

# MasterFlow<sup>®</sup> 916 AN

Polyester resin based anchoring grout

## DESCRIPTION

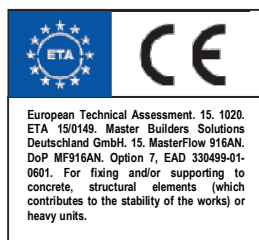
**MasterFlow 916 AN** is a two-component polyester resin based anchoring grout, for use with threaded rods only in concrete and masonry.

## USES / APPLICATION

- 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)



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
- Available in grey

## PACKAGING

**MasterFlow 916 AN** is available in 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.

## FEATURES AND BENEFITS

- Anchors may be placed close to free edges
- Suitable for dry, wet & flooded holes

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## TECHNICAL DATA

### WORKING & LOADING TIMES

Resin cartridge Temperature	T Work	Base Material Temperature	T Load
min +5°C	18 mins	+5°C	120 minutes
+5 to +10°C	12 mins	+5 to +10°C	120 minutes
+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
+40°C	1.5 mins	+40°C	10 minutes

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

### PHYSICAL PROPERTIES

Property		Unit	Value	Test Standard
Density		g/cm <sup>3</sup>	1.7	ASTM D 1875 @ +20°C
Compressive Strength	4 hours	N/mm <sup>2</sup>	50	ASTM D 695 @ +20°C
	24 hours		60	
	7 days		74	
Compressive E-Modulus	7 days	GN/m <sup>2</sup>	3.13	ASTM D 695 @ +20°C
Tensile Strength	24 hours	N/mm <sup>2</sup>	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 <sup>2</sup>	24	ASTM D 790 @ +20°C

### THEORETICAL NUMBER OF FIXINGS PER CARTRIDGE

Applies to solid substrates

Cartridge Volume	h <sub>ef</sub>	M8	M10	M12	M16	M20	M24
		Drilling Ø 10mm	Drilling Ø 12mm	Drilling Ø 14mm	Drilling Ø 18mm	Drilling Ø 22mm	Drilling Ø 26mm
300 ml	8d	111	68	45	23	13	8
	10d	91	55	36	18	11	7
	12d	75	46	30	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 916 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
<b>Effective embedment depth <math>h_{ef}</math> [mm]</b>	<b>90</b>	<b>110</b>	<b>125</b>	<b>170</b>	<b>250</b>	<b>300</b>
non-cracked concrete						
temperature range (-40°C / +80°C)						
tension C20/25 $N_{Rd,p}$ [kN]	12.57	18.24	24.87	42.73	74.18	87.96
C50/60 $N_{Rd,p}$ [kN]	16.34	23.71	32.33	55.54	96.43	114.35

### RECOMMENDED RESISTANCE

Anchor size	8	10	12	16	20	24
<b>Effective embedment depth <math>h_{ef}</math> [mm]</b>	<b>90</b>	<b>110</b>	<b>125</b>	<b>170</b>	<b>250</b>	<b>300</b>
non-cracked concrete						
temperature range (-40°C / +80°C)						
tension C20/25 $N_{Rec,p}$ [kN]	8.98	13.03	17.76	30.52	52.98	62.83
C50/60 $N_{Rec,p}$ [kN]	11.67	16.94	23.09	39.67	68.88	81.68

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 OF TOOLS

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

## STORAGE & 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.

## NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local Master Builders Solutions representative.

Master Builders Solutions reserves the right to have the true cause of any difficulty determined by accepted test methods.

\* Properties listed are based on laboratory controlled tests.

**MFlow916AN/01/03/2020**

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### NOTE

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**Master Builders Solutions India Private Limited**  
Registered office: Plot No D-126,  
TTC Industrial Area, MIDC,  
Shiravane, Navi Mumbai - 400706,  
Maharashtra, India  
Tel: +91 8657906776  
E-mail: [Construction-india@mbcc-group.com](mailto:Construction-india@mbcc-group.com)  
[www.master-builders-solutions.com/en-in](http://www.master-builders-solutions.com/en-in)

