

MasterSeal® 591 (Formerly known as Waterplug®)

Cement Based Fast Setting Mortar for Plugging Active Water Leakage

DESCRIPTION OF PRODUCT

MasterSeal® 591, is a high adherence, special cement and mineral filler containing, ready to use repair mortar that instantly sets and hardens by expanding when mixed with water and is used for stopping of active water leakages.

Complies with EN 1504-3 Class R2

FIELDS OF APPLICATION

- Interior and exterior areas for vertical and horizontal applications
- Repairs of static (non-moving) cracks
- Stopping of active water leakages
- Waterproofing of pipe and cable crossings
- Repairs of deformations on concrete
- Filling and sealing water leakages before waterproofing
- Filling tie-rod cavities inside molds
- Chamfering of corners, joints and repairing cold joints
- For fixing metal anchorage and connection parts

FEATURES AND BENEFITS

- Single part, only mixed with water.
- Stops active water leakages by setting instantly.
- Easy to use.
- Expands and forms a watertight structure.
- Highly resistant and stable.
- Waterproofing materials can be applied on it after 15 minutes.
- Does not cause corrosion of steel equipments chloride free.
- Can be safely used in drinking water tanks. (has a test report)

Chemical Analysis Laboratory, and consistent with BS 6920 Standard Analysis Report.

TECHNICAL DATA

Material	Mineral Dolgu ve Özel Çimentolar içerir.		
Color	Grey		
Adhesion Strength (EN 1542)	≥0,50 N/mm ² (28 days)		
Compressive Strength	30 minutes ≥7 N/mm ²	24 hours ≥10 N/mm ²	28 days ≥30 N/mm ²
Working Temperature	+5°C +25°C		
Pot Life	1-1,50 minutes		
Final Drying	2-3 minutes		

Obtained in +23°C, 50% relative humidity conditions. Higher temperatures decrease the time, lower temperatures increase the time.

APPLICATION PROCEDURE

Preparation of Substrate

Application surface must be strong, dry and cleaned off all kinds of oil, grease, rust, pitch, paint and curing materials that can weaken adherence. Existing cracks and spaces must be cut in 20 mm width and with perpendicular sides. Avoid cutting in "V" shape.

Mixing

Put adequate amount of **MasterSeal® 591** to be used in 60 seconds into a clean mixing container and add necessary amount of water. Mix with hand by using a glove. Do not mix it for more than 30 seconds.

ATTENTION: Use warm or hot water in cold air. Do not add aggregate, any chemicals or foreign materials to the mixture.

Mixing Ratios

MasterSeal® 591	5 kg
Mixture Water	1,20-1,40 lt
Density of Mixture	-2,14 kg/lt

1 kg **MasterSeal® 591**, is mixed by adding 0.24-0.28 liters of clean water. (Water ratio varies with environmental conditions)

APPLICATION

Repairing Active Water Leakages

Open the crack that has active water leakage with minimum 20 mm width and depth or until reaching to the sound substrate. Mix MasterSeal® 591 with necessary amount of water and make it conical shape in your hand and apply it on the leaking region with a single motion, when the mixture starts to heat. Apply pressure with your hand for at least 60 seconds by keeping your hand still. After the material hardens, slowly take your hand away. If the space is too large to be filled in one time, then repeat this procedure by going from the perimeter of the space to its center. Right after the application, clean the extra material around the space with suitable equipments.

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Sealing at Construction Joint

Open the cold joint with minimum 20 mm width and depth or until reaching to the sound substrate. Remove wires, wooden wedges or similar materials from the surface. Fill the joint appropriately with **MasterSeal[®] 591**.

Fixing Metal Anchorage or Connection Parts to Reinforced Concrete

Anchorage hole must be opened with appropriate a drill on reinforced concrete surface with greater diameter than the anchorage part's diameter. Afterwards, all the dust and weak materials inside the hole must be cleaned. Before the application, anchorage hole must be filled with water. Prepared anchorage holes must be filled with sufficient amount of **MasterSeal[®] 591**. Anchorage part is fixed turning quickly towards its vertical axis before **MasterSeal[®] 591** is cured.

COVERAGE

Varies

WATCH POINTS

- Wait for the appropriate ambient and substrate temperature if it is less than 5°C or more than 25°C. Also application should not be made in very hot rainy or windy weathers.
- As a result of rising hydration temperature, **MasterSeal[®] 591** sets quickly. It must be kept damp for 15 minutes. This period must be 30 minutes in dry and absorbent surfaces.
- Working and reaction time of special cement containing systems are affected by environment and ground temperature and relative humidity in the air. Low temperatures slow down the chemical reaction and increase working period, coating time and work time. Also coverage decreases because viscosity increases. High temperatures accelerate the chemical reaction and times stated above are reduced depending on this. For the material to complete its curing, environment and ground temperatures must not fall down below the minimum allowed value.
- For the applications in cold weather, packages must be conditioned in +20°C-+25°C and mixture must be prepared with hot water in order to increase workability.

CLEANING OF TOOLS

All the tools and equipments must be cleaned by water after the application. After **MasterSeal[®] 591** is hardened, it can only be removed from the surface mechanically.

PACKAGING

5 kg plastic bucket

STORAGE

Must be stored in unopened original packing, and in cool and dry environment protected from freezing. In short-term storing, maximum 3 palettes can be stowed on top of each other and delivery has to be according to first in first out system. In long-term storing, the palettes must not be stowed on top of each other.

SHELF LIFE

6 months after the production date under appropriate storing conditions. Opened packages have to be stored by tightly sealing the cover and must be used in one week.

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.

DISCLAIMER

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd. Şti.** is only responsible for the quality of the product. **Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret 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.

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CONTACT INFORMATION

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20 1020 – CPR – 040 065838 DOP NO: 02.1504.3.014	
EN 1504-3:2005 MasterSeal 591 Yapısal olan ve yapısal olmayan tamir (Structural and Non-Structural Repair Mortar) Sınıf R2 (Class R2)	
Prensip 3: Betonun Yenilenmesi (Principle 3: 3.1 Concrete restoration)	3.1 Elle harç uygulaması (3.1 Applying mortar by hand)
Basınç Dayanımı (Compressive Strength)	≥ 15 N/mm ²
Klorür içeriği (Chloride ion Content)	≤ % 0,05
Adezyon Dayanımı (Adhesive bond)	≥ 0,8 N/mm ²
Kontrollü Büzülme / Genleşme (Restrained shrinkage/expansion)	≥ 0,8 N/mm ²
Yangına tepki (Reaction to fire)	A1
Tehlikeli maddeler (Dangerous substances)	Madde 5.4'e uygun