

MasterFlow® 918 AN

Vinylester resin based anchoring grout

DESCRIPTION

MasterFlow 918 AN is a two component vinylester resin based anchoring grout for use with threaded rods only into solid substrates. **MasterFlow 918 AN** produces higher bond strength than polyester.

USES / APPLICATION

- Ventilated façades
- Canopies
- Boilers
- Bicycle racks
- Hand rails
- Masonry supports
- Signs
- Safety barriers
- Balcony fences
- Racking
- Machinery
- Satellite dishes

APPROVALS & TESTS

- ETAG 001 Part 5 Option 7 for threaded bars (M8-M24) in galvanized steel 5.8-8.8 & 10.9 and Stainless Steel A4-70; A4-80 & HCR (1.4529) in C20/25 to C50/60 uncracked concrete
- A+ classification according to compulsory French VOC emissions regulation
- Tested according to LEED 2009 EQ c4.1, SCAQMD rule 1168 (2005)

ADVANTAGES

- Anchors may be placed close to free edges
- Suitable for dry, wet & flooded holes without loss of performance
- Reduced drilling diameters i.e. M20 only requires a 22mm hole and M24 requires only a 26mm hole making it an economical injection system
- Variable embedment depths
- Ratio of 10:1

PACKAGING

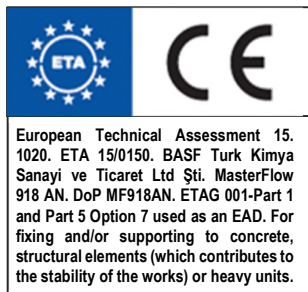
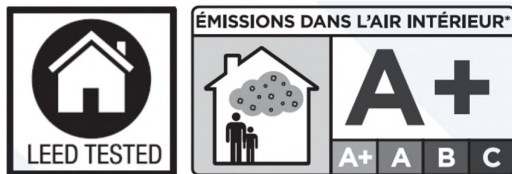
MasterFlow 918 AN is available in boxes of 12 co-axial cartridges of 410ml and boxes of 12 single piston foil pack cartridges of 300ml.

ACCESSORIES

- Application guns
- Mixing nozzles
- Cleaning blow pump
- Cleaning brushes
- Extension tubes
- Plastic sleeves

INSTALLATION PROCEDURE

Please refer to the method statement or contact Master Builders Solutions Technical Services department.



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TECHNICAL DATA

WORKING & LOADING TIMES

Resin cartridge Temperature	T Work	Base Material Temperature	T Load
+10 to +20°C	6 mins	+10 to +20°C	80 minutes
+20 to +25°C	4 mins	+20 to +25°C	40 minutes
+25 to +30°C	3 mins	+25 to +30°C	30 minutes
+30 to +35°C	2 mins	+30 to +35°C	20 minutes
+35 to +40°C	1.5 mins	+35 to +40°C	15 minutes

Note: T Work is the typical time to gel at the highest temperature in the range.

PHYSICAL PROPERTIES

Property		Unit	Value	Test Standard
Density		g/cm ³	1.7	ASTM D 1875 @ +20°C
Compressive Strength	4 hours	N/mm ²	60	BS 6319
	24 hours		70	
	7 days		75	
Compressive E-Modulus	7 days	GN/m ²	3.13	ASTM D 695 @ +20°C
Tensile Strength	24 hours	N/mm ²	11	ASTM D 638 @ +20°C
	7 days		13	
Tensile Strength Elongation at Break	24 hours	%	0.09	ASTM D 638 @ +20°C
	7 days		0.12	
Flexural Strength	7 days	N/mm ²	24	ASTM D 790 @ +20°C

THEORETICAL NUMBER OF FIXINGS PER CARTRIDGE

Applies to solid substrates

Cartridge Volume	h _{ef}	M8	M10	M12	M16	M20	M24
		Drilling Ø 10mm	Drilling Ø 12mm	Drilling Ø 14mm	Drilling Ø 18mm	Drilling Ø 22mm	Drilling Ø 26mm
410 ml	8d	148	91	60	32	19	12
	10d	118	72	48	26	15	9
	12d	98	60	40	21	12	8
300 ml	8d	106	65	43	23	13	8
	10d	85	52	34	18	11	7
	12d	71	43	29	15	9	5

Note: Jobsite/contractor installations usually result in more resin being injected than the theoretical requirement resulting in lower number of fixings per cartridge. The reduction to the number of fixings per cartridge in practice is greater for smaller diameter holes and shallower embedment depths.

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MasterFlow 918 AN with THREADED RODS

INSTALLATION PARAMETERS

Diameter of threaded rods (mm)	8	10	12	16	20	24
Drilled hole diameter (mm)	10	12	14	18	22	26

DESIGN RESISTANCE

Anchor size			8	10	12	16	20	24	
Effective embedment depth h_{ef} [mm]			90	110	125	170	250	300	
non-cracked concrete temperature range (-40°C / +80°C)									
tension	C20/25	$N_{Rd,p}$	[kN]	15.08	19.20	31.42	47.47	74.18	94.25
	C50/60	$N_{Rd,p}$	[kN]	19.60	24.96	40.84	61.71	96.43	122.52

RECOMMENDED RESISTANCE

Anchor size			8	10	12	16	20	24	
Effective embedment depth h_{ef} [mm]			90	110	125	170	250	300	
non-cracked concrete temperature range (-40°C / +80°C)									
tension	C20/25	$N_{Rec,p}$	[kN]	10.77	13.71	22.44	33.91	52.98	67.32
	C50/60	$N_{Rec,p}$	[kN]	14.00	17.83	29.17	44.08	68.88	87.52

Partial safety factor $\gamma 1.4$

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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CLEANING

Residual material must be mechanically removed after hardening, or by brush and with plenty of soapy water or solvent when still uncured.

STORAGE AND SHELF LIFE

Cartridges should be stored in their original packaging, the correct way up, in cool conditions (+5°C to +25°C) out of direct sunlight. When stored correctly, the product shelf life will be 12 months from the date of manufacture.

QUALITY AND CARE

All products originating from Master Builders Solutions Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001 and ISO 14001.

* Properties listed are based on laboratory controlled tests.

® = Registered trademark of the MBCC Group in many countries.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by Master Builders Solutions either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

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