

# Technical Data Sheet: CHE-OXYGLUE-50™ Pure Epoxy Chemical Anchor

## INTRODUCTION

**CHE-OXYGLUE-50™** is a high performance, rapid curing two-component chemical anchoring system based on pure epoxy. Applied in one single action this resin with produce a cost effective, strong chemical resistant fixing. It provides rapid cure with sufficient working time in temperate climates.

## ACCESSORIES

- Caulking gun for 400ml side by side cartridge
- Static mixer



## APPLICATIONS

### Typical Applications:

- In building and construction industry: Grouting and rebaring, fencing, slab starter bars, rock anchoring, foundation strengthening, slab extension, etc.

### Other Applications:

- Metal industry: Metal to metal joint, metal to concrete joint, metal to metal repair solutions
- Oil and gas industry: Refinery pipelines, high pressure pipeline repair, metal loss and pipeline leakage
- Solar industry: solar panel fixing to concrete, solar panel fixing to meal
- Fabrication and advertisement industry: hoarding fixing, railing fixing
- Railway Industry: Infrastructure of railroad, railroad structure ties with fasteners

**Bases:** Solid brick, hollow brick, concrete, marble, rock/stone, solid blocks

## ADVANTAGE

- High adhesion force
- Longer setting and curing time, allow sufficient working time
- Odorless and non-toxic. Free of styrene. Suitable for indoor application
- Special application to diamond drilled holes and large bore diameter
- Wide temperature tolerance (5°C~+40°C)
- Chemical resistant, and high durability over time
- Can be reused by replacing the static mixer.

## PRODUCT SPECIFICATION and TEST RESULTS

Material: Pure Epoxy Styrene Free

Size: 400ml

Shelf Life: 18months

Test Results:

Mixing Ratio: 3:1 (weight ratio)

Mixed Color: Red

Standard Package: One cartridge with two mixer

Test Item	Test Method	Test Results
Gel Time (min)	Refer to ASTM D2471-99	<20
Bond Strength (kgf/cm <sup>2</sup> )	Refer to ASTM C882/C882M-13	62.0
Pull-off Strength (kgf/cm <sup>2</sup> ) (Mortar)	Refer to ASTM D4541-09 Type V	55.57
Water Absorption (%) (23°C, 24h)	ASTM D570-98 (2010)	0.41
Compressive Strength (kgf/cm <sup>2</sup> )	ASTM D695-15	730
Tensile Strength (kgf/cm <sup>2</sup> )	ASTM D638-14	247
Elongations at break (%)	(Type I, V = 5mm/min)	0.59
Vicat Softening Temperature (°C) (50N)	ASTM D1525-09 (Rate of temperature rise: 50°C/h)	74.5
Water Resistance (23°C, 14days)	Refer to ASTM D543-14	No visible change on the appearance
Dimensional Shrinkage (%) (70°C, 24h)	MD	-0.08
	CD	-0.06
Flexural Strength (kgf/cm <sup>2</sup> )	ASTM D790-15	514
Flexural Modulus (kgf/cm <sup>2</sup> )	Procedure AI	34306

## Technical Data Sheet: CHE-OXYGLUE-50™ Pure Epoxy Chemical Anchor

### ATTENTION

- Do not install the product when substrate temperature is less than 0°C
- Do not install when the product temperature is less than 10°C
- At temperatures below 10°C, the product should be warmed or stored in 10 - 30°C for 24hours prior to use to improve product flow and cure
- Can be used again by replacing the static mixer
- If there is mortar left in the cartridge, please clean the opening, put the cap back and seal tightly
- Use OXYGLUE static mixer only to ensure effective mixing
- If the gelling time expires, please use a new static mixer
- Do not cut or shorten the static mixer
- Ensure spiral mixer is in place in the static mixer
- Do not install into uncured concrete
- Ensure hole is properly cleaned
- Not suitable for use in diamond cored holes without roughening
- Hole can be damp but must be free of water
- Do not dilute mortar with any solvents and/or any chemicals

### FIXING PER CARTRIDGE

Anchor Size		Hole Dimension		Fixing per Cartridge of 360ml
Number	Diameter (mm)	Diameter (mm)	Depth (mm)	
#3 (10Ø)	9.52	13	90	41
#4 (12Ø)	12.7	16	125	19
#5 (16Ø)	15.8	20	145	10
#6 (20Ø)	19.05	25	170	5
#7 (22Ø)	22.225	28	200	4
#8 (25Ø)	25.4	32	225	2
#9 (28Ø)	28.65	37	260	1
#10 (32Ø)	32.25	40	290	1

Anchor Size		Hole Dimension		Fixing per Cartridge of 360ml
Number	Diameter (mm)	Diameter (mm)	Depth (mm)	
M8	10	10	80	79
M10	12	12	90	41
M12	14	14	110	20
M16	18	18	125	10
M20	24	24	170	5
M24	28	28	210	3
M30	35	35	270	1
M36	40	40	330	1

Note: Based on continuous installation without interruptions or nozzle changes. Provided as a guide and may vary with temperature and applicator.

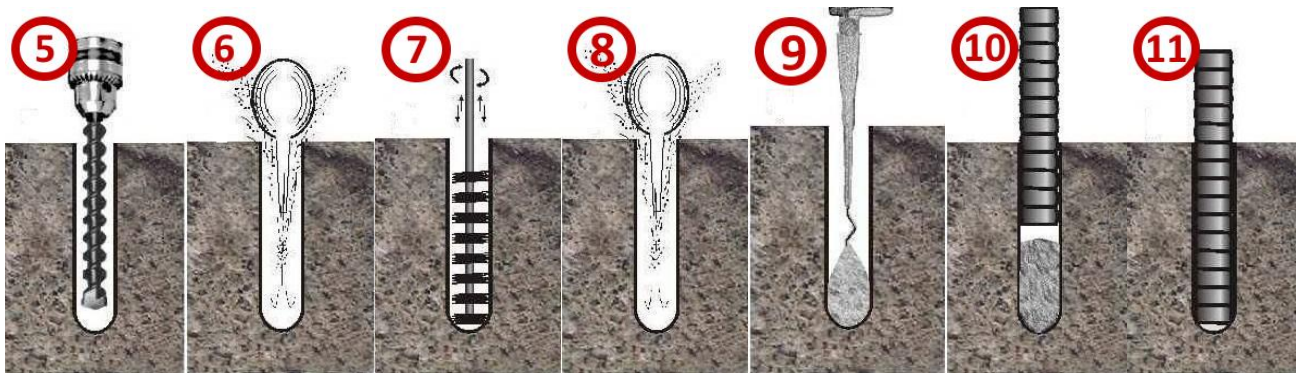
## Technical Data Sheet: CHE-OXYGLUE-50™ Pure Epoxy Chemical Anchor

### APPLICATION INSTRUCTION: Cartridge Installation:



1. Remove the white cap and the red stopper
2. Attach OXYGLUE static mixer tightly to the cartridge.
3. Assemble cartridge into caulking gun as shown on the picture
4. Dispose the initial 2 to 3 triggers until the color of the mixer becomes homogeneously Red

### Product Application:



5. Drill hole using rotary hammer drill bit to the desired depth
6. Blow out dust with the blower
7. Clean hole with cleaning brush with stiff nylon or wire bristles
8. Blow out the remaining dust with the blower
9. Injection of the product should from the bottom. It must be injected without creating any air-pockets.
10. Insert studs or anchors using slow rotary motion. The inserts must be clean and oil free. Wipe away access product from the surface when done.
11. Do not touch the studs or anchors until the mortar has gelled. Do not load the anchor until the curing is completed. The time varies with different temperature, for detailed gelling and curing time, please refer to the below table.

### CURING TIMETABLE

Temperature (°C)	Gelling Time	Full Curing Time
5 ~ 10	2 hours	24 ~ 40 hours
10 ~ 20	30 mins	16 ~ 18 hours
20 ~ 30	15 mins	5 ~ 6 hours
30 ~ 40	10 mins	4 ~ 5 hours

\* Do not touch the inserts until the mixer has gelled. Do not load the anchor until curing is complete.

\* Regardless of the temperature, it is highly suggested to do the pull-out test 24 hours after the product is completely gelled.

## Technical Data Sheet: CHE-OXYGLUE-50™ Pure Epoxy Chemical Anchor

### SOLID SUBSTRATE REBAR INSTALLATION DETAILS

Rebar		Destroy Haul Strength		Safety Haul Strength		Hole Dimension	
Number	Diameter (mm)	(kgf)	(kN)	(kgf)	(kN)	Diameter (mm)	Depth (mm)
#3 (10Ø)	9.52	3,607	36.4	1,202	12.1	13	90
#4 (13Ø)	12.7	6,409	64.7	2,136	21.6	16	125
#5 (16Ø)	15.8	9,695	97.9	3,232	32.6	20	145
#6 (19Ø)	19.05	13,655	137.9	4,552	46.0	25	170
#7 (22Ø)	22.225	18,672	188.6	6,224	62.9	28	200
#8 (25Ø)	25.4	24,032	242.7	8,011	80.9	32	225
#9 (29Ø)	28.65	27,364	276.4	9,121	92.1	37	260
#10 (32Ø)	32.25	31,730	320.5	10,577	106.8	40	290
#11 (36Ø)	35.81	35,843	362.1	11,948	120.7	42	320

Remark:

- Concrete Strength  $f_c'$ : 280kg/cm<sup>2</sup> (4000 psi)
- Rebar Strength: #3~#5  $f_y$ : 2,800 kgf/cm<sup>2</sup>, #6~#11  $f_y$ = 4,200 kgf/cm<sup>2</sup>

### REBAR EDGE DISTANCES AND REDUCTION FACTOR

SPACING	Rebar Number									
	#3	#4	#5	#6	#7	#8	#9	#10	#11	
40	0.65									
50	0.66	0.62								
60	0.69	0.66	0.64							
70	0.72	0.69	0.65							
80	0.75	0.71	0.67	0.64						
90	0.78	0.74	0.69	0.65						
100	0.81	0.76	0.71	0.66	0.64					
125	0.88	0.82	0.76	0.70	0.67	0.64				
150	0.95	0.89	0.81	0.74	0.70	0.66	0.64			
160	1.00	0.91	0.83	0.75	0.72	0.67	0.65	0.65		
175		0.95	0.86	0.77	0.73	0.69	0.66	0.66	0.65	
225		1.00	0.91	0.81	0.79	0.75	0.72	0.69	0.67	
240			0.96	0.85	0.81	0.76	0.73	0.72	0.68	
250			1.00	0.87	0.83	0.77	0.74	0.73	0.69	
275				0.88	0.85	0.78	0.76	0.74	0.71	
280				0.92	0.85	0.79	0.76	0.75	0.73	
300				0.94	0.89	0.82	0.79	0.77	0.75	
320				1.00	0.91	0.84	0.81	0.79	0.77	
350					0.95	0.87	0.84	0.82	0.79	
400					1.00	0.93	0.89	0.83	0.82	
440						0.97	0.93	0.85	0.84	
480						1.00	0.95	0.91	0.86	
500							0.97	0.95	0.91	
525							1.00	0.97	0.94	
550								1.00	0.97	
570									1.00	

Note:

The data offered in the above tables are for customers' reference only. The product strength may vary with the way of application, local climate, and the concrete strength. It is recommended to verify the data on the construction site.

## Technical Data Sheet: CHE-OXYGLUE-50™ Pure Epoxy Chemical Anchor

### SOLID SUBSTRATE THREADED ROD INSTALLATION DETAILS

Threaded Rod Number	Destroy Haul Strength		Safety Haul Strength		Hole Dimension		
	(kgf)	(kN)	(kgf)	(kN)	Edge Spacing (cm)	Diameter (mm)	Depth (mm)
M8	2,338	23.6	779	7.9	5	10	80
M10	3,150	31.8	1,050	10.6	6	13	90
M12	4,951	50.0	1,650	16.7	7	16	120
M16	6,595	66.6	2,198	22.2	7	20	145
M20	11,958	120.8	3,986	40.3	9	25	170
M24	17,352	175.3	5,784	58.4	13	28	210
M30	28,605	288.9	9,535	96.3	16	35	270
M36	33,050	333.8	11,017	111.3	19	40	330

Remark:

- Concrete Strength  $f_c'$ : 280kg/cm<sup>2</sup> (4000 psi)
- Rebar Strength: #3~#5  $f_y$ : 2,800 kgf/cm<sup>2</sup>, #6~#11  $f_y$ = 4,200 kgf/cm<sup>2</sup>

### THREADED ROD EDGE DISTANCES AND REDUCTION FACTOR

SPACING	Threaded Rod Number							
	M8	M10	M12	M16	M20	M24	M30	M36
40	0.65							
50	0.74	0.64						
60	0.83	0.71	0.64					
70	0.91	0.78	0.69					
80	1.00	0.85	0.75	0.64				
90		0.92	0.81	0.68				
100		1.00	0.87	0.73	0.65			
110			0.93	0.78	0.67			
120			1.00	0.82	0.71	0.65		
140				0.92	0.79	0.68	0.64	
160				1.00	0.86	0.74	0.67	0.65
180					0.94	0.81	0.73	0.68
200					1.00	0.87	0.79	0.74
220						0.93	0.85	0.78
240						1.00	0.91	0.86
265							1.00	0.92
280								1.00

### !! IMPORTANT !!

The information and data given is based on our own experience, research and testing and is believed to be reliable and accurate. However, as OXYGLUE products cannot know the varied uses to which its products may be applied, or the methods of application used, no warranty as to the fitness or suitability of its products is given or implied. It is the user's responsibility to determine suitability of use. For further information please contact us through [sales@chevetol.com](mailto:sales@chevetol.com)