

PRODUCT**# 108 MORTAR**
Thixotropic, Non-Shrink, Sulphate Resisting Mortar

#108 MORTAR is a ready-to-use product in powder form: mixed with water, it provides a thixotropic, rheoplastic, non-segregating, non-shrink, high strength mortar, with high bond to steel and concrete.

#108 MORTAR is an extremely durable waterproofing covering, even in highly aggressive ambient.

#108 MORTAR contains no metallic aggregate and is chloride free.

#108 MORTAR is reinforced with special synthetic fibres to allow higher build-up (min. 1 cm. - max 5 cm) on vertical surfaces.

#108 MORTAR expands slightly to compensate shrinkage.

#108 MORTAR can be applied by trowel, casted in formwork and also by spray equipment.

USES

- Repair of damaged horizontal and vertical concrete elements;
- Maintenance works in marine areas and harbours against aggressive water containing sulphates, sulphides, chlorides, etc.;
- Maintenance works in industries;
- Repair of structural members (reinforced or prestressed beams under normal or eccentric stresses).
- Repair of members subject to repeated stresses.

MAIN PROPERTIES

- High adhesion on concrete and steel
- Excellent mechanical resistance
- Suitable for vertical and horizontal surfaces

TECHNICAL DATA

Classification (UNI 8681 / UNI 8682)	One-pack, physical drying, mortar
Granulometry (EN 13300 / EN 1062)	3mm
Chloride Content (EN 1015-17)	$\leq 0.05\%$
Bond strength (EN 1542)	≥ 2.0 MPa
Determination of shrinkage and expansion (EN 12617-4)	2 MPa
Resistance to carbonation (EN 13295)	Pass
Elastic modulus (EN 13412)	27GPa
Thermal Compatibility Part 1 (EN 13687-1)	≥ 1.5 MPa
Capillary absorption (EN 13057)	≤ 0.5 Kg/(m ² ·h ^{0.5})



Apparent bulk volume	1400 ± 50 g/l
Bulk volume in paste	2050 ± 50 g/l
Type of binder	Cement-based (UNI 8681: TA)
Maximum application thickness	minimum 1 cm maximum 5 cm
Drying time	Under normal conditions, it can be covered after 24-48 hours; however, drying time depends on the absorption of the substrate and environmental conditions
Reaction to fire (EN 13501-1)	Class A1
Compressive strength (EN 12190)	Class R4
VOC	Not covered by Directive 2004/42/CE

SPECIFICATIONS

1. Water requirement to produce #108 MORTAR

Suggested consistency	Type of application	Water for 100 Kg. of #108 MORTAR	
		min.	max.
PLASTIC	Trowel	16 lt.	18 lt.
PLASTIC	Spray	16 lt.	18 lt.

2. Performance: 20 kg/sq.m. for each cm. of thickness.

3. Pot Life: 1 hour:

4. Setting times at 20°C: Initial: 4 hours Final: 6 hours

5. Mechanical performances: UNI 196/1

Compressive strength (EN 1219)	at 1 day	> 20	MPa
" "	at 3 days	> 35	MPa
" "	at 28 days	> 55	MPa (Class R4)
Flexural strength (EN 196-1)	at 1 day	> 3,8	MPa
" "	at 7 days	> 6,1	MPa
" "	at 28 days	> 11,5	MPa

6. Storage Life: 18 months, if properly stored in the original special bag.

7. Packing

#108 MORTAR is packed in 25 Kg. moisture-resistant bags, easy to store and handle thanks to their limited weight.

PREPARATION OF SURFACE

Clean surfaces from grease, oil or paint residues, lime, dirt or dust. Remove loose concrete or mortar by using a chisel or a scarifier to provide sound and



rough surfaces. Support must present scarification of 5-15 mm in order to provide the needed restraint to #108 MORTAR. This step is very important because #108 MORTAR needs a rough surface to bind to.

#108 MORTAR layers have to be at least 10 mm in thickness.

Clean reinforcements from rust and add new reinforcing bars if old reinforcement are no longer sufficient. The reinforcing bars must be protected from corrosion using L.A.2S epoxy-based or #108 GRIP cement-based.

REINFORCEMENT POSITIONING

If layer must be thicker than 25-30 mm over large areas, anchor a welded wire reinforcement to the concrete to be treated, leaving some space between the mesh and the surface. The subsequent layer of #108 MORTAR over reinforcement shall be of 10 mm., at least.

If thickness is lower than 20-25 mm or areas are small, no mesh is needed, provided the surface has been made rough with ridges approximately 5 mm deep, in order to provide the needed restraint to the mortar. Minimum thickness should be not less than 10 mm.

WATER SATURATION

After reinforcing bars or mesh are set, saturate the concrete or masonry to be repaired with water for at least 6 hours before pouring mortar. Remove any water with air hose or rags before applying #108 MORTAR.

EPOXY BONDING COAT

No water saturation is required when an epoxy bonding coat is applied. An epoxy bonding coat (L.A.2 S) is suggested for special cases.

PREPARATION OF THE MORTAR

For a correct mixing of #108 MORTAR, the following procedure is advisable:

- Open the bags of #108 MORTAR required for the job a short time before mixing is started, pour the minimum amount of mixing water indicated in paragraph 1 into the mixer. Start the mixer and add #108 MORTAR quickly and continuously.
- Mix the blend 3 to 4 minutes after all #108 MORTAR has been added, until the mortar is well mixed and without lumps.
- Add water, if necessary (within the quantities indicated in paragraph 1), until the required consistency is achieved and mix again for 2 to 3 minutes. The water content can slightly vary from those indicated in paragraph 1, depending on ambient temperature and relative humidity. In hot and dry climates, slightly higher quantity of water may be necessary, the contrary in cold and humid climates.

Hand mixing of #108 MORTAR is not recommended, in order to avoid the use of excessive quantities of water. For small mixes, a drill with helical mixer can be used.

THE INFLUENCE OF TEMPERATURE

#108 MORTAR can be easily used when ambient temperature during pouring operations is between 5° and 35°C.

However, if ambient temperature is very low (5° to 10°C) strength develops slowly. When high early strength is required, the following precautions are recommended:

- a) store the bags of #108 MORTAR in sheltered ambient;
- b) use hot mixing water (30 to 40°C);



- c) start pouring operation in the morning;
- d) protect the poured #108 MORTAR against cold weather with watertight coverings. Do not pour if temperature is approaching 0°C.

If ambient temperature is very high (> 30°C), loss of workability is the only problem. If such loss is too high for the intended use, the following measures are recommended:

- a) store the bags of #108 MORTAR in a cool place;
- b) use cold mixing water or add crushed ice;
- c) prepare the mortar during the coolest period of the day.

CURING

All surfaces covered with #108 MORTAR exposed to air should be damp cured using wet canvas sheets (jute) soon after completion operation and for subsequent 48 hours, especially in hot climate. Alternately the use of a curing compounds as a water-extended epoxy sealer, can help in preventing water evaporation.

All information and direction contained in this technical data sheet are given in good faith and are based on the best known practical test.

SINIT when having no control over transport, storage, handling, use and application of its product, will disclaim any responsibilities for any unsatisfactory results obtained.

Revised: January 2024



These data supersede all previously published data.

SINIT INTERMAR S.r.l. – Via V. Chiarugi,76/T – 45100 ROVIGO (ITALY)

Tel. ++39. 0425 361961 – Fax ++39. 0425 410115

E-MAIL info@sinitworks.com - www.sinitworks.com



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