



# ARENA

construction  
mixtures

## WATERPROOFING REPAIR MIXTURES FOR CONCRETE



[www.arenamesi.ru](http://www.arenamesi.ru)



**ARENA** | construction  
mixtures

## WAYS OF USING MIXES «ARENA»

- **WATERPROOFING AND PROTECTION**
- **REPAIRING AND STRENGTHENING CONCRETE**
- **INSTALLING INDUSTRIAL AND CIVIL FLOORS**
- **CIVIL CONSTRUCTION**

## ABOUT THE COMPANY

Production of wide range of high-quality construction mixtures by the brand “ARENA” is basic way of working for multidisciplinary company LLC under the laws of Russian Federation “Factory of waterproofing “ARENA”. Starting with mining, processing and delivering construction complex of quartz sand 7 years ago, the company succeeded in market and improved productive work with huge companies in Russian's constructive field. As the material base is improved and additional production capacity is put into operation, we step in a new level suggesting construction mixtures “ARENA” for our partners. Cement-based waterproofing and outstanding additive for concrete “ARENA BiMix PL”, strong and frost-resistant compositions for concrete, floor mixtures, line of high-tech adhesives for tiles and porcelain stoneware, different kinds of plaster – all our products succeeded testing and approved by specialists.

In present time construction mixtures “ARENA” are used by building companies in lots of Russian districts. Engineering services of our company continue to improve range, developing new brands of structure compositions and technical conditions of production. According to technical control department, developers carry out technological support of the production process and be responsible for conformity of products to applicable standards.

We develop dealer network and value long-term cooperation.

Each our trading and manufacturing partner can count on high-quality products and maximum attention to the processing and completion of their orders. Perfect storage facilities and cooperation with the best transport companies allows us to ship even the largest quantities of products as soon as possible. We guarantee the impeccable quality, efficiency and competitive cost of all construction mixtures ARENA. We look forward to a long-term and mutually beneficial cooperation.



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- ✓ Production of high strength and durability concrete.
- ✓ Accelerated hardening of concrete.
- ✓ Increased convenience in laying, plasticity of concrete mixture (Independently fills the formwork, does not require long vibrations during laying).
- ✓ Increased water resistance, frost resistance, corrosion resistance of concrete.

## DESCRIPTION

Integrated additive **ARENA BiMix PL** is intended for increasing strength, mobility and water resistance of concrete. It represents the mix of micro cement, active mineral fillers and modifying additives.

Recommended dosage: 3-6% of cement weight. The exact amount of the additive must be selected by trial batching.

## PURPOSE

- For getting concrete with increased strength and durability;
- For acceleration the process of hardening of concrete;
- For the production of cast self-compacting mixtures;
- For increasing water resistance, crack resistance, frost resistance and corrosion resistance.

## ADVANTAGES

- Allows to save 40% cement in concrete without losing its' technical properties;
- Allows to get concrete with increased strength and crack resistance;
- Allows to get concrete for hydraulic engineering, with mark of water resistance at W20;
- Allows to receive concrete with declared brand strength for 3-7 days;
- Provides high frost resistance not less than F600;
- Allows to create a self-compacting concrete mix with an optimum viscosity for laying and the absence of a stratification effect;
- The additive is absolutely safe and allowed to use in domestic drinking water supply.

## TECHNICAL CHARACTERISTICS

|  |                           |
|--|---------------------------|
| Appearance:  | dark-grey colored powder  |
| Bulk density:  | 300-400 kg/m <sup>3</sup> |
| Moisture by weight:  | up to 0,5%                |
| Consumption of additive to the weight of cement in solution: | 3-6%                      |
| Packing:   | 6kg sacks                 |
| Expiration date:   | 18 months                 |

### Changes in the characteristics of concrete after adding the additive. Compared with standard concrete.

|   |                   |
|---|-------------------|
| Increase of concrete strength on compression: | not less than 30% |
| Increase of mobility of concrete mixture:     | up to P5          |
| Increase of water resistance on concrete:     | not less than W10 |
| Increase of frost resistance of concrete F:   | >300 cycles       |
| Time of formwork removal:                     | the next day      |
| Possibility for use in drinking tanks:        | yes               |

## USING

**Attention: When dosing the additive BiMix PL in a smaller quantity than in the package, the entire volume of the additive in the package must be thoroughly mixed before use!**

The dosage of the universal complex additive is from 3 to 6% of the mass of the cement in the solution. Increasing the dosage more than 6% of the mass of cement does not bring additional benefits from the additive.

### Comparative characteristics of the rate of strength and water resistance W and frost resistance F for concrete M300

| Compositions of concrete M300            | 1 day     | 3 day     | 7 day     | 28 day    | Water resistance | Frost resistance |
|--|-----------|-----------|-----------|-----------|------------------|------------------|
| Compressive strength without additive    | 17,64 MPa | 20,72 MPa | 23,54 MPa | 28,69 MPa | W-4              | F-300            |
| Compressive strength with additive BiMix | 25,34 MPa | 29,25 MPa | 32,95 MPa | 39,60 MPa | W-16             | F-600            |

### Additive consumption BiMix PL per 1 m<sup>3</sup> of concrete

| Mark of concrete | Mark of cement | Quantity of BiMix PL, kg | Mark of cement | Quantity of BiMix PL, kg |
|------------------|----------------|--------------------------|----------------|--------------------------|
| M200             | M400           | 15                       | M500           | 14                       |
| M250             | M400           | 18                       | M500           | 15                       |
| M300             | M400           | 20                       | M500           | 18                       |



# WATERPROOFING ADDITIVE IN CONCRETE

## ARENA EcoMix

- ✓ Significantly increases the watertightness and frost resistance of monolithic and prefabricated concrete and reinforced concrete structures with pores, cracks with a width of opening no more than 0.4 mm.
- ✓ The material is compatible with other additives used in the production of concrete.
- ✓ The additive is ecologically clean, radioactive safe.
- ✓ Does not contain chlorides and sulfates, which can provoke corrosion of reinforcement and concrete.



### DESCRIPTION

Dry waterproofing additive in concrete consists of cement, and special additives of property modifiers.

### PURPOSE

The dry mix is intended for the additive in concrete at the stage of its preparation for the production of hydraulic concrete. Significantly increases the watertightness of concrete and reinforced concrete structures at the stage of concreting and production. Increases the frost resistance of concrete. Provides protection of structures from the influence of corrosive media: acids, alkalis, sewage and groundwater, sea water.

### TECHNICAL CHARACTERISTICS

|   |                            |
|---|----------------------------|
| Appearance:   | loose powder gray          |
| Humidity by weight:   | not more than 0,6%         |
| Bulk density in standard non-compacted state:                       | 1100±100 kg/m <sup>3</sup> |
| Density:  | 1750±100 kg/m <sup>3</sup> |
| Dosage of the additive from the mass of cement in Concrete mixture: | 1%                         |
| Increasing the brand of concrete by water resistance:               | not less than 3 steps      |
| Increase in frost resistance of concrete after processing:          | no less than 100 cycles    |
| Guarantee period of storage:  | not less than 18 months    |

\* All the stated quality indicators and recommendations are correct for an ambient temperature of 20°C and a relative humidity of 90%. In other conditions, the technical characteristics of the material may differ from those

### PREPARATION OF SOLVENT MIXTURE

The dosage of the additive should be 1% of the mass of cement in the concrete mix.

In the concrete mixer add **ARENA EcoMix** add in the form of a mortar mixture in the proportion of 0.6 -0.7 liters of water per 1 kg of dry additive or 1 part of water for 1.5 parts of dry additive by volume. The prepared solution mixture of the additive should be used within 10 minutes.

Stir the mortar in the mixer truck for at least 10 minutes with increased mixer speed.

**Do not add ARENA EcoMix additive to the concrete mix in dry form!**

It is possible to introduce **ARENA EcoMix** in dry form through the dry additives dispensers of the RBU production line, as well as together with inert materials.

Joints, seams and abutments in finished concrete structures must be treated with suture material **ARENA PT** or repair compounds for concrete series **ARENAR**.





- ✓ Significantly increases water resistance and durability of concrete.
- ✓ Concrete foundation does not require drying.
- ✓ Efficiently works with both direct and reverse water pressure.
- ✓ Significantly increases the corrosion resistance of concrete.
- ✓ After processing, the concrete itself is able to resist water penetration and becomes a water resister.
- ✓ Does not contain chlorides and sulfates, capable of provoking corrosion of reinforcement and concrete.

## DESCRIPTION

Dry waterproofing permeating mixture consists Portland cement, quartz sand and a complex ionic soluble additive capable of penetrating into the pores and concrete drenches and getting into chemical interaction with the products of Portland cement hydration in concrete.

## PURPOSE

The dry mix is intended for waterproofing concrete and reinforced concrete surfaces, cutting off capillary suction of moisture and increasing the corrosion resistance of concrete due to the filling of pores and capillaries with hardly-soluble compounds.

## TECHNICAL CHARACTERISTICS

|   |                             |
|---|-----------------------------|
| <b>Appearance:</b>                                  | grey powder                 |
| <b>V/T:</b>   | 0,35 - 0,45                 |
| <b>Moisture by weight:</b>                          | not more than 0,3%          |
| <b>Bulk density in standard condition:</b>          | 1200±100 kg/m <sup>3</sup>  |
| <b>Start of setting:</b>                            | not less than 20 minutes    |
| <b>End of setting:</b>                              | not longer than 150 minutes |
| <b>Density:</b>                                     | 1750±100 m/kg <sup>3</sup>  |
| <b>Increased brands of concrete, waterproofing:</b> | at least 3 steps            |
| <b>Increased frost resistance of concrete:</b>      | at least 100 cycles         |

\* All the stated quality indicators and recommendations are correct for an ambient temperature of 20°C and a relative humidity of 90%. In other conditions, the technical characteristics of the material may differ from those.

## PREPARATION OF FOUNDATION

The base for the application of waterproofing mixtures should be clean and fully moistened. The cleaning of concrete surfaces should be carried out using a high-pressure water jet or other suitable mechanical ways.

Along the entire length of cracks, seams, joints, abutments and around the inputs of communications, perform fines of the П-shaped configuration with a cross section of at least 25x25 mm. In places of active filtration of water, break at least 25 mm wide and a depth of at least 60 mm, expanding in depth (in the form of a cone).

## PREPARATION OF SOLVENT MIXTURE

To prepare such volume of a mortar mix which can be developed within 20 minutes from the moment of addition of water in a dry mix. Mix the dry mixture with water in the proportion: 0,35 - 0,45 l of water per 1 kg of dry mixture or 1 part of water to 2 parts of the dry mixture by volume. Mix the mixture for 1 to 2 minutes with a rancid or with a low-speed drill.

The mortar mixture should be mixed regularly during use to maintain the original consistency.

## APPLICATION

Work should be done at a temperature of at least 5°C. The mortar mixture should be applied by brush or spray for mortar mixtures evenly over the entire surface into 2 layers. The first layer should be applied to wet concrete, the second layer should be applied to the fresh, but already grasped first layer. Before applying the second layer, the surface must be moistened.

## CONSUMPTION

The consumption of the dry mixture is 0.8-1.0 kg/m<sup>2</sup> of concrete surface (2 layers).

## CARE OF PROCESSED SURFACE

It is necessary to ensure that the treated surfaces remain moist for 3 days. For what you need to moisturize the surface 2-3 times a day.



# DRY MIXTURE FOR WATERPROOFING SEAMS

## ARENA PT

- ✓ Increased crack resistance and water resistance.
- ✓ It is characterized by rapid setting.
- ✓ The solution is non-shrinkable.
- ✓ Does not contain chlorides and sulfates, capable of provoking corrosion of reinforcement and concrete.



### DESCRIPTION

Dry waterproofing permeating mixture consists Portland cement, quartz sand and a complex ionic soluble additive capable of penetrating into the pores and concrete drenches and getting into chemical interaction with the products of Portland cement hydration in concrete.

### PURPOSE

The dry mix is intended for waterproofing cracks, seams, inputs of communications, junctions due to high water resistance and no shrinkage. Has a high adhesion to concrete.

### PREPARATION OF FOUNDATION

The base for the application of waterproofing mixtures should be clean and fully moistened. The cleaning of concrete surfaces should be carried out using a high-pressure water jet or other suitable mechanical ways. Along the entire length of cracks, seams, joints, abutments and around the inputs of communications, perform fines of the П-shaped configuration with a cross section of at least 25x25 mm. In places of active filtration of water, break at least 25 mm wide and a depth of at least 60 mm, expanding in depth (in the form of a cone).

### PREPARATION OF SOLVENT MIXTURE

It is possible to prepare such volume of a mortar mixture within 30 minutes from the moment of adding water to a dry mixture.

Mix the dry mixture with water in the proportion of 0.16-0.17 liters per 1 kg of dry mixture or by volume - 1 part of water by about 4 to 4.5 parts of the dry mixture. Dissolve the mortar mixture for 1-2 minutes by hand or with the aid of a low-speed drill until a thick consistency plate is obtained.

### TECHNICAL CHARACTERISTICS

|                                     |                             |
|-------------------------------------|-----------------------------|
| Appearance:                         | grey powder                 |
| Moisture by weight:                 | not more than 0,3%          |
| Bulk density in standard condition: | 1300±100 kg/m <sup>3</sup>  |
| V/T:                                | 0,16 - 0,17                 |
| Start of setting:                   | not less than 40 minutes    |
| End of setting:                     | not longer than 150 minutes |
| Density:                            | 2200±100 kg/m <sup>3</sup>  |
| Strength of adhesion to concrete:   | not less than 2 MPa         |
| Compressive strength 1/28 days:     | not less than 20/40 MPa     |
| Water resistance mark:              | not less than W14           |
| Mark for frost resistance:          | not less than F400          |

### APPLICATION

Work should be done at a temperature of at least 5°C. Prepare the fines densely filled with the prepared mortar mixture. The consumption of dry mix with a penalty of 25x25 mm is 1.4 - 1.6 kg/m. Taking into account process losses when laying the mixture. When the cross section of fines increases, the consumption of the mixture increases proportionally. During the application, the mortar should be mixed regularly.

### CARE OF PROCESSED SURFACE

It is necessary to ensure that the treated surfaces remain moist for 3 days. For what you need to moisturize the surface 2-3 times a day.



ARENA | construction mixtures

# ARENA PW HYDRAULIC PLUG

# DRY WATERPROOFING MIXTURE FOR LIQUIDATION OF ACTIVE LEAKS «HYDRAULIC PLUG»



- ✓ Quick stop of leaks, including under water.
- ✓ No equipment required.
- ✓ High degree of setting with a repaired surface.
- ✓ High resistance to aggressive environment.
- ✓ Can be applied to any surface (concrete, mortar, brick, blocks).
- ✓ Hardens in damp enclosed spaces, quickly gaining strength.

## DESCRIPTION

Dry construction mixture waterproof surface to stop active leaks mixture, consists of a mixture of alumina and Portland cement, quartz sand and a complex of additives accelerators for setting and hardening, as well as additives that prevent the mixture from blurring when it is applied.

## PURPOSE

The dry mix is intended for immediate stop of pressure leaks due to fast setting and strength set. It is used for the liquidation of pressure leaks of water through concrete, when other materials are washed out with water before they begin to set.

## PREPARATION OF FOUNDATION

Increase the cavity with a jackhammer for a width of at least 25 mm and a depth of at least 60 cm with expansion in depth (if possible in the form of a cone). Clean the cavity of loose concrete.

## PREPARATION OF SOLVENT MIXTURE

Prepare the amount of solution mixture, which can be used in the flow of 20-30 seconds. The optimum temperature of the mixing water is 20°C. With decreasing temperature, the time for setting the solution mixture increases. At weakly positive temperatures it is recommended to use warm water for mixing.

Mix the mixture with water in the proportion: 0.15 l of water per 1 kg of dry mixture. The consistency of the prepared mortar mixture ready for use is "dry earth".

## TECHNICAL CHARACTERISTICS

|                                     |                             |
|-------------------------------------|-----------------------------|
| Appearance:                         | grey powder                 |
| Moisture by weight:                 | not more than 0,3%          |
| Bulk density in standard condition: | 1100±100 kg/m <sup>3</sup>  |
| V/T:                                | 0,15 - 0,20                 |
| Start of setting:                   | not less than 18 seconds    |
| End of setting:                     | not longer than 120 seconds |
| Density:                            | 2100±100 kg/m <sup>3</sup>  |
| Mark for frost resistance:          | not less than F300          |
| Water resistance mark:              | not less than W14           |

\* All the stated quality indicators and recommendations are correct for an ambient temperature of 20°C and a relative humidity of 90%. In other conditions, the technical characteristics of the material may differ from those.

## APPLICATION

Work should be done at a temperature of at least 5°C.

The prepared mortar mixture formed in the form of a cone squeeze by force out into a cavity of a leak and to keep within 40-60 seconds.

## CARE OF PROCESSED SURFACE

It is necessary to ensure that the treated surfaces remain moist for 3 days. For what you need to moisturize the surface 2-3 times a day.



# DRY WATERPROOFING LUBRICATING ELASTIC MIXTURE

## ARENA PE

- ✓ Resistance to mechanical damage.
- ✓ High resistance to aggressive environment.
- ✓ Vapor permeability.
- ✓ Easy to use.
- ✓ High level of traction.
- ✓ Possibility of applying to the wet surface manually or mechanically.



### DESCRIPTION

Dry waterproofing surface lubricating elastic mixture consists of a mixture of mineral and polymer, as well as quartz sand. After hardening it represents as a thin multilayer elastic (at least 2 layers) waterproof coat 2-5 mm applied on the surface of the insulated construction using a brush and a spatula.

### PURPOSE

The dry mix is designed for waterproofing concrete and stone structures by creating waterproof layers on the insulated surface.

### ADVANTAGES

- Thickness of application no less than 2 mm.
- Efficiently operates under direct water pressure.
- High adhesion and ability to perceive insignificant deformations of the insulated surface.

### PREPARATION OF FOUNDATION

Clean the insulated surface of the rests of plaster, paint and other impurities, preventing the adhesion of the waterproofing mixture to the foundation.

Make a visual assessment of the site to be isolated and identify water filtration sites. If there are active leaks, remove them with **ARENA PW**.

### PREPARATION OF SOLVENT MIXTURE

Per 1 kg of the mixture requires 0.13 l. Optimal mixing is a low-speed drill. Mix for 3 minutes before forming a homogeneous, plaser-free mass without lumps.

The mortar mixture during the use should be regularly mixed to preserve the initial consistency. Re-adding water to the solution is not allowed.

### TECHNICAL CHARACTERISTICS

|                                     |                             |
|-------------------------------------|-----------------------------|
| Appearance:                         | grey powder                 |
| Bulk density:                       | 1100±100 kg/m <sup>3</sup>  |
| V/T:                                | 0,13 - 0,15                 |
| Mobility:                           | Pk1 - Pk2                   |
| Start of setting:                   | not less than 60 minutes    |
| End of setting:                     | not longer than 210 minutes |
| Density:                            | 2100±100 kg/m <sup>3</sup>  |
| Compressive strength after 28 days: | not less than 35 MPa        |
| Bending strength after 7/28 days:   | not less than 8/10 MPa      |
| Adhesion after 3/28 days:           | not less than 1,0/2,0 MPa   |
| Water resistance mark:              | not less than W18           |
| Shrinkage at the 28 days:           | not more than 0,1%          |
| Mark for frost resistance:          | not less than F400          |

\* All the stated quality indicators and recommendations are correct for an ambient temperature of 20°C and a relative humidity of 90%. In other conditions, the technical characteristics of the material may differ from those.

### APPLICATION

Work should be done at a temperature of at least 5°C. The last coat should have a thickness at least 2-4 mm. Even if with a thickness of 2 mm can be applied with a spatula, it is necessary to apply at least 2 more layers to seal the pores and micro cracks formed when the first layer is hardened. Depending on the volume of work, the mortar can be applied with a spatula or a brush.

### CONSUMPTION

The consumption of the mixture is 1.8 kg/m<sup>2</sup> of concrete surface per 1 mm layer.

### CARE OF PROCESSED SURFACE

It is necessary to ensure that the treated surfaces remain moist for 3 days. For what you need to moisturize the surface 2-3 times a day.



**R500**  
**R500 Winter**  
**R500+**

# REPAIR COMPOSITION FOR CONCRETE HIGH-MARK



## DESCRIPTION

Dry high-quality repair surface mixture. It consists of rapidly hardening Portland cement, fractionated quartz sand, reinforcing fibers, and a complex of additives of property modifiers.

## PURPOSE

The dry mix is intended for restoration of geometrical and operational parameters of a structure by their surface restoration. Can be applied by dry or wet tamping.

## ADVANTAGES

- High strength (especially in early hardening).
- No shrinkage.
- High adhesion to the substrate and water resistance.
- Possibility of applying up to -10°C (**ARENA R500 Winter**).

## TECHNICAL CHARACTERISTICS

|   |                              |
|---|------------------------------|
| Appearance:                             | grey powder                  |
| Насыпная плотность:                     | 1200 ± 100 kg/m <sup>3</sup> |
| V/T:                                    | 0,13 - 0,15                  |
| Mobility:                               | Pk1 - Pk2                    |
| Start of setting:                       | not less than 60 minutes     |
| End of setting:                         | not longer than 240 minutes  |
| Density:                                | 2100 ± 100 kg/m <sup>3</sup> |
| Compressive strength after 1/7/28 days: | not less than 20/50/70 MPa   |
| Flexural strength after 7/28 days:      | not less than 7,0/9,0 MPa    |
| Adhesion after 3/28 days:               | not less than 0,9/1,8 MPa    |
| Water resistance mark:                  | not less than W14            |
| Shrinkage at the 28 days:               | not more than 0,1%           |
| Mark for frost resistance:              | not less than F400           |
| Packing:                                | 25kg sacks                   |
| Expiration date:                        | 12 months                    |

\* All the stated quality indicators and recommendations are correct for an ambient temperature of 20°C and a relative humidity of 60%. In other conditions, the technical characteristics of the material may differ from those.

## WORKING PROCESS

Conduct a visual and instructional assessment of defective areas of concrete to calculate the required amount of materials.

Clean the damaged areas from weak concrete of other contaminants, preventing adhesion of the mortar to the surface of the repaired concrete. When the reinforcing bars are holed, remove the concrete around them at least 15 mm. Clean the valve from corrosion. It is recommended to use sand blasting. If necessary, replace the equipment. In the presence of active leaks, remove them with a dry mixture of **ARENA PW «HYDRAULIC PLUG»**.

## PREPARATION OF SOLVENT MIXTURE

The optimum temperature of the mixing water is 20°C. When the temperature decreases, the time for setting the solution mixture increases and the final strength of the solution decreases. When the temperature is increased, the time for grasping is reduced. At temperatures close to 0°C, use a dry mixture of **ARENA R500 Winter**. On 1 kg of a dry mix it is required 0,13-0,15l of water. It is best to mix with a low-speed drill. Mix for 3 minutes before forming a homogeneous plastic mass without lumps. Dissolve the mortar during use to maintain the original consistency. Re-addition of water to the solution is not allowed.

## APPLICATION

Repair work should be performed at a temperature not lower than +5°C.

Before applying the mortar mixture on the concrete surface of the repaired area should be abundantly moistened. Depending on the amount of work, the mortar can be applied with a trowel, a spatula manually or by wet-rolling. The optimum layer thickness of the applied material is 10 mm. When using a construction mixture **ARENA R500+** the maximum layer thickness of the applied material is 40 mm. The subsequent layers can be applied after 60-120 minutes, pre-moisturizing. The application of the repair mixture on large areas must be done on a masonry net.

## CARE OF PROCESSED SURFACE

It is necessary to ensure that the treated surfaces remain moist for 3 days. For what you need to moisturize the surface 2-3 times a day.



# REPAIR COMPOSITION FOR CONCRETE

## ARENA R300

### DESCRIPTION

Dry construction mixture waterproof surface to stop active leaks mixture, consists of a mixture of alumina and Portland cement, quartz sand and a complex of additives accelerators for setting and hardening, as well as additives that prevent the mixture from blurring

### PURPOSE

The dry mix is intended for restoration of geometrical and operational parameters by a design of their surface restoration. Can be applied by dry or wet tamping.

### ADVANTAGES

- Economy;
- Optimum technical characteristics.

### TECHNICAL CHARACTERISTICS

|   |                              |
|---|------------------------------|
| <b>Appearance:</b>                            | grey powder                  |
| <b>Bulk density in standard condition:</b>    | 1200 ± 100 kg/m <sup>3</sup> |
| <b>V/T:</b>                                   | 0,13 - 0,15                  |
| <b>Mobility:</b>                              | Pk1 - Pk2                    |
| <b>Start of setting:</b>                      | not less than 40 minutes     |
| <b>End of setting:</b>                        | not longer than 180 minutes  |
| <b>Density:</b>                               | 2100 ± 100 kg/m <sup>3</sup> |
| <b>Compressive strength after 1/7/28 days</b> | not less than 25/45/55 MPa   |
| <b>Flexural strength after 7/28 days:</b>     | not less than 5,0/7,0 MPa    |
| <b>Adhesion:</b>                              | не менее 1,5 MPa             |
| <b>Water resistance mark:</b>                 | from W12                     |
| <b>Shrinkage at the 28 days:</b>              | not more than 0,1%           |
| <b>Mark for frost resistance:</b>             | not less than F300           |
| <b>Packing:</b>                               | 25kg sacks                   |

\* All the stated quality indicators and recommendations are correct for an ambient temperature of 20°C and a relative humidity of 60%. In other conditions, the technical characteristics of the material may differ from those.

### WORKING PROCESS

Conduct a visual and instructional assessment of defective areas of concrete to calculate the required amount of materials.

Clean the damaged areas from structurally weak concrete of other contaminants, preventing adhesion of the mortar to the surface of the repaired concrete. When bare reinforcing bars, remove the concrete around them no less than 15mm. If there are active leaks, remove them with a dry **ARENA PW** mixture.



### PREPARATION OF SOLVENT MIXTURE

The optimum temperature of the mixing water 20°C per 1 kg of dry mixture requires 0.13 liters of water. It is best to mix with a low-speed drill. Mix for 3 minutes before forming a homogeneous plastic mass without lumps. Dissolve the mortar during use to maintain its original consistency. Re-adding water to the solution is not allowed.

### APPLICATION

Work should be done at a temperature of at least 5°C.

Before applying the mortar mixture, the concrete surface of the area to be repaired should be thoroughly moistened. Depending on the amount of work, the mortar can be applied with a trowel, a spatula manually or by wet-rolling. The optimum layer thickness of the applied material is 10 mm. The subsequent layers can be applied after 60-120 minutes beforehand. The overpayment of the repair mixture on large areas must be done on a masonry net.

### CARE OF PROCESSED SURFACE

It is necessary to ensure that the treated surfaces remain moist for 3 days. For what you need to moisturize the surface 2-3 times a day.



# ARENA R500 LIQUID

# LIQUID REPAIR COMPOSITION FOR CONCRETE HIGH-MARK

## DESCRIPTION

Dry high-quality repair surface mixture. It consists of rapidly hardening Portland cement, fractionated quartz sand, reinforcing fibers, and a complex of additives of property modifiers.

## PURPOSE

The dry mix is intended for restoration of geometrical and operational parameters of a structure by their surface restoration. Can be applied by dry or wet tamping.

## ADVANTAGES

- High strength (especially in early hardening).
- No shrinkage.
- High adhesion to the substrate and water resistance.
- Possibility of applying up to -10°C (**ARENA R500 Winter**).

## TECHNICAL CHARACTERISTICS

|  |                              |
|--|------------------------------|
| <b>Appearance:</b>                             | grey powder                  |
| <b>Насыпная плотность:</b>                     | 1200 ± 100 kg/m <sup>3</sup> |
| <b>V/T:</b>                                    | 0,15                         |
| <b>Mobility:</b>                               | Pk4                          |
| <b>Start of setting:</b>                       | not less than 60 minutes     |
| <b>End of setting:</b>                         | not longer than 240 minutes  |
| <b>Density:</b>                                | 2100 ± 100 kg/m <sup>3</sup> |
| <b>Compressive strength after 1/7/28 days:</b> | not less than 20/50/70 MPa   |
| <b>Flexural strength after 7/28 days:</b>      | not less than 7,0/9,0 MPa    |
| <b>Adhesion after 3/28 days:</b>               | not less than 0,9/1,8 MPa    |
| <b>Water resistance mark:</b>                  | not less than W14            |
| <b>Shrinkage at the 28 days:</b>               | not more than 0,1%           |
| <b>Mark for frost resistance:</b>              | not less than F400           |
| <b>Packing:</b>                                | 25kg sacks                   |
| <b>Expiration date:</b>                        | 12 months                    |

\* All the stated quality indicators and recommendations are correct for an ambient temperature of 20°C and a relative humidity of 60%. In other conditions, the technical characteristics of the material may differ from those.

## WORKING PROCESS

Conduct a visual and instructional assessment of defective areas of concrete to calculate the required amount of materials.

Clean the damaged areas from weak concrete of other contaminants, preventing adhesion of the mortar to the surface of the repaired concrete. When the reinforcing bars are holed, remove the concrete around them at least 15 mm. Clean the valve from corrosion. It is recommended to use sand blasting. If necessary, replace the equipment. In the presence of active leaks, remove them with a dry mixture of **ARENA PW «HYDRAULIC PLUG»**.

## PREPARATION OF SOLVENT MIXTURE

The optimum temperature of the mixing water is 20°C. When the temperature decreases, the time for setting the solution mixture increases and the final strength of the solution decreases. When the temperature is increased, the time for grasping is reduced. At temperatures close to 0°C, use a dry mixture of **ARENA R500 Winter**. On 1 kg of a dry mix it is required 0,13-0,15l of water. It is best to mix with a low-speed drill. Mix for 3 minutes before forming a homogeneous plastic mass without lumps. Dissolve the mortar during use to maintain the original consistency. Re-addition of water to the solution is not allowed.

## APPLICATION

Repair work should be performed at a temperature not lower than +5°C.

Prepared repair composition should be poured continuously, avoiding vibration. Pouring from one side to prevent air retraction.

Before applying the mortar mixture on the concrete surface of the repaired area should be abundantly moistened. Depending on the amount of work, the mortar can be applied with a trowel, a spatula manually or by wet-rolling. The optimum layer thickness of the applied material is 10 mm. When using a construction mixture **ARENA R500+** the maximum layer thickness of the applied material is 40 mm. The subsequent layers can be applied after 60-120 minutes, pre-moisturizing. The application of the repair mixture on large areas must be done on a masonry net.

## CARE OF PROCESSED SURFACE

It is necessary to ensure that the treated surfaces remain moist for 3 days. For what you need to moisturize the surface 2-3 times a day.



**ARENA**

construction  
mixtures

# LIQUID REPAIR COMPOSITION FOR CONCRETE

# ARENA R300 LIQUID

## DESCRIPTION

Dry construction mixture waterproof surface to stop active leaks mixture, consists of a mixture of alumina and Portland cement, quartz sand and a complex of additives accelerators for setting and hardening, as well as additives that prevent the mixture from blurring

## PURPOSE

The dry mix is intended for restoration of geometrical and operational parameters by a design of their surface restoration. Can be applied by dry or wet tamping.

## ADVANTAGES

- Economy;
- Optimum technical characteristics.

## TECHNICAL CHARACTERISTICS

|  |                              |
|--|------------------------------|
| Appearance:                            | grey powder                  |
| Bulk density in standard condition:    | 1200 ± 100 kg/m <sup>3</sup> |
| V/T:                                   | 0,17 - 0,18                  |
| Mobility:                              | Pk4                          |
| Start of setting:                      | not less than 40 minutes     |
| End of setting:                        | not longer than 180 minutes  |
| Density:                               | 2100 ± 100 kg/m <sup>3</sup> |
| Compressive strength after 1/7/28 days | not less than 15/45/55 MPa   |
| Flexural strength after 7/28 days:     | not less than 5,0/7,0 MPa    |
| Adhesion:                              | не менее 1,5 MPa             |
| Water resistance mark:                 | from W12                     |
| Shrinkage at the 28 days:              | not more than 0,1%           |
| Mark for frost resistance:             | not less than F300           |
| Packing:                               | 25kg sacks                   |

\* All the stated quality indicators and recommendations are correct for an ambient temperature of 20°C and a relative humidity of 60%. In other conditions, the technical characteristics of the material may differ from those.

## WORKING PROCESS

Conduct a visual and instructional assessment of defective areas of concrete to calculate the required amount of materials.

Clean the damaged areas from structurally weak concrete of other contaminants, preventing adhesion of the mortar to the surface of the repaired concrete. When bare reinforcing bars, remove the concrete around them no less than 15mm. If there are active leaks, remove them with a dry **ARENA PW** mixture.

## PREPARATION OF SOLVENT MIXTURE

The optimum temperature of the mixing water 20°C per 1 kg of dry mixture requires 0.13 liters of water. It is best to mix with a low-speed drill. Mix for 3 minutes before forming a homogeneous plastic mass without lumps. Dissolve the mortar during use to maintain its original consistency. Re-adding water to the solution is not allowed.

## APPLICATION

Work should be done at a temperature of at least 5°C.

Prepared repair composition should be poured continuously, avoiding vibration. Pouring from one side to prevent air retraction.

Before applying the mortar mixture, the concrete surface of the area to be repaired should be thoroughly moistened. Depending on the amount of work, the mortar can be applied with a trowel, a spatula manually or by wet-rolling. The optimum layer thickness of the applied material is 10 mm. The subsequent layers can be applied after 60-120 minutes beforehand. The overpayment of the repair mixture on large areas must be done on a masonry net.

## CARE OF PROCESSED SURFACE

It is necessary to ensure that the treated surfaces remain moist for 3 days. For what you need to moisturize the surface 2-3 times a day.





## SOLUTIONS FOR WATERPROOFING CIVIL AND INDUSTRIAL BUILDINGS

