

EM GROUT N 2140

CEMENT BASED, HIGH STRENGTH, NON SHRINK, FLOWABLE GROUT

DESCRIPTION:

EM GROUT N 2140, is cement-based, polymer reinforced, non-shrink, flowable, high strength, single-component grout mortar.

USAGE AREAS:

EM GROUT N is used;

In the manufacture of curtains and column headpieces,

To repair reinforced concrete elements with thin and thick reinforcement,

In the installation and joints of prefabricated elements,

All kinds of industrial machinery, generators, compressors and pumps for fixing,

To fill controllably left gaps of concrete, steel coil and strengthen implementations,

Installation of machinery feet,

To fill the foundation of carrier steel construction without any spaces,

Around the pool's and the water tank's armatures,

To fill holes of tie rod,

To fill the holes caused by the drilling core,

For rapid repair of runway and apron concrete,

For installation of curbs and paving stones,

For installation of traverse,

For repair and reinforcement operations.

Floor, foundation and field concrete,

Curtains, girders and columns,

All types of engineering buildings such as metro, tunnel, dam, motorways, port and power plants.

TECHNICAL PROPERTIES:

PROPERTY	STANDARD	RESULT
COLOR		GREY
PRESSURE STRENGTH	TS EN 196	1 hour : 30 N/mm ²
		7 days : 50 N/mm ²
		28 days : 60 N/mm ²
BENDING RESISTANCE	TS EN 196	28 days : 8 N/mm ²
BOND STRENGTH	TS EN 1542	28 days : 2 N/mm ² (to concrete)
		28 days : 2 N/mm ² (to steel)
ELASTICITY MODULUS		28 days : 20 kN/mm ²
APPLICATION THICKNESS		10 mm - 50 mm
SURFACE TEMPERATURE		(+5°C) - (+35°C)
SERVICE TEMPERATURE		(-20°C) - (+400°C)
POT LIFE		45 min. at (+20°C)
CURING TIME FOR PEDESTRIAN TRAFFIC		24 hours at (+20°C)
FULLY CURING TIME		28 days at (+20°C)
MIXTURE DENSITY		2,25 kg/lt
SHRINKAGE RATE		0%
GRAIN SIZE		0 - 3 mm

EMÜLZER ASFALTEVİ TECRİT MADDELERİ SANAYİ VE TİCARET LİMİTED ŞİRKETİ

Cebeci Caddesi No 73 Küçükköy 34100 İstanbul

Telephone: +90(212)5372500 PBX – Telefax +90(212) 6172380

www.emulzer.com.tr



ADVANTAGES:

It is suitable to apply between +5°C and +35°C ambient temperatures.
It provides high adhesion to concrete and reinforcement.
It is easy-to-use. It is prepared only by mixing with water and poured into the mold.
Thanks to its high fluidity characteristic it creates a poreless structure.
It fills the volume completely without shrinkage.
For thicker applications, the application can be made by adding new layers.
If fluid and high-strength concrete desired; 25% of clean, 5 – 12 mm aggregate is added to EM Grout N 2140 or to the surface.
It does not resolve or bleeding.
It is resistant to frost -dissolution cycle.
It expands in the stages of plasticity and early hardening.
It does not change the physical properties because of weather conditions during its service period.
Water impermeable. It is resistant to chlorine, sulphate attack and oils.

APPLICATION:

SURFACE PREPARATION

The surface to be treated should be clean and in good condition.
The surface to be treated should be free from any dust, oil, grease, rust, wax, paint, cement grout, bitumen residue that may prevent adhesion to the surface. All loose particals should be cleaned.
Broken surfaces which should be repaired must steepen as possible. Water should be drained from excessive wet and puddle surfaces. Dry and absorbent substrates must be saturated with water.

PREPARATION OF MORTAR

Approximately 4 liters water is poured into a clean large container (The amount of water may change depending on weather conditions). To find the correct water ratio the first mixture should be observed. Then EM GROUT N 2140 is slowly added to water while stirring with a 400 to 600 rev / min mixer. Mixture should be mixed until it becomes homogeneous (app. 2-3 min.), then it should be rested for 3 min. After that the mixture must be stirred for 1 min. Mixture should be observed to find the right water ratio. After determining the correct ratio of water, further water must not be added. Lumps should not be remained in the material. After the reaction begins, water should not be added again. Prepared mortar should be poured into mold in maximum 7 minutes.

To apply the product above +35°C , please try below methods and take into consideration grout mortar's temperature and accordingly make sample tests.

Cold water can be used as mixture water.

EM Grout N must be avoided from direct sunlight and should be stored in cool conditions.

EM Grout N should be applied when the ambient temperature is low such as early in the morning hours or late in the evening hours.

To apply the product below +5°C,

Hot water can be used as mixture water.

EM Grout N must be protected from freezing and cold weather conditions before application.

EM Grout N should be applied when the ambient temperature is high such as afternoon hours.

After the application, it must be protected from snow or rain by using polyethylene sheet, heat insulation plate, etc.

MACHINE ASSEMBLY AND PREPARATION OF ITS BASE

Loose and damaged pieces in concrete must be cleaned before the machine is placed. The surfaces to be applied with EM GROUT should be roughened. Any contaminants that could affect performance of bolt and base, such as rust, oil, grease, rust or wax should be cleaned.

The ventilation holes must be made on the base plate before installation of the machine. Levelling should be made and after the leveling process machinery must not be replaced after assembly. If the setting wedges will be planned to be removed later, grout should be lightly greased to prevent the mortar's adhesion. After placement and adjustment of the machine finished, concrete must be saturated with water just 6 hours before the grout's application.

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PREPARATION OF THE MOLDS

Molds must be made of solid material which will not leak and absorb the water of the grout mortar, they should be mounted strongly to withstand the forces during operation. 5 cm gap should be formed between mold and base plate edge which grout mortar is going to poured in. The mold should be higher in the casting side to provide pressure to spread the grout mortar.

It may necessary to take some precautions to fill out the bottom of a very large-sized plates such as providing pressure height up to 1.5 m, using some equipment (pump, pipes, etc.), making the first batch cast with a slurry that has 5% more water than normal, lubricating the surface of the concrete foundation. The edges of the mold must be without any gaps to prevent leakage and pressure loss.

If there are other working machines around the machine to do foundation filling, vibration determined by putting a container which is filled with water. It is monitored how vibration was influenced by other elements in the environment. 50 mm thickness (for one layer) should not be exceeded in large areas. Depending on the grout casting details; thicker applications performed in 2 or 3 consecutive layers or aggregates can be added into the grout for single layer cast. Aggregates to be used should be chosen as crushed stone that has 5-12 mm diameter (no:1) and they must be cleaned and washed before application. In order to prevent air compression Two-sided casting should not be applied in the mold. In order to fill all the gaps in the mold, placement must be done by a hook-ended steel wire and vibrator must be used. The molds should not be removed before of 18 – 24 hours.

The large surfaces which is open to atmosphere should be protected against rapid evaporation especially in hot, dry and windy weathers with the help of wet curing blanket, water, Emülzer Permo Parafin or Emülzer Permo Akil for 18 – 24 hours. If the edges to be exposed are desired to broken, they can be broken after the curing has started and the mortar has hardened.

Adjustment wedges should not be removed before 2 days. After starting the machine operation, the loosening of the nuts and bolts should be checked and tightened if necessary.

APPLICATION INFORMATION

The mortar which will be poured into the mold has a thickness between min 10mm-max 50mm in single layer. The molds could be removed after 15 minutes, depending on ambient temperature. For thicker application which is more than 50mm, please consult to EMULZER technical department. Thicker than 50 mm applications Max12mm diameter aggregate should be added with a amount of %30 to mortar. Vibration should not be applied. Casting should be made from one side to fill the places surrounded by steel, concrete etc. Using a steel wire should help fogging the mortar for easy settlement. EM GROUT R's surface must be protected with thermal insulation boards if air temperature drops below 0°C.

After the grout application, the application area must be protected against rapid evaporation for 2–3 days by using water, curing blanket, Emülzer Permo Parafin and Emülzer Permo Akil.

CLEANING OF TOOLS:

Tools can be cleaned with water after the application.

CONSUMPTION:

19 kg/m² (for 10 mm thickness)

PACKAGING:

25 kg polyethylene reinforced kraft sack.

SHELF LIFE – STORAGE:

Unopened packages can be stored in dry and cool conditions, protected from frost for up to 12 months, stacked maximum 10 packages on a pallet.

For short-term storage, maximum 3 palletes should be placed on top and the shipment should be done first in, first out system. For long-term storage the pallets should not be stowed

SAFETY PRECAUTIONS:

During practice, occupational health and safety rules appropriate business suits, protective gloves, goggles and masks should be used.

Due to irritating effect of uncured materials, skin or eye contact should be avoided. If there is a contact it should be washed immediately with soap and water. If it is swallowed immediate doctor consultation is required.

Application areas should be ventilated.

Food and beverage products should not be brought or consumed in the application area.

Keep out of reach of children.

Because this bulleting has been prepared considering the general conditions only, for the details except for the ones written above, please request additional written information otherwise no responsibility will be assumed due to the faults arising because of the insufficient data.

This technical bulletin invalidates the previous ones regarding this product.

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