Epoxy Acrylate

JFEA380SF
Vol. 410ml

INFORMATION

Epoxy Acrylate Resin is a two part grey resin (10:1) suitable for use in the vast majority of base materials. It can be used for installing threaded studs, rebar or internal threaded sockets for structural applications such as:

- Columns
- Guard rails
- Façades
- Staircases
- Cantilever beams

BASE MATERIAL

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

FEATURES

- Expansion Free
- High Performance
- Close Spacing And Edge Distance

APPROVALS

European Technical Assessment
Option 7 Non-Cracked Concrete

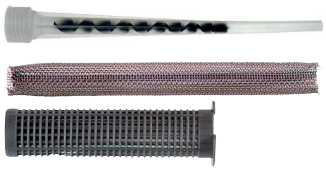
ETA14/0233

RELATED PRODUCTS

JTOOL380

Injection Resin Gun

Hole Cleaning Brushes and Pump



Mixer Nozzle JMN130
Wire Mesh Sleeve
Nylon Sleeve

Injection Accessories

WORKING/LOADING TIME

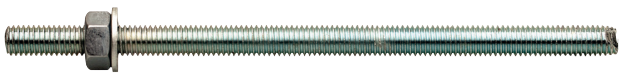
Note:
T_{work} = The highest temperature in the range
T_{load} = The lowest temperature in the range

Cartridge & Base Material Temperature °C	Usable Time T_{work} (mins)	Load Time T_{load} (mins)
Min. +5°C	18	145
+5°C to +10°C	10	145
+10°C to +20°C	6	85
+20°C to +25°C	5	50
+25°C to +30°C	4	40
+30°C to +35°C	4	35
Ensure Cartridge Temperature is > 5°C		

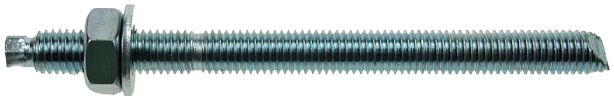
EMBEDDED THREADED ROD

- Stainless Steel Grade A4/316
- Chisel End Studs
- Setting Tool Included

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



- Zinc Plated and Clear Passivated (Min 5µm)
- Chisel End Studs
- Plain Ended



- Zinc Plated and Clear Passivated (Min 5µm)
- Chisel End Studs
- Setting Tool Included

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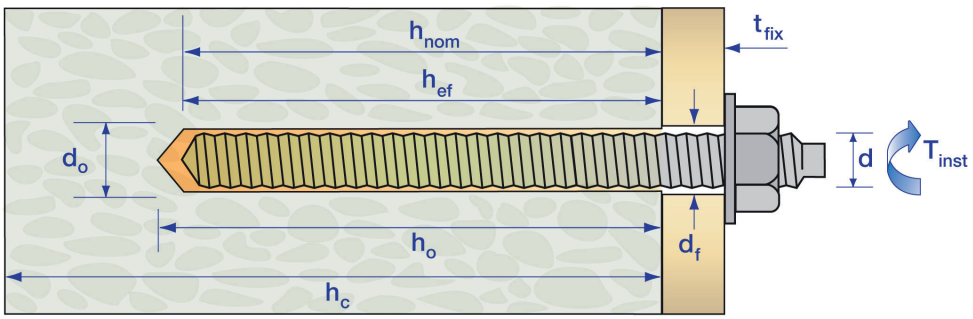
RANGE AND LOAD DATA

RANGE DATA

Part Number	Thread Diam (d) mm	Stud Length (L) mm	Drill Hole Diam. (d_0) 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_0) mm**	Max. Fix. Thickness (t_{fix}) mm	Min. Hole Depth (h_0) mm	Max. Fix. Thickness (t_{fix}) mm	Min. Hole Depth (h_0) mm	
Stainless Steel Grade A4/316 Chisel End Studs											
JSTUD08110SSA4	M8	110	10	10	18	80	38	64	6	96	10
JSTUD10130SSA4	M10	130	12	12	25	90	40	80	*	120	20
JSTUD12160SSA4	M12	160	14	14	34	110	51	96	3	144	40
JSTUD16190SSA4	M16	190	18	18	42	128	44	128	*	192	80
JSTUD20260SSA4	M20	260	22	22	55	170	79	160	*	240	150
JSTUD24300SSA4	M24	300	26	26	55	210	82	192	*	288	200
Stainless Steel Grade A4/316 Plain Ended and Chisel End Studs											
JSTUD08150PESS	M8	150	10	10	62	80	78	64	46	96	10
JSTUD10105PESS	M10	105	12	12	5	90	15	80	*	120	20
JSTUD10150PESS		150			50		60		20		
JSTUD10200PESS		200			100		110		70		
JSTUD12110PESS	M12	110	14	14	*	110	1	96	*	144	40
JSTUD12150PESS		150			27		41		*		
JSTUD12200PESS		200			77		91		43		
JSTUD16110PESS	M16	110	18	18	*	128	*	128	*	192	80
JSTUD16250PESS		250			104		104		40		
JSTUD16350PESS		350			204		204		140		
JSTUD20200PESS	M20	200	22	22	9	170	19	160	*	240	150
JSTUD20400PESS		400			209		219		139		

* *Deep Embedment Depth* can be achieved by using suitable threaded rod cut to length: $L = h_0 + (t_{fix} + t_{Nut+Washer})$

** *For the Epoxy Acrylate Resin:* $h_0 = h_{ef}$



Technical Data Sheet

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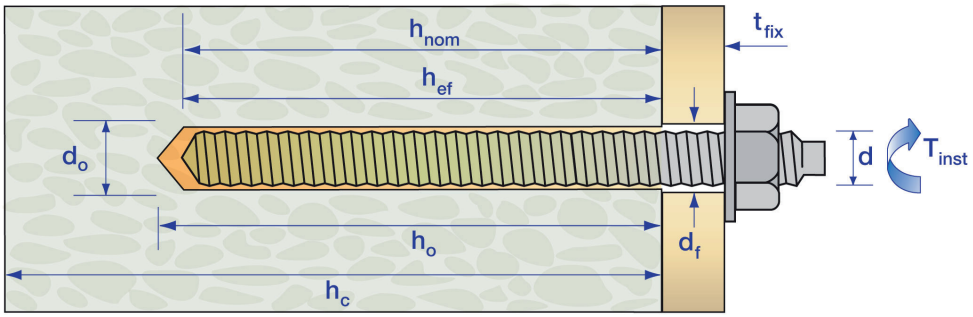
RANGE DATA

Part Number	Thread Diam (d) mm	Stud Length (L) mm	Drill Hole Diam. (d_0) 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_0) mm**	Max. Fix. Thickness (t_{fix}) mm	Min. Hole Depth (h_0) mm	Max. Fix. Thickness (t_{fix}) mm	Min. Hole Depth (h_0) mm	
Zinc Plated Steel Grade 5.8 - Clear Passivated Plain Ended and Chisel End Studs											
JSTUD08150PE	M8	150	10	10	62	80	78	64	46	96	10
JSTUD10105PE	M10	105	12	12	5	90	15	80	*	120	20
JSTUD10150PE		150			50		60		20		
JSTUD10200PE		200			100		110		70		
JSTUD12110PE	M12	110	14	14	*	110	1	96	*	144	40
JSTUD12150PE		150			27		41		*		
JSTUD12200PE		200			77		91		43		
JSTUD16110PE	M16	110	18	18	*	128	*	128	*	192	80
JSTUD16250PE		250			104		104		40		
JSTUD16350PE		350			204		204		140		
JSTUD20200PE	M20	200	22	22	9	170	19	160	*	240	150
JSTUD20400PE		400			209		219		139		
Zinc Plated Steel Grade 5.8 - Clear Passivated and Chisel End Studs											
JSTUD08110	M8	110	10	10	18	80	38	64	6	96	10
JSTUD10130	M10	130	12	12	25	90	40	80	*	120	20
JSTUD12160	M12	160	14	14	34	110	51	96	3	144	40
JSTUD16190	M16	190	18	18	42	128	44	128	*	192	80
JSTUD20260	M20	260	22	22	55	170	79	160	*	240	150
JSTUD24300	M24	300	26	26	55	210	82	192	*	288	200
JSTUD30380	M30	380	35	32	55	280	110	240	*	360	275

* *Deep Embedment Depth* can be achieved by using suitable threaded rod cut to length: $L = h_0 + (t_{fix} + t_{Nut+Washer})$

** *For the Epoxy Acrylate Resin:* $h_0 = h_{ef}$



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GRADE A4-70 STAINLESS STEEL STUDS - NON-CRACKED CONCRETE

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_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
8	64	100	16.1	13.0	8.9	8.3	6.3	5.9	190	40	100	90
10	80	110	20.1	20.0	11.1	12.8	7.9	9.1	210	40	110	120
12	96	130	32.6	30.0	18.1	19.2	12.9	13.7	270	50	140	170
16	128	170	61.1	55.0	33.9	35.2	24.2	25.1	370	70	190	260
20	160	205	85.5	86.0	47.4	55.1	33.8	39.3	430	80	220	370
24	192	245	123.1	124.0	68.3	79.4	48.8	56.7	520	100	260	480
30*	240	310	124.4	196.0	69.1	125.6	49.3	89.7	520	220	260	670

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_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
8	80	110	20.1	13.0	11.1	8.3	7.9	5.9	190	40	100	80
10	90	120	22.6	20.0	12.5	12.8	8.9	9.1	210	50	110	110
12	110	140	37.3	30.0	20.7	19.2	14.8	13.7	270	60	140	160
16	128	170	61.1	55.0	33.9	35.2	24.2	25.1	370	70	190	260
20	170	215	90.7	86.0	50.4	55.1	36.0	39.3	430	90	220	350
24	210	270	134.5	124.0	74.7	79.4	53.3	56.7	520	110	270	450
30*	280	350	145.1	196.0	69.1	125.6	49.3	89.7	520	140	270	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_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
8	96	130	24.1	13.0	13.4	8.3	9.5	5.9	190	50	100	80
10	120	150	30.2	20.0	16.7	12.8	11.9	9.1	210	60	110	100
12	144	175	48.9	30.0	27.1	19.2	19.3	13.7	270	80	140	130
16	192	230	91.7	55.0	50.9	35.2	36.3	25.1	370	100	190	200
20	240	285	128.2	86.0	71.2	55.1	50.8	39.3	430	120	220	280
24	288	340	184.5	124.0	102.5	79.4	73.2	56.7	520	150	290	360
30*	360	430	186.6	196.0	103.6	125.6	74.0	89.7	520	180	290	500

* Not included in the ETA.

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GRADE 5.8 ZINC PLATED STUDS - NON-CRACKED CONCRETE

SHALLOW EMBEDMENT

Grade 5.8 Zinc Plated 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_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
8	64	100	16.1	9.0	8.9	7.2	6.3	5.1	190	40	100	70
10	80	110	20.1	15.0	11.1	12.0	7.9	8.5	210	40	110	110
12	96	130	32.6	21.0	18.1	16.8	12.9	12.0	270	50	140	140
16	128	170	61.1	39.0	33.9	31.2	24.2	22.2	370	70	190	230
20	160	205	85.5	61.0	47.4	48.8	33.8	34.8	430	80	220	320
24	192	245	123.1	88.0	68.4	70.4	48.8	50.2	520	100	260	420
30*	240	310	124.4	140.0	59.2	112.0	42.3	80.0	520	120	260	580

STANDARD EMBEDMENT

Grade 5.8 Zinc Plated 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_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
8	80	110	20.1	9.0	11.1	7.2	7.9	5.1	190	40	100	70
10	90	120	22.6	15.0	12.5	12.0	8.9	8.5	210	50	110	110
12	110	140	37.3	21.0	20.7	16.8	14.7	12.0	270	60	140	130
16	128	170	61.1	39.0	33.9	31.2	24.2	22.2	370	70	190	230
20	170	215	90.8	61.0	50.4	48.8	36.0	34.8	430	90	220	310
24	210	270	134.6	88.0	74.7	70.4	53.3	50.2	520	110	270	390
30*	280	350	145.1	140.0	69.1	112.0	49.3	80.0	520	140	270	520

DEEP EMBEDMENT

Grade 5.8 Zinc Plated 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_{Ra})	Shear (V_{Ra})	Tensile	Shear	Tensile	Shear
8	96	130	18.0	9.0	12.0	7.2	8.5	5.1	140	50	80	70
10	120	150	30.2	15.0	16.7	12.0	11.9	8.5	210	60	110	90
12	144	175	48.9	21.0	27.1	16.8	19.3	12.0	270	80	140	110
16	192	230	91.7	39.0	50.9	31.2	36.3	22.2	370	100	190	170
20	240	285	128.2	61.0	71.2	48.8	50.8	34.8	430	120	220	240
24	288	340	184.6	88.0	102.5	70.4	73.2	50.2	520	150	290	310
30*	360	430	186.6	140.0	88.8	112.0	63.4	80.0	520	180	290	430

* Not included in the ETA.

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SUPPLEMENTARY DATA

INFLUENCE OF CONCRETE STRENGTH					
Concrete strength		C20/25	C30/37	C40/45	C50/60
Cylinder	N/mm²	20	30	40	50
Cube	N/mm²	25	37	50	60
Factor	Cracked	1.0	1.12	1.19	1.30

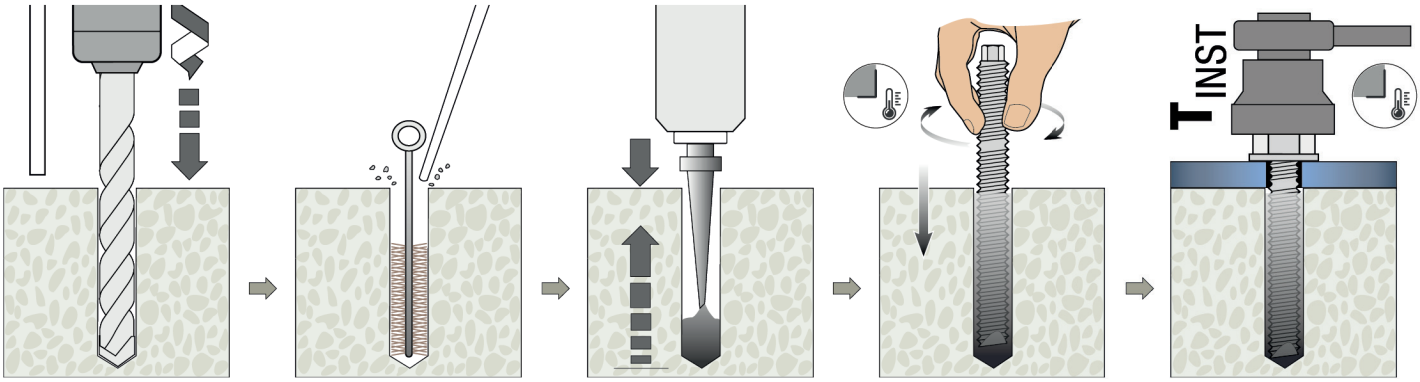
Important Note:

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)	Stainless Steel Grade A4-70	13.7	21.6	31.1	57.9	90.5	130.0	206.8
	Grade 5.8	12.0	19.3	28.0	52.7	82.0	118.0	187.3
Shear (kN)	Stainless Steel Grade A4-70	8.3	12.8	19.2	35.3	55.1	79.5	125.6
	Grade 5.8	7.2	12.0	16.8	31.2	48.8	70.4	112.0

For variations in structure thickness, reduced spacing and edge calculations download the free **A**nchor **C**alculation **P**rogram from **www.jcpfixings.co.uk**

INSTALLATION INSTRUCTIONS



-Drill correct diameter hole to corresponding depth

-Clean hole by brushing, blowing to remove drilling debris and dust:

2×Blowing

2×Brushing

2×Blowing

2×Brushing

2×Blowing

-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

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