an even colour
-  5. Starting from the back, inject resin until hole is at least 1/2 full
-  6. Insert anchor to base of hole with a twisting action
-  7. Visual check to ensure sufficient resin used
-  8. Allow full cure time before attaching fixture and applying torque.

IBMB Fire Rated Approval

Fire resistance times in combination with threaded studs (M8 to M24) made of zinc plated steel, property class 5.8 or higher as well as stainless steel A4-70

Designation	V J Technology V420+ Bonded Anchor					
	Fire resistance time t _a [min]					
	Maximum tensile load F [kN]					
	M8	M10	M12	M16	M20	M24
30	1.64	2.60	3.35	6.25	9.75	14.04
60	1.12	1.77	2.59	4.82	7.52	10.84
90	0.59	0.94	1.82	3.40	5.30	7.64
120	0.33	0.52	1.44	2.69	4.19	6.04

The fire tests were undertaken by:
The Institute für Baustoffe, Massivbau und Brandschutz, Braunschweig, Germany.

Reaction Times

Base Material Temp.	Gel Time	Standard Cure Time
-5°C	90 Min	24 hours
0° C	45 min	7 hours
5°C	25 min	2 hours
10° C	15 min	80 min
20° C	6 min	45 min
30° C	4 min	25 min
35° C	2 min	20 min

For wet conditions multiply cure times by two.





Dimensional Data and Mechanical Properties

Rebar diameter (mm)	H8	H10	H12	H14	H16	H20	H25	H28	H32
Hole diameter (mm)	12	14	16	18	20	24	32	35	37
Embed depth & Drilling depth [mm]	80	90	110	125	125	170	210	270	300
Base material thickness [mm]	100	120	140	170	170	220	270	340	380
Stress area [mm ²]	50.3	78.5	113.1	153.9	201.1	314.2	490.9	615.8	804.2
Tensile strength [N/mm ²]	550								
Yield stress [N/mm ²]	500								



Characteristic resistance: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Tensile	17.09	28.27	41.47	54.98	62.83	106.81	148.44	190.00	211.12
Shear	14.00	22.00	31.00	42.00	55.00	86.00	135.00	169.00	221.00

Design resistance: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Tensile	9.49	15.71	23.04	30.54	34.91	59.34	82.47	105.56	117.29
Shear	9.33	14.67	20.67	28.00	36.67	57.33	90.00	112.67	147.33

Recommended loads: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Tensile	6.78	11.22	16.46	21.82	24.93	42.39	58.91	75.40	83.78
Shear	6.66	10.48	14.76	20.00	26.19	40.95	64.29	80.48	105.24

Embedment Depth to exceed rebar ultimate tensile strength C20/25 Concrete (with no influences)

Rebar	H8	H10	H12	H14	H16	H20	H25	H28	H32
Embedment Depth (mm)	135	140	165	195	225	280	385	485	630

Influence of Anchor Spacing

Spacing [mm]	H8	H10	H12	H14	H16	H20	H25	H28	H32				
40	0.63												
50	0.66	0.64											
60	0.69	0.67	0.64										
80	0.75	0.72	0.68	0.66	0.66								
100	0.81	0.78	0.73	0.70	0.70	0.65							
120	0.88	0.83	0.77	0.74	0.74	0.68	0.64						
140	0.94	0.89	0.82	0.78	0.78	0.71	0.67	0.63					
160	1.00	0.94	0.86	0.82	0.82	0.74	0.69	0.65					
180		1.00	0.91	0.86	0.86	0.76	0.71	0.67	0.64				
200			0.95	0.90	0.90	0.79	0.74	0.69	0.65				
220				1.00	0.94	0.82	0.76	0.70	0.67				
230				0.96	0.96	0.84	0.77	0.71	0.67				
250					1.00	0.87	0.80	0.73	0.69				
300						0.94	0.86	0.78	0.73				
340							1.00	0.90	0.81	0.76			
380								0.95	0.85	0.79			
420									1.00	0.89	0.82		
490										0.95	0.87		
540											1.00	0.91	
600												0.95	
660													1.00

Influence of Edge Distance

Edge [mm]	H8	H10	H12	H14	H16	H20	H25	H28	H32					
40	0.64													
50	0.73	0.68												
60	0.82	0.76	0.67											
70	0.91	0.84	0.74	0.68	0.68									
75	0.96	0.88	0.77	0.71	0.71									
80	1.00	0.92	0.80	0.74	0.74									
90		1.00	0.87	0.80	0.80	0.66								
110			1.00	0.91	0.91	0.75	0.66							
115				0.94	0.94	0.77	0.67							
125					1.00	1.00	0.81	0.71						
150							0.92	0.79	0.68					
170								1.00	0.86	0.73	0.69			
190									0.93	0.79	0.74			
210										1.00	0.84	0.78		
250											0.95	0.88		
270												1.00	0.93	
285													0.96	
300														1.00

Reaction Times

Base Material Temp.	Gel Time	Standard Cure Time
-5°C	90 min	24 hours
0°C	45 min	7 hours
5°C	25 min	2 hours
10°C	15 min	80 min
20°C	6 min	45 min
30°C	4 min	25 min
35°C	2 min	20 min

For wet conditions multiply cure times by two.





E / EC 410+ Epoxy Acrylate Styrene-free Resin

All data applies to:

single anchor, no edge or spacing influence
non-cracked concrete C 20/25, normal reinforcement

Embedment depth and base material thickness for the basic load data.

Anchor size	M8	M10	M12	M16	M20	M24
Embedment depth $h_{ef} = h_{ef,typ}$ [mm]	80	90	110	125	170	210
Base material thickness $h = h_{min}$ [mm]	110	120	140	161	218	266

Zinc Plated Steel

Characteristic resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24
Tensile N_{Rk} Zinc plated 5.8 Stud [kN]	15.9	25.4	34.9	49.9	74.6	95
Shear V_{Rk} Zinc plated 5.8 Stud [kN]	9	15	21	39*	61	88

Design resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24
Tensile N_{Rd} Zinc plated 5.8 Stud [kN]	8.8	13.9	19.4	27.7	41.5	52.8
Shear V_{Rd} Zinc plated 5.8 Stud [kN]	7.2	12	16.8	31.2	48.8	70.4

Recommended loads: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24
Tensile N_{rec} Zinc plated 5.8 Stud [kN]	6.3	9.9	13.9	19.8	29.6	37.7
Shear V_{rec} Zinc plated 5.8 Stud [kN]	5.1	8.6	12	22.3	34.9	50.3

Stainless Steel

Characteristic resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24
Tensile N_{Rk} Stainless steel A4 [kN]	15.9	25.4	34.9	49.9	74.6	95
Shear V_{Rk} Stainless steel A4 [kN]	13	20	30	55	86	124

Design resistance: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24
Tensile N_{Rd} Stainless steel A4 [kN]	8.8	13.9	19.4	27.7	41.5	52.8
Shear V_{Rd} Stainless steel A4 [kN]	8.3	12.8	19.2	35.3	55.1	79.5

Recommended loads: non-cracked concrete C 20/25

Anchor size	M8	M10	M12	M16	M20	M24
Tensile N_{rec} Stainless steel A4 [kN]	6.3	9.9	13.9	19.8	29.6	37.7
Shear V_{rec} Stainless steel A4 [kN]	5.9	9.1	13.7	25.2	39.4	56.8

Influence of Anchor Spacing

Spacing [mm]	M8	M10	M12	M16	M20	M24
40	0.63					
50	0.66	0.64				
60	0.69	0.67	0.64			
80	0.75	0.72	0.68	0.66		
100	0.81	0.78	0.73	0.70	0.65	
120	0.88	0.83	0.77	0.74	0.68	0.64
140	0.94	0.89	0.82	0.78	0.71	0.67
160	1.00	0.94	0.86	0.82	0.74	0.69
180		1.00	0.91	0.86	0.76	0.71
200			0.95	0.90	0.79	0.74
220			1.00	0.94	0.82	0.76
230				0.96	0.84	0.77
250				1.00	0.87	0.80
300					0.94	0.86
340					1.00	0.90
380						0.95
420						1.00
480						
540						

Influence of Edge Distance

Edge [mm]	M8	M10	M12	M16	M20	M24
40	0.64					
50	0.73	0.68				
60	0.82	0.76	0.67			
70	0.91	0.84	0.74	0.68		
75	0.96	0.88	0.77	0.71		
80	1.00	0.92	0.80	0.74		
90		1.00	0.87	0.80	0.66	
110			1.00	0.91	0.75	0.66
115				0.94	0.77	0.67
125				1.00	0.81	0.71
150					0.92	0.79
170					1.00	0.86
190						0.93
210						1.00
240						
270						



VJT Code	Description	Box Qty
0600010	E 410 Epoxy Acrylate Resin & Nozzle	12
0600020	EC 410 Epoxy Acrylate Resin & Nozzle	12

Influence of Concrete Strength

Concrete Class	Factor
C20/25	1.0
C30/37	1.04
C40/50	1.08
C50/60	1.10



E / EC 410+ Epoxy Acrylate Styrene-free Resin

CAS Mechanical Properties

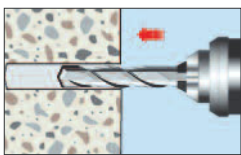
Thread diameter	M8	M10	M12	M16	M20	M24
Stud Length (mm)	110	130	160	190	260	300
Stressed cross section (mm ²)	36.6	58.0	84.3	157.0	245.0	353.0
Nominal tensile strength Grade 5.8 (N/mm ²)	500	500	500	500	500	500
Yield strength Grade 5.8 (N/mm ²)	400	400	400	400	400	400
Nominal tensile strength Stainless Steel (N/mm ²)	700	700	700	700	700	700
Yield strength Stainless Steel (N/mm ²)	450	450	450	450 <td 450	450	
Width across the flats (mm)	13	17	19	24	30	36

Installation Parameters

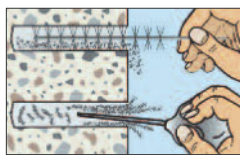
Anchor sizes		M8	M10	M12	M16	M20	M24
Nominal diameter of drill bit [mm]	d _o	10	12	14	18	24	28
Embed depth & Drill hole depth [mm]	h _{ef}	80	90	110	125	170	210
Axial distance (2.0 x hef) [mm]	S _{cr1n}	160	180	220	250	340	420
Min axial distance (5.0 x d) [mm]	S _{min}	40	50	60	80	100	120
Edge distance (1.0 x hef) [mm]	C _{cr1n}	80	90	110	125	170	210
Min edge distance (5.0 x d) [mm]	C _{min}	40	50	60	80	100	120
Tightening Torque [Nm]	T _{inst}	10	20	40	80	120	160
Base material thickness [mm]	h _{min}	110	120	140	161	218	266
Diameter of hole in fixture [mm]	d _r	9	12	14	18	22	26



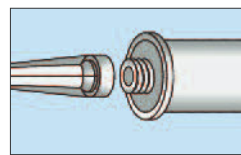
Installation Procedure



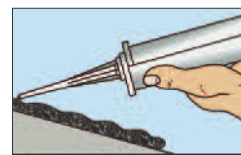
1. Drill correct size hole



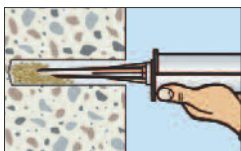
2. Clean hole by brushing & blowing at least 3 times



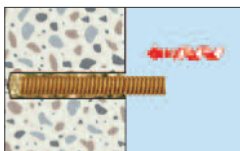
3. Screw mixer onto the cartridge



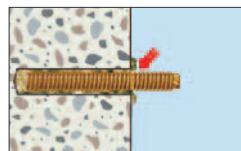
4. Extrude to waste until resin is an even colour



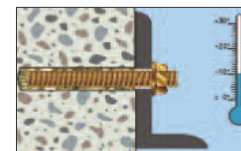
5. Starting from the back, inject resin until hole is at least 1/2 full



6. Insert anchor to base of hole with a twisting action



7. Visual check to ensure sufficient resin used



8. Allow full cure time before attaching fixture and applying torque.

Standard Cure Time

Base Material Temp.	Gel Time	Standard Cure Time
-5°C	90 Min	24 hours
0° C	45 min	7 hours
5°C	25 min	2 hours
10° C	15 min	80 min
20° C	6 min	45 min
30° C	4 min	25 min
35° C	2 min	20 min

Cure Time in wet base material should be double the standard cure.

Express Cure Time

Base Material Temp.	Gel Time	Standard Cure Time
-5°C	45 Min	12 hours
0° C	25 min	3.5 hours
5°C	10 min	60 min
10° C	6 min	40 min
20° C	3 min	20 min
30° C	1.5 min	10 min
35° C	1 min	8 min

Cure Time in wet base material should be double the standard cure.



E / EC 410+ Epoxy Acrylate

Rebar Fixing Data

Dimensional Data and Mechanical Properties

Rebar diameter (mm)	H8	H10	H12	H14	H16	H20	H25
Hole diameter (mm)	12	14	16	18	20	24	32
Embed depth & Drilling depth [mm]	80	90	110	125	125	170	210
Base material thickness [mm]	100	120	140	170	170	220	270
Stress area [mm ²]	50.3	78.5	113.1	153.9	201.1	314.2	490.9
Tensile strength [N/mm ²]	550						
Yield stress [N/mm ²]	500						

Characteristic resistance: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25
Tensile	14.82	21.03	33.79	49.13	56.15	79.07	121.04
Shear	14.00	22.00	31.00	42.00	55.00	86.00	135.00

Design resistance: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25
Tensile	8.23	11.69	18.77	27.29	31.19	43.93	67.24
Shear	9.33	14.67	20.67	28.00	36.67	57.33	90.00

Recommended loads: non-cracked concrete C 20/25

Rebar	H8	H10	H12	H14	H16	H20	H25
Tensile	5.88	8.34	13.41	19.49	22.28	31.37	48.03
Shear	6.66	10.48	14.76	20.00	26.19	40.95	64.29

Embedment Depth to exceed rebar ultimate tensile strength C20/25 Concrete (with no influences)

Rebar	H8	H10	H12	H14	H16	H20	H25
Embedment Depth (mm)	155	195	235	275	315	390	490



Influence of Anchor Spacing

Spacing [mm]	H8	H10	H12	H14	H16	H20	H25
40	0.63						
50	0.66	0.64					
60	0.69	0.67	0.64				
80	0.75	0.72	0.68	0.66	0.66		
100	0.81	0.78	0.73	0.70	0.70	0.65	
120	0.88	0.83	0.77	0.74	0.74	0.68	0.64
140	0.94	0.89	0.82	0.78	0.78	0.71	0.67
160	1.00	0.94	0.86	0.82	0.82	0.74	0.69
180		1.00	0.91	0.86	0.86	0.76	0.71
200			0.95	0.90	0.90	0.79	0.74
220			1.00	0.94	0.94	0.82	0.76
230				0.96	0.96	0.84	0.77
250				1.00	1.00	0.87	0.80
300						0.94	0.86
340						1.00	0.90
380							0.95
420							1.00

Influence of Edge Distance

Edge [mm]	H8	H10	H12	H14	H16	H20	H25	
40	0.64							
50	0.73	0.68						
60	0.82	0.76	0.67					
70	0.91	0.84	0.74	0.68	0.68			
75	0.96	0.88	0.77	0.71	0.71			
80	1.00	0.92	0.80	0.74	0.74			
90	1.00	0.87	0.80	0.80	0.66			
110				1.00	0.91	0.91	0.75	0.66
115					0.94	0.94	0.77	0.67
125					1.00	1.00	0.81	0.71
150							0.92	0.79
170							1.00	0.86
190								0.93
210								1.00

Reaction Times - Standard Cure

Base Material Temp.	Gel Time	Standard Cure Time
5°C	25 min	120 min
10°C	15 min	80 min
20°C	6 min	45 min
30°C	4 min	25 min
35°C	2 min	20 min

For wet conditions multiply cure times by two.

Reaction Times - Express Cure

Base Material Temp.	Gel Time	Standard Cure Time
5°C	10 min	60 min
10°C	6 min	40 min
20°C	3 min	20 min
30°C	1.5 min	10 min
35°C	1 min	8 min

For wet conditions multiply cure times by two.



Building Confidence



iCalc

Chemical Anchor Calculation Software



For further information contact the technical department on 01233 652520



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