

MasterFlow® 932 AN

Pure Epoxy (1:1) Resin Based High Performance Anchoring Mortar

DESCRIPTION

MasterFlow® 932 AN is a two component (1:1) pure epoxy resin based high performance anchoring grout for use in cracked and uncracked concrete under normal as well as seismic conditions (seismic category C1). Designed for most demanding structural applications and rebar connections, **MasterFlow® 932 AN** offers high load-bearing capacity. The system can be installed in percussive and diamond drilled dry or holes wet

FIELDS OF APPLICATION

- Structural applications in cracked and uncracked concrete applications in seismic zones (C1)
- Facades
- Post installed rebar connections
- Crash barriers
- Structural steel

APPROVALS & TESTS

- ETA according ETAG 001 part 1 & 5 Option 1 for anchoring of threaded bars into cracked & uncracked concrete
- ETA according to TR023 for post-installed rebar connections
- Tested according to LEED 2009 EQ c4.1, SCAQMD rule 1168(2005)
- Fire resistance F240 for reinforcing bars
- A+ as per French VOC Regulation
- ICC - ES Evaluation Report

PACKAGING

MasterFlow® 932 AN is available in side-by-side cartridge of 400 ml (12 cartridges in a box)

APPLICATION PROCEDURE

Please refer to the method statement or contact **Master Builders Solutions** Technical Services Department

STORAGE & SHELF LIFE

Cartridges should be stored in their original packaging the correct way up and in cool dry conditions (+10°C to +25°C) out of direct sunlight. When stored correctly, the shelf life will be for 24 months from the date of manufacture.

HEALTH AND SAFETY PRECAUTIONS

It is dangerous to approach the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used. Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No Food or beverages should be brought to the application area. The product should be stored and kept out of reach of children. For detailed information please consult the Material Safety Data Sheet.



FEATURES

- Fixings close to free edges
- Fire tested
- Versatile
- High load capacities
- Extended get/open time
- Suitable for dry and wet holes

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WORKING & LOADING TIMES

Resin cartridge Temperature	T Work	Base Material	T Load
+10 - +15°C	20 mins.	+5 - +10°C	24 hrs.
		+10 - +15°C	12 hrs.
+15 - +20°C	15 mins.	+15 - +20°C	8 hrs.
+20 - +25°C	11 mins.	+20 - +25°C	7 hrs.
+25 - +30°C	8 mins.	+25 - +30°C	6 hrs.
+30 - +35°C	6 mins.	+30 - +35°C	5 hrs.
+35 - +40°C	4 mins.	+35 - +40°C	4 hrs.
+40°C	3 mins.	+40°C	3 hrs.

TECHNICAL DATA

Property		Unit	Value	Test Standard
Density		g/cm ³	1.5	ASTM D 1875 @ +20°C / +72°F
Compressive Strength	24 hours	N/mm ²	75	ASTM D 695 @ +20°C / +72°F
	7 days	N/mm ²	95	
Tensile Strength	24 hours	N/mm ²	18	ASTM D 638 @ +20°C / +72°F
	7 days	N/mm ²	23	
Elongation at Break	24 hours	%	6.6	ASTM D 638 @ +20°C / +72°F
	7 days		5.9	
Tensile Modulus	24 hours	GN/m ²	5.7	ASTM D 638 @ +20°C / +72°F
	7 days	GN/m ²	5.5	
Flexural Strength	24 hours	N/mm ²	45	ASTM D 790 @ +20°C / +72°F
HDT	7 days	°C	49	ASTM D 648 @ +20°C / +72°F
VOV		g/L	4.5	ASTM D 2369

HEORETICAL NUMBER OF FIXINGS PER CARTRIDGE

APPLIES TO INSTALLATIONS

Cartridge Volume	h _{ef}	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
		Drilling Ø 12mm	Drilling Ø 14mm	Drilling Ø 16mm	Drilling Ø 20mm	Drilling Ø 25mm	Drilling Ø 32mm	Drilling Ø 40mm
400ml side by side	10d	68	44	31	18	9	4	2+
	12d	56	37	26	15	7	3	1
	20d	34	22	15	9	4	2	1

Note: Installations at jobsite usually result in more resin being injected than the theoretical requirement resulting in lower number of fixings per cartridge.

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INSTALLATION PARAMETERS

Diameter of rebar (mm)	10	12	16	20	25	32
Drilled hole diameter (mm)	14	16	20	25	32	40

DESIGN RESISTANCE

Rebar size Effective embedment depth h_{ef} [mm]	Ø 10 90	Ø 12 110	Ø 16 125	Ø 20 170	Ø 25 250	Ø 32 300
non-cracked concrete temperature range 40°C / +40°C)						
tension C20/25 $N_{Rd,p}$ [kN]	18.85	23.70	38.90	66.12	121.55	186.70
C50/60 $N_{Rd,p}$ [kN]	21.49	27.01	44.34	75.38	138.57	212.84
shear C20/25 $N_{Rd,s}$ [kN]	9.33	14.67	20.67	57.33	90.00	147.33
cracked concrete temperature range (-40°C / +40°C)						
tension C20/25 $N_{Rd,p}$ [kN]	14.14	17.77	20.94	35.60	46.75	71.81
C50/60 $N_{Rd,p}$ [kN]	15.41	19.37	22.83	38.81	50.96	78.27
shear C20/25 $N_{Rd,s}$ [kN]	9.33	14.67	20.67	57.33	90.00	147.33

RECOMMENDED RESISTANCE

Rebar size Effective embedment depth h_{ef} [mm]	Ø 10 90	Ø 12 110	Ø 16 125	Ø 20 170	Ø 25 250	Ø 32 300
non-cracked concrete temperature range (-40°C / +40°C)						
Tension C20/25 $N_{Rd,p}$ [kN]	13.46	16.93	27.78	47.23	86.82	133.36
C50/60 $N_{Rd,p}$ [kN]	15.35	19.30	31.67	53.84	98.98	152.03
shear C20/25 $N_{Rd,s}$ [kN]	6.67	10.48	14.76	40.95	64.29	105.24
non-cracked concrete temperature range (-40°C / +40°C)						
Tension C20/25 $N_{Rd,p}$ [kN]	10.10	12.69	14.96	25.43	33.39	51.29
C50/60 $N_{Rd,p}$ [kN]	11.01	13.84	16.31	27.72	36.40	55.91
shear C20/25 $N_{Rd,s}$ [kN]	6.67	10.48	14.76	40.95	64.29	105.24

$f_{yk} = 500 \text{ N/mm}^2$

Partial safety factor $\cdot 1.4$

For resistance values in higher temperatures, please contact **Master Builders Solutions** Technical Services.

All the above resistance values are considering combined pull out and concrete cone failure in tension and steel failure in shear

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CONTACT INFORMATION

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