

MasterFlow 936 AN

Chemical anchor in cartridge, based on pure epoxy resin, for heavy and structural anchoring in the presence of humidity. Suitable for applications in seismic category C1 and C2.

MATERIAL DESCRIPTION

MasterFlow 936 AN is a thixotropic, two-component chemical anchor in cartridge, based on pure epoxy resin. The product has been specially designed for applications with heavy loads, in particular for fastenings on the most common building materials. The product can also be used as an epoxy adhesive.

The two components of MasterFlow 936 AN, packaged in a single cartridge with side-by-side compartments, are correctly mixed in the mixer nozzle, simply by extruding the cartridge with the special gun.

FIELDS OF APPLICATION

MasterFlow 936 AN is an anchor for applications where very high performance is required, such as:

- anchoring of bars with improved adhesion on concrete;
- anchoring of threaded bars;
- anchoring of safety barriers;
- structural applications in seismic areas (C2);
- facade anchors.

MasterFlow 936 AN can also be used as a structural adhesive to bond metal elements with concrete elements or concrete elements together.



MasterFlow 936 AN can also be used on damp or wet substrates.

MasterFlow 936 AN can also be used on masonry structures.

FEATURES AND BENEFITS

The peculiar characteristics of MasterFlow 936 AN are:

- for structural applications;
- applicable in dry and humid substrates;
- simple to use, easy to extrude;
- high adhesive power;
- can also be used in applications with large diameter bars and with large diameter holes;
- rapid development of resistors, saves time.

	
European Technical Assessment ETA 17/0153 Master Builders Solutions Deutschland GmbH 15 1020 MasterFlow 936 AN DOP MF936ANTR0153/01 Bonded injection type anchor for use in cracked and uncracked concrete. EAD 330499-00-0601	European Technical Assessment ETA 17/0602 Master Builders Solutions Deutschland GmbH 15 1020 MasterFlow 936 AN DOP MF920ANTR0602/01 Post installed rebar connection ETAG 001-Part 1 and Part 5, Edition 2013

PACKAGING

385 ml cartridges are available (can be used with the special gun).

STORAGE

Store in a dry and cool place between 5 and 35°C. The cartridges should not be exposed directly to the sun. Under these conditions the product has a useful life of 12 months. However, it is recommended to store the cartridges in a warmer environment if the material is to be used in cold conditions, since the extrusion of MasterFlow 936 AN requires a great deal of effort at cold temperatures.

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WORKABILITY AND LOADING TIMES

Temperature	Workability	Loading time
10 ÷ 15°C	40 min	18 h
15 ÷ 20°C	25 min	12 h
20 ÷ 25°C	18 min	8 h
25 ÷ 30°C	12 min	6 h
30 ÷ 35°C	8 min	4 h
35 ÷ 40°C	6 min	2 h

PROPERTY

Property		Unit	Value	Standard
Density		g/cm ³	1,5	ASTM D 1875 @ +20°C / +72°F
Compressive strength	24 h	N/mm ²	75	ASTM D 695 @ +20°C / +72°F
	7 days	N/mm ²	95	
Tensile strength	24 h	N/mm ²	18	ASTM D 638 @ +20°C / +72°F
	7 days	N/mm ²	23	
Elongation at break	24 h	%	6,6	ASTM D 638 @ +20°C / +72°F
	7 days		5,9	
Tensile modulus of elasticity	24 h	GN/m ²	5,7	ASTM D 638 @ +20°C / +72°F
	7 days	GN/m ²	5,5	
Flexural strength	24 h	N/mm ²	45	ASTM D 790 @ +20°C / +72°F
HDT	7 days	°C	49	ASTM D 648 @ +20°C / +72°F
VOC		g/L	4,5	ASTM D 2369

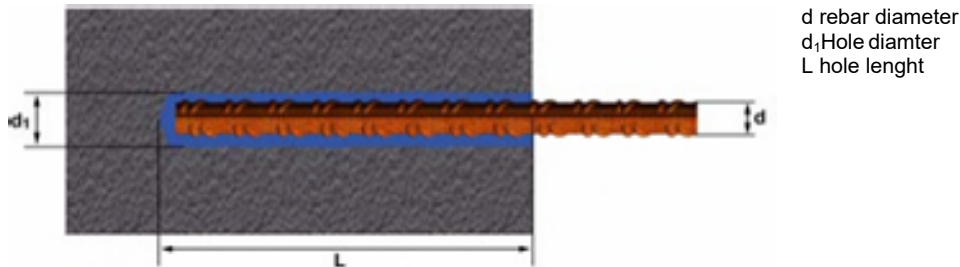
CONSUMPTION

Volume	Rebar diameter [d]	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
	Hole diameter[d ₁]	12mm	14mm	16mm	20mm	25mm	32mm	40mm
385 ml	Hole length (n-times the bar diameter)	Number of holes for each cartridge						
	10·d	65	43	30	17	8	4	2
	12·d	54	35	25	14	7	3	1
	20·d	32	21	15	8	4	2	1

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MasterFlow 936 AN with IMPROVED ADHERENCE BARS



GEOMETRY

Rebar diameter (mm)	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
Hole diameter (mm)	12	14	16	20	25	32	40

PERFORMANCE

				Rebar diameter	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
				Effective anchor depth h _{ef} [mm]	80	90	110	125	170	210	300
Uncracked concrete											
Tensile	C20/25	NRd,p	[kN]	17,43	24,50	35,94	47,05	74,62	102,45	160,85	
	C50/60	NRd,p	[kN]	18,99	26,71	39,17	54,79	93,14	143,82	175,33	
Shear	C20/25	NRd,s	[kN]	9,33	14,67	20,67	36,67	57,33	90,00	147,33	
Cracked concrete											
Tensile	C20/25	NRd,p	[kN]	10,72	20,49	27,65	33,54	53,20	73,04	124,71	
	C50/60	NRd,p	[kN]	11,69	22,60	30,13	45,66	77,62	101,87	142,45	
Shear	C20/25	NRd,s	[kN]	9,33	14,67	20,67	36,67	57,33	90,00	147,33	

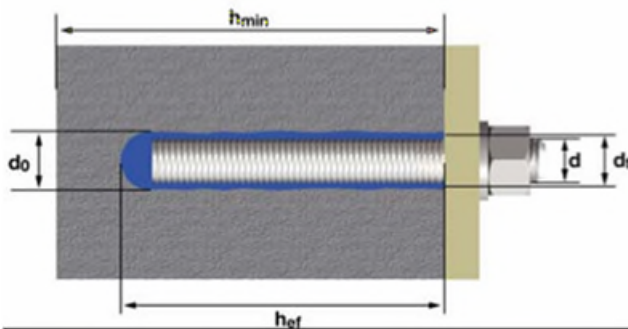
PERFORMANCE

				Rebar diameter	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
				Effective anchor depth h _{ef} [mm]	80	90	110	125	170	210	300
Uncracked concrete											
Tensile	C20/25	NRec,p	[kN]	12,45	17,50	25,67	33,61	53,30	73,18	114,89	
	C50/60	NRec,p	[kN]	13,57	19,08	27,98	39,14	66,53	102,73	125,23	
Shear	C20/25	NRec,s	[kN]	6,67	10,48	14,76	26,19	40,95	64,29	105,24	
Cracked concrete											
Tensile	C20/25	NRec,p	[kN]	7,66	14,64	19,75	23,96	38,00	52,17	89,08	
	C50/60	NRec,p	[kN]	8,35	16,14	21,52	32,61	55,44	72,77	101,25	
Shear	C20/25	NRec,s	[kN]	6,67	10,48	14,76	26,19	40,95	64,29	105,24	

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MasterFlow 936 AN with THREADED BARS



d diameter of the threaded rod
d0 drill bit / hole diameter
df diameter of the hole in the possible anchor plate daysio
hef drilling depth
hmin minimum thickness of the substrate

GEOMETRY

Rebar diameter (mm)	M8	M10	M12	M16	M20	M24	M30
Hole diameter (mm)	10	12	14	18	22	26	35

PERFORMANCE

Rebar diametr				M8	M10	M12	M16	M20	M24	M30
Effective anchor depth h_{ef} [mm]						110	128	170	210	270
Uncracked concrete										
tensile	C20/25	NRd,p	[kN]	22,79	28,27	38,84	48,75	74,62	102,45	149,36
	C50/60	NRd,p	[kN]	24,84	30,82	45,20	56,10	93,14	138,07	175,67
shear	C20/25	NRd,s	[kN]	7,20	12,00	16,80	31,20	48,80	70,40	112,00
Cracked concrete										
Ttensile	C20/25	NRd,p	[kN]	13,40	18,85	27,65	34,76	53,20	73,04	101,79
	C50/60	NRd,p	[kN]	14,61	20,55	30,13	44,42	69,86	103,55	110,95
shear	C20/25	NRd,s	[kN]	7,20	12,00	16,80	31,20	48,80	70,40	112,00

PERFORMANCE

Rebar diametr				M8	M10	M12	M16	M20	M24	M30
Effective anchor depth h_{ef} [mm]						110	128	170	210	270
Uncracked concrete										
Tensile	C20/25	NRec,p	[kN]	16,28	20,20	27,74	34,82	53,30	73,18	106,69
	C50/60	NRec,p	[kN]	17,74	22,01	32,29	40,07	66,53	98,62	125,48
Shear	C20/25	NRec,s	[kN]	5,14	8,57	12,00	22,29	34,86	50,29	80,00
Cracked concrete										
Tensile	C20/25	NRec,p	[kN]	9,57	13,46	19,75	24,83	38,00	52,17	72,71
	C50/60	NRec,p	[kN]	10,44	14,68	21,52	31,73	49,90	73,97	79,25
Shear	C20/25	NRec,s	[kN]	5,14	8,57	12,00	22,29	34,86	50,29	80,00

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APPLICATION SHEET

PREPARATION OF THE SUPPORT

The substrate must be clean, structurally sound, and free of substances that may have a negative effect on the adhesion of the anchoring chemical.

Concrete or mortar to which bolts or bars are to be fixed should be at least 28 days old.

DRILLING

Drill the support with a drill and bit of the correct diameter, at the right depth. The surfaces must be clean, free of loose parts and dust deriving from perforation. For cleaning, we recommend using compressed air or the special blower pump available in the price list. For applications on perforated supports (bricks and blocks), it is necessary to insert the appropriate cage to avoid dispersion of the resin

USING THE CARTRIDGES

Once the holes have been prepared (without the cage on solid supports or with the use of a cage on perforated supports), screw the mixing spout onto the cartridge. The resin and hardener are mixed only during the extrusion by passing the product into the special mixer. It does not require premixing.

Place the cartridge inside the applicator gun and discard the first part of the cartridge, until a uniform color is obtained, indicating that both components are present in the mixing nozzle. Insert the tip of the mixing nozzle up to the end of the hole (therefore use nozzles of adequate length) and fill it up to about 3/5 of the depth. Once the hole has been sufficiently filled with resin, slowly insert the bar with a slight twisting motion.

Excess resin must be removed.

The cartridge can be reused at a later time by replacing the mixer at the time of reuse.

During longer interruptions, remove the Mix Unit and replace the sealing cap.

TOOL CLEANING

Material residues must be mechanically removed after hardening, or with a brush and plenty of water.

SAFETY INFORMATIONS

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.

OTHER SERVICES

For price analysis, specifications, supplementary brochures, references, reports and technical assistance, visit the website www.master-builders-solutions.com/it-it or contact infomac@mbcc-group.com.

Scan the QR code to visit the product page and download the latest version of this datasheet



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Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

Master Builders Solutions Italia Spa

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For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.