

MasterFlow 830 PC

Pourable rheodynamic expansive mortar with very high performance and excellent durability for precision structural centimetric anchoring down to 0°C.

MATERIAL DESCRIPTION

MasterFlow 830 PC is a cementitious mortar, applicable by casting for thicknesses from 1 to 10 cm between the plate and the foundation.

MasterFlow 830 PC complies with the requirements and acceptance limits of expansive mortars for anchors indicated by:

- UNI 8993 and UNI 8994 about the consistency classes for superfluid, fluid and plastic types;
- UNI 8994 and UNI 8996, UNI 8147 for expansion both in the plastic and hardened phase;
- UNI 8998, about the absence of bleeding.

In particular, MasterFlow 830 PC is a high-performance structural mortar (class R4) as it meets the requirements of the EN 1504-3 standard.

MasterFlow 830 PC is resistant to aggressive environmental agents, offering a protective barrier for the reinforcements, minimizing the risk of corrosion and ensuring greater durability of the restoration.

For anchors with thicknesses greater than 10 cm use MasterFlow 980.

FIELDS OF APPLICATION

MasterFlow 830 PC is suitable for precision anchoring such as machinery in general and with particular reference to the anchoring of prefabricated elements.


FEATURES AND BENEFITS


The peculiar characteristics of MasterFlow 830 PC structural mortar are:

- very high fluidity and sliding capacity: fundamental property for anchor subplate because it guarantees the filling of all spaces, even the farthest ones, with great ease of application;
- compliance with the requirements of the Italian legislation on expansive mortars for anchors: this requirement is the basic prerequisite for the material to be used successfully for precision anchors;
- high mechanical performance both short and long curing: these properties are synonymous with a long service life of the machinery anchor;
- high adhesion to concrete and steel;
- impermeability to water;
- high resistance to attack by lubricating oils;
- high resistance to fatigue phenomena, thermal cycles, high temperatures.

- High resistance to aggressive environmental agents: the product is impermeable to water, chlorides and sulphates, resists freeze / thaw cycles even in the presence of deicing salts and is not subject to carbonation phenomena forming a protective barrier against armor.

In compliance with the European Regulation (EU No 305/2011 and EU No. 574/2014) the product is provided with the CE marking according to UNI EN 1504-3 and 1504-6 and their relative DoP (Declaration of Performance).

 1305
EN 1504-3
CC mortar for Structural and non-structural repair. EN 1504-3 methods 3.1/3.2/4.4/7.1/7.2.
R4 Class

 1305
EN 1504-6
Anchoring of reinforcing steel bars

CONSUMPTION

Consumption 1950 kg to make 1m³ of mortar.

PACKAGING

MasterFlow 830 PC available in 25 kg bag.

STORAGE

Store in a dry, cool place at a temperature anywhere between +5°C and +35°C.

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Technical Information			
Class according to EN 1504-3		R4	
Typology		CC	
Chloride ion content according to EN 1015-17		<0.05%	
Mixing ratio		2,9-3,2 l for 25 kg bag (11,6-12,8%)	
Consistency		Pourable	
Temperature of application		from -5°C to 35°C	
Pot life		45 minutes	
Package		25 kg bag	
Consumption		1950 kg/m ³	
Essential characteristic in accordance to EN 1504-3 and 1504-6 with a dosage of water of 12.2%		Classes	Performances
Adhesion to concrete	UNI EN 12615.	-	≥ 2.5 MPa
Adhesion to concrete by shear	UNI EN 12614		≥ 6,0 MPa
Expansive characteristics in the plastic phase	UNI EN 8966	-	≥ 0.3%
Expansive characteristics in restrained condition	UNI EN 8147	-	≥ 0.03% a 24 h
Bleeding	UNI EN 8998		Absent
Thermal compatibility (freeze-thaw cycles with de-icing salts)	as adhesion UNI EN 1542 after UNI EN 13687/1 cycles on MC 0.40 type support (with water / c ratio = 0.40) according to UNI EN 1766		≥ 2,5 MPa
Compressive strength	UNI EN 12190	a 28 dd ≥20.000 MPa	1 d > 35 MPa 7 dd > 65 MPa 28 dd > 80 MPa
Flexural strength	UNI EN 196-1		1 d > 4 MPa 7 dd > 7 MPa 28 dd > 8 MPa
Elastic modulus	UNI EN13412	a 28 dd ≥ 45 MPa	29000±2000 MPa
Coefficient of capillary absorption	UNI EN 13057	-	0,15 kg·m ⁻² ·h ^{-0,5}
Resistance to the extraction of bars steel - displacement relative to a load of 75 kN (mm)	RILEM-CEB-FIP RC6-78		> 25 MPa
Resistance to the extraction of bars steel - displacement relative to a load of 75 kN (mm):	UNI EN 1881		<0.6
Pourability	EN13395-2		>55

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APPLICATION SHEET

PREPARATION OF THE FOUNDATION AND THE MACHINE

Before positioning the machine, remove any damaged concrete and laitance from the surface of the foundation and then roughen the surface. Eliminate oil, grease, debris and dust from the foundation, the anchorage holes, the bolts and the bearing plate. Check that vents have been made in the plate through which the air can escape. Position, align and level the machine. After having placed the machine, soak the foundation concrete with water for at least 8 hours before grouting. Remove any excess water from the anchorage holes with air jets, sponges or a trap.

FORMWORK

The forms must be sufficiently watertight to avoid absorbing or wicking water out of the mortar and must be anchored and bucked to withstand the pressure of the mortar when it is placed and levelled. Construct the forms to leave a space of at least 15 cm around the edge of the bearing plate and on the placement side leave a space from the bedplate to accommodate at least 15 cm elevated head box. On all the other sides leave 5 cm gap between the form and the bedplate and 5-10 cm head box. In the case of very large bearing plates, as well as spacing the form further from the bedplate (up to 1,5 m) to accommodate the head box, to aid pouring of the actual mortar it may be useful:

- shift the head box further from the bedplate;
- make more fluid mixes (approx. 5-10% more water) to lubricate the concrete foundation, followed by mixes with normal fluidity.

Caulk the forms to prevent leaks of mortar and loss of head.

TEMPERATURE

MasterFlow 830 PC may be used when the ambient temperature is between +0°C and +35°C.

If the temperature, at the time of application, is between 5 and 10°C, the development of mechanical strength will be slower.

If the temperature, at the time of application, is between 30 and 35°C, it is recommended to use low temperature

mixing water (5 ÷ 10°C) and to apply the mortar in the coolest hours of the day.

MIXING

Mix for 3-4 minutes, in a cement mixer, or in small quantities, with a whisk mounted on a drill at low speed, the entire contents of the bags with the minimum quantity of water required (2,9 liters per bag) until obtaining a homogeneous and lump-free mixture. Then, if necessary, add more water (without exceeding the maximum quantity foreseen equal to 3,2 liters per bag) to obtain the rheodynamic consistency.

APPLICATION

Check by observing the surface of the water in a container placed on the plate of the machine to be anchored, that the vibrations generated by any machines operating nearby are not transmitted to the foundation of the machine being anchored.

If this occurs, it is necessary to stop these machines until the setting is complete and hardening has begun (at least 10-12 hours at 20°C).

Cast continuously without any interruption and avoiding excessively moving or vibrating the mortar under the plate. The mortar must be poured from one side only to facilitate the escape of air. In any case, avoid pouring the mortar from two opposite sides. Make sure that the mortar has completely filled the space between the plate and the foundation, possibly with the help of flexible rods slid back and forth under the base of the machine.

CURING

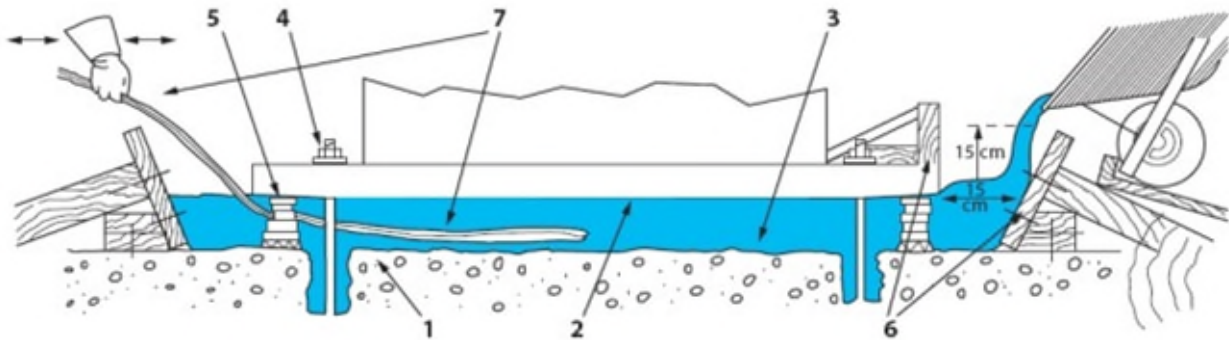
All the parts exposed to air must be immediately protected against evaporation and cured for at least 24 hours by wetting or covering with wet rags or by spraying with the curing compound MasterKure.

Lack of curing could lead to the formation of hairline cracks or crazing in the part of the mortar exposed to the air, especially in warm dry climates, without, however, affecting the anchorage. If necessary cut back and form the exposed parts of the mortar after it has finished setting and begun hardening (10-12 hours at 20°C).

If the machine manufacturer recommends removal of the bearings, this must be done only after 48 hours.

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- 1 Support, foundation
- 2 Plate, machine
- 3 Filling with MasterFlow 830 PC
- 4 Log bolts
- 5 Any spacers
- 6 Formwork
- 7 Any metal rods or chains to be used to facilitate sliding in case of particularly difficult castings

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.

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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.