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MasterEmaco® S 423 (Formerly known as Eski Adı Emaco® S23 NB)

Cement-Based Grout

Description of Product

MasterEmaco® S 423, is cement based one part, high strength, polymer modified, and self compacting non-shrink grout.

Fields of Application

MasterEmaco® S 423 is used in;

- Large volume repairs,
- High rise buildings such as beams, columns and walls
- Columns, piers and cross beams on highway structures
- Marine and other civil structures
- Tunnels, pipes and other below ground construction
- Fixing of pre-cast concrete elements
- Fixing of the turbines on the foundations
- Fixing of the generators, compressors and pumps on the foundations
- Fixing of the industrial machines on the foundations
- Fixing of the steel columns on the RC foundations
- Filling of the voids in the jacketing applications

Features and Benefits

- Mixed with only water and can be applied easily
- High compressive strength

Technical Data

Product Chemistry	Mineral fillers,and polymer modifield cement	
Colour	Grey	
Compressive Strength (TS EN 12190) 1 day 7 day 28 day	 > 30 N/mm^2 > 50 N/mm^2 > 60 N/mm^2	
Flexural Stregnth (28 day) (TS EN196)	> 8 N/mm^2	MK
Bonding Stregnth (28 day) to concrete to steel	 > 2 N/mm^2 > 2 N/mm^2	
Elasticity Modulus (28 gün) (TS EN 13412)	> 20.000 N/mm^2	
Application Modulus	Min. 20 mm Max. 100 mm	
Application Temperature	+5ºC - +30ºC	
Service Temperature	-20ºC - + 400ºC	
Pot Life	45 minutes	
Fully Cured at 23ºC	28 day	

**Depending up on the area thicker applications can be done. Please apply BASF.*
*** Typical values are obtained from the test results of 4x4x16 mortar prism in 23°C and 50% relative humidity conditions. High temperatures shorten the curing and working time, lower temperatures extends the durations.*

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- High fluid consistency
- Free of bleeding
- Resistant to water and weather conditions
- Perfect bonding to the concrete and steel
- Water proof
- Non-Shrink

Application Procedure

Preparation of Machine and Foundation

The concrete should be free of frost, curing membranes, waterproofing treatments, oil stains, laitance, friable material and dust. The concrete surfaces should be chipped and if there is a water leakage it must be drained or properly plugged. Base plate, rods and bolts should be free of oil stains, grease and dust. Enough number of holes should be opened on the base plate for air drain. Machine should be assembled and balanced before grouting. The concrete surfaces should be saturated with water at least 6 hours before the grouting.

Formwork Preparation

The form material should be waterproof and resistant to hydrostatic forces of the grout. Formwork installa-tion should be done against the possible leakage of the cement paste. An opening should be designed in the formwork with a width of 5 cm at minimum for pouring the grout. For providing a constant pressure for easy compacting of the grout the forms should be as high as possible in the pouring side. In grouting of huge base plates, special pipe and pump systems can be used or grout can be prepared with 5% extra water. For preventing the pressure releases, the forms should be placed without any tolerances and gaps between the concrete and form material.

Mixing

Add enough water into a clean mixing bucket by using a proper water gauge. Add the powder into the buck-et slowly and continously. Mix the fresh mortar with a proper electrical mixer (300-600 rpm) for 4 minutes until having a homogenous consistency. Let the mor-tar have rest for 4 minutes and re-mix for 30 seconds.

Mixing Ratio

MasterEmaco® S 423	Part A	Part B
Quantity	< 0.12 liter	< 3.00 liter
Mixed Density	~ 2.42 kg/liter	

Application Method

In the case of operating neigbour machines, a glass of water should be put on the groutin base and the vibra-tions caused by the environment can be observed. If needed, surrounding machines should be swicth off until (10-10 hours in 20ºC) the grout sets. **MasterEmaco® S 423** should be poured directly into the formwork or it should be pumped under pressure. Application thickness should be 2-10 cm. For pre-venting the possible air gaps in the formwork, pour the grout from single opening and let the air draining. For thicker applications second layer of the mortar should be applied in same way or consult to the **BASF Türk Kimya Sanayi ve Tic. Ltd. Şti.** technical. Open areas should be protected from the rain, wind, etc. aggressive whether conditions during the first 24-48 hours after finishingrepair by using wet clothes, curing membranes etc.

Coverage

22 kg/m² for obtaining 1 cm thick layer

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Watch Points

- During the application the substrate and environ-ment temperature should be between 5-30ºC.
- Open areas should be protected from the rain, wind, etc. aggressive whether conditions during the first 24-48 hours after finishing repair.
- Cement based materials' pot life and curing times vary depending on the relative humidity, substrate and environment temperature. Reaction gets slow in low temperatures and it causes to extension on pot life and working time. On the other hand high tempera-tures speed up the reaction, which results to short pot life and working time. For full curing of material, both the substrate and environment temperature shouldn't be under allowed application temperature.
- Do not use **MasterEmaco® S 423** in case of contacting to liquids with a PH under 5.5.
- Do not use vibrator for placing the mortar.
- In low temperatures (5ºC-10ºC) the following pre-cautions should be taken;
    - o The product should be stored in warm conditions,
    - o Hot water (30ºC-50ºC) should be used for mixing,
    - o Grouting area should be heated and protected from cold.
- In high temperatures (25ºC-30ºC) the following pre-cautions should be taken;
    - o The product should be stored in cool conditions,
    - o Cold water (0ºC-10ºC) and ice should be used for mixing.

Cleaning

After the application all tools should be cleaned with water. **MasterEmaco® S 423** can be cleaned with only me-chanical abrasion after hardening.

Packaging

25 kg bag

Storage

Store in original container in cool (+5ºC - +25ºC) and dry indoor conditions.

Shelf life

12 months under proper storage conditions after production date.

Health and Safety Precautions

Work cloth, protective gloves, goggles and masks concordant with Work and Worker Health rules must be used during the application. Due to irritant effects of the non-cured material, avoid contact to skin and eyes during storing and application. If such a contact occurs, it must be washed by soap and plenty of water. Consult a physician urgently if swallowed. Food and drink must be kept outside the application areas. Must be stored away from children. Please look at the Material Safety Data Sheet for detailed information.

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Disclaimer

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **BASF Türk Kimya Sanayi ve Tic. Ltd. Şti.** is only responsible for the quality of the product. **BASF Türk Kimya Sanayi ve Tic. Ltd. Şti.** is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones (01/2015).

CE

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Adana Hacı Sabancı Organize Sanayi Bölgesi
Magarsus Caddesi No:10 PK:01130
Sarıçam/ADANA/TÜRKİYE

14
1020-CPR-040 045448

EN 1504-6
Anchoring Product

Pull-out Strength: Displacement at load of 75 kN	≤ 0.6 mm
Chloride Ion Content	≤ 0.05 %

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14
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EN 1504-3
Structural and non-structural repair
Class R4

Principle 3: Concrete restoration — **3.1 Applying mortar by hand**, **3.2 Recasting with concrete**

Principle 4: Structural strengthening — **4.4 Adding mortar or concrete**

Principle 7: Preserving or restorating passivity — **7.2 Replacing contaminated concrete**

Compressive Strength	≥ 45 N/mm^2
Chloride Ion Content	≤ 0.05%
Adhesive Bond	≥ 2.0 N/mm^2
Restrained Shrinkage/Expansion	≥ 2.0 N/mm^2
Carbonation Resistance	passes
E-Modulus in Compression	≥ 20 Gpa
Reaction to fire	A1
Dangerous Substances	Complies with 5.4

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