

TECHNICAL DATA SHEET

PURE EPOXY FX-QE400



HIGH LOAD EPOXY ANCHOR

FX-QE400 is solvent-free, epoxy resin based, two part high performance anchoring adhesive.

- **PRODUCE NAME :** Injection Cartridge (Pure epoxy resin)
- **PRODUCT CODE :** FX-QE400
- **SIZE :** 400ML
- **RATIO :** 1:1
- **COLOR :** PART A-White
PART B-Black / Red
MIXED- Gray/Pink

PRODUCT USAGE

For the fixing of non-expanding anchors in the following :

STRUCTURAL WORK

- ✓ Rebar / steel reinforcement anchoring in new and refurbishment works.
- ✓ Threaded rods
- ✓ Bolts and special fastening systems

MECHANICAL AND ELECTRICAL SERVICES INSTALLATION

- ✓ Anchoring of supports for ducting and equipment.

METAL WORK AND CARPENTRY

- ✓ Fixing of handrails, balustrades and supports
- ✓ Fixing of railings
- ✓ Fixing of window and door frames

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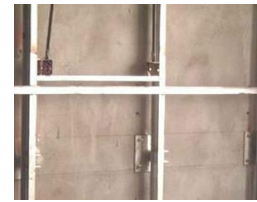


For fixing of the following substrates :

- ✓ Concrete
- ✓ Steel
- ✓ Hard natural and reconstituted stone
- ✓ Wood

ADVANTAGES

- ✓ Non-cracked concrete
- ✓ Can use in damp area
- ✓ High load capacity
- ✓ Non-sag, even overhead
- ✓ Styrene-free
- ✓ Low odor
- ✓ Non contraction after harden
- ✓ High stability
- ✓ No transportation restrictions



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TEST REPORT

PROPERTY APPRAISAL



Test Item	Test Method	Test Result
Tensile Strength (kgf/cm ²)	ASTM D638-10 (Type I Specimen, 5mm/min)	388
Flexural Strength (kgf/cm ²)	ASTM D790-10	612
Flexural Modulus (kgf/cm ²)	Procedure A	50892
Compressive Strength (kgf/cm ²)	ASTM D695-10	1286
Shear Strength (kgf/cm ²)	Refer to ASTM D1002-10	35.8

STATEMENT OF INSTALLATION

Specimen No.	Material	Diameter of hole (mm)	Depth of Installation (mm)
D10	SD 420W	12	90
D13	SD 420W	16	115
D16	SD 280W	20	125
D19	SD 420W	25	160
D22	SD 420W	27	190
D25	SD 420W	30	215

TEST OF ANCHORS IN CONCRETE

Specimen No.	Steel Yield Load (kgf)	Pressure Gage of Value (kg/cm ²)	Max Loads (kgf)	Result
D10	3055	70	3471	D
D13	5426	120	5840	D
D16	5670	120	5840	D
D19	12270	260	12554	D
D22	16579	350	16810	D
D25	21701	460	21909	D

*** Remark: A-reinforced bar fracture, B-reinforce bar pull-out, C-Concrete fracture, D-No damage (A+B+C not occur). Above test results are refer to SGS test report no. "KK-17-09469A" ***

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TECHNICAL DATA

DENSITY

- Part A: 1.13 - 1.20 kg/l
- Part B: 1.72 - 1.80 kg/l
- 1.43 - 1.52 kg/l (part A+B mixed)

SAG FLOW

- Non-sag, even overhead, but need to use wedges to fix rebars before curing.
One rebar need two wedges to fix in symmetrical angle.

LAYER THICKNESS

- 5 mm max.

GEL AND LOADING TIMES

Application Temperature (°C)	Gel Time (min.)	Loading Time (hr.)
45	2	1
40	3	2
30	7	4
20	9	6
10	30	9

APPLICATION CONDITIONS / LIMITATIONS

SUBSTRATE & AMBIENT TEMPERATURE

- +10°C min. / +45°C max.

MATERIAL TEMPERATURE

- Must be at a temperature of between +10°C and +40°C for application.

DEW POINT

- Beware of condensation!
Substrate temperature during application must be at least 10°C above dew point.

STORAGE CONDITION & SHELF-LIFE

- 24 months from date of production if stored properly in original unopened, sealed and undamaged packaging in cool and dry conditions at temperatures between +5°C and +25°C.
- Protect from direct sunlight.

All FX-QE400 cartridges have the manufacture date printed on the label.

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ORDER INFORMATION

- SIZE : 400ml
- PART# : FX-QE400
- CASE QTY : 20 PCS/ CARTON
- PALLET QTY : 60 CTNS/ PALLET
- DISPENSING TOOL : FX-GUN400L

APPLICATION INSTRUCTIONS

- MIXING : Part A : Part B = 1 : 1 by volume

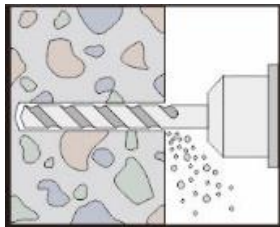
INSTALLATION STANDARD

Anchor Size	Drill hole ϕ (mm)	Effective Depth (mm) & Edge Distance (mm)	Base Material Thickness	Anchor Spacing (mm)
M8	10	80	110	160
M10	12	90	120	180
M12	14	110	140	220
M16	18	125	160	250
M20	24	170	220	340
M24	28	210	270	420
M30	35	280	340	560

Rebar Size	Drill hole ϕ (mm)	Effective Depth (mm) & Edge Distance (mm)	Base Material Thickness	Anchor Spacing (mm)
T10	13	90	120	180
T13	16	110	150	220
T16	20	125	170	250
T20	25	170	220	340
T25	30	210	270	420
T28	35	270	340	540
T32	40	300	380	600
T40	50	400	500	800

APPLICATION METHOD

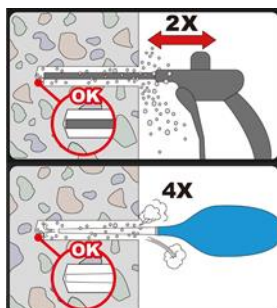
STEP1. BORE HOLE DRILLING



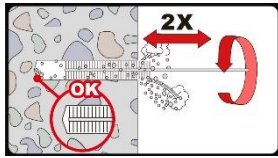
- Drilling of hole with an electric drill to the diameter and depth required by the selected reinforcing bar. In case of aborted drill hole: the drill hole shall be filled with mortar.

Rebar - \emptyset	Drill - \emptyset	Nylon Brush - \emptyset	Steel Brush - \emptyset
8 mm	12 mm	14 mm	12.5 mm
10 mm	14 mm	16 mm	14.5 mm
12 mm	16 mm	18 mm	16.5 mm
14 mm	18 mm	20 mm	18.5 mm
16 mm	20 mm	22 mm	20.5 mm
20 mm	25 mm	27 mm	25.5 mm
25 mm	30 mm	34 mm	30.5 mm
28 mm	35 mm	39 mm	35.5 mm
32 mm	40 mm	45 mm	40.5 mm

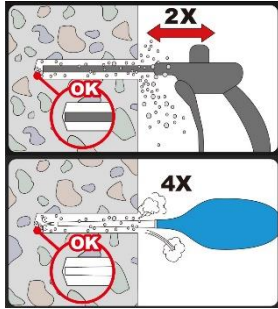
STEP2. BORE HOLE CLEANING



- Start from the bottom or back of the bore hole, blow the hole clean with compressed air (min. 30 seconds) or a hand pump a minimum of two times. If the bore hole ground is not reached an extension shall be used.
- For bore holes deeper than 200 mm, or bore hole diameter bigger (\geq) than 35 mm, compressed air (min. 30 seconds) must be used.

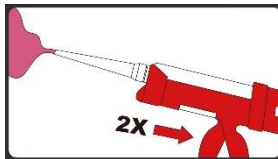


- Brush the hole with an appropriate sized wire brush a minimum of two times. If the bore hole ground is not reached with the brush, a brush extension shall be used. The diameter of wire brush is equal to the hole diameter.

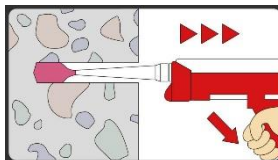


- Finally blow the hole clean again with compressed air (min. 30 seconds) or a hand pump a minimum of two times. If the bore hole ground is not reached an extension shall be used.
- For bore holes deeper than 200 mm, or bore hole diameter bigger (\geq) than 35 mm, compressed air (min. 30 seconds) must be used.

STEP3. BORE HOLE FILLING



- Prior to dispensing into the anchor hole, squeeze out separately the mortar until it shows a consistent grey color, and discard non-uniformly mixed adhesive components.



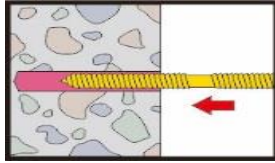
- Start from the bottom or back of the cleaned anchor hole fill the hole up to approximately two-thirds with adhesive. Slowly withdraw the static mixing nozzle as the hole fills to avoid creating air pockets.
- For overhead and horizontal installation and bore holes deeper than 200 mm a piston plug and the appropriate mixer extension must be used.

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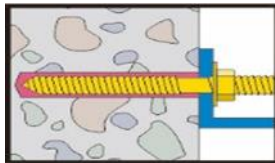


STEP4. REBAR / ANCHOR INSERTING

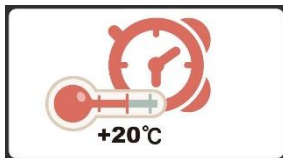
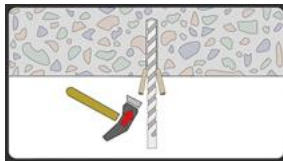


- Push the reinforcing bar into the anchor hole while turning slightly to ensure positive distribution of the adhesive until the embedment depth is reached.
- The rebar should be free of dirt, grease, oil or other foreign material.

****Important: the anchor must be placed within the open time.****



- Be sure that the rebar is inserted in the bore hole until the embedment mark is at the concrete surface and that excess mortar is visible at the top of the hole. If these requirements are not maintained, the application has to be renewed.
- During the resin hardening time the anchor must not be moved or loaded.
- For overhead installation, it must fix with wedges at embedded part.



- Observe gelling time. Attend that the gelling time can vary according to the base material temperature (see curing time table). It is not allowed to move the rebar after gelling time has elapsed.
- Allow the adhesive to cure to the specified time prior to applying any load. Do not move or load the rebar until it is fully cured (attend curing time table). After full curing time has elapsed, the add-on part can be installed.

HEALTH AND SAFETY INFORMATION

- For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

FINAL EDITING DATE : 2018/12/26