

**F 700 Mortar**

**DESCRIPTION:** A repair mortar for surface restoration and construction purposes. The product is supplied in a powder form and consists of Portland cement, specially treated quartz sand, patented chemical additives and reinforcing fibers. **It is mixed with water prior to application.**

**PURPOSE:** For the repair and restoration of reinforced concrete and masonry structures and as an additive to the wet shot-crete method of waterproofing masonry structures.

**ADVANTAGES:**

- high early and ultimate strength;
- high adhesion;
- special additives and reinforcing fiber provide increased crack resistance, high adhesion and bond strength.
- high water impermeability, freeze/thaw and corrosive resistance properties, wear-resistance, durability and no shrinkage;
- good thixotropic properties, plasticity and place ability.

**SPECIFICATIONS:**

| No.      | Parameter name  | Value   | Methods of measurement    |
|----------|---|---|---------------------------|
| <b>1</b> | <b>Dry mix specifications</b>   |   |                           |
| 1.1      | Appearance  | Loose powder of grey color, free from mechanical impurities     | TU 5745-016-77919831-2016 |
| 1.2      | Bulk density  | 1200±100  | GOST 8735                 |
| <b>2</b> | <b>Mortar mix specifications</b>  |   |                           |
| 2.1      | Setting time, min.:<br>- initial set, not earlier than<br>- final set, not later than | 40<br>140   | GOST 310.3                |
| 2.2      | Density, kg/m <sup>3</sup>  | 2100±100  | GOST 5802                 |
| <b>3</b> | <b>Mortar specifications</b>  |   |                           |
| 3.1      | Compressive strength, MPa, not less than<br>- in 24 hours<br>- in 28 days             | 30<br>70  | GOST 310.4                |
| 3.2      | Bending strength, MPa:<br>- 24 hours<br>- 28 days                                     | 7<br>12   | GOST 310.4                |
| 3.3      | Adhesion after 28 days, MPa, not less than  | 2,0   | GOST 31356                |
| 3.4      | Water impermeability grade, MPa, not less than  | 1.8   | GOST 12730.5              |
| 3.5      | Freeze-thaw resistance, F   | 800   | GOST 10060                |
| <b>4</b> | <b>Additional characteristics</b>   |   |                           |
| 4.1      | Application temperature, °C, not less than  | +5  |                           |
| 4.2      | Storage conditions for dry mix  | On dry premises at a temperature from minus 60 up to plus 50°C. | TU 5745-016-77919831-2016 |

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**PRODUCT DATA SHEET  
&  
IFU (Instructions for use)**

**F 700 Mortar**

**PACKAGE:** plastic pails (25 kg), big-bags (MKP 1000 kg).

**STORAGE:**

- When supplied in big-bags (MKP 1000 kg), the guaranteed shelf life is 6 (six) months.
- When supplied in plastic pails, the guaranteed shelf life is 12 (twelve) months from the production date when properly stored in unopened and undamaged original packaging.
- When delivered in multiply bags, they shall be stored in dry premises,
- When delivered in plastic buckets or big-bags (MKP 1000 kg) – premises can have any humidity and temperatures from -60 °C up to 50°C.

**TRANSPORTATION:** all types of transport.

**MANUFACTURER'S GUARANTEE:** The manufacturer guarantees the compliance of the fabricated materials with the requirements of TU 5745-016-77919831–2016 provided the instructions for dry mix application are strictly followed.



*1504-CPR-0282/A-Profi F700 Repair*

manufactured at the  
waterproofing materials plant "Penetron" JSC  
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620072 Yekaterinburg, Russia  
16  
1504-CPD-0282  
EN 1504-3

**A-PROFI F700 REPAIR**

Concrete restoration CC mortar (based on hydraulic cement)  
EN1504-3 R4

**Compressive strength:**  $\geq 45 \text{ N/mm}^2$  (60 N/mm<sup>2</sup>)

**Chloride content:**  $\leq 0,05\%$

**Capillary water absorption:**  $\leq 0,5 \text{ kg/(m}^2 \cdot \text{h}^{0,5})$

**Adhesion strength:**  $\geq 2 \text{ N/mm}^2$

**Carbonation resistance:** class R4

**Elastic Modulus:** class R4 (21800 N/mm<sup>2</sup>)

**Corrosion behavior:** contains components only  
listed in EN 934-1:2008, Annex A.1.

**Dangerous substances:** no

**Reaction to fire:** Euroclass A

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Apply "F 700" when the temperature of the structural surface and the ambient air temperature range is from 5°C up to 35°C. It is not recommended to be apply the mortar mix during strong wind or rain.

**SURFACE PREPARATION:** The surface for applying of mortar mix "F 700 " shall be structurally firm and clean. For this purpose, clean the damaged areas from weak concrete, dust, products of organic and biological origin and other materials preventing mortar mix "F 700" from adhesion to the surface under repair. To improve adhesion, the surfaces on which mortar mix "F 700" is to be applied shall be chiseled. At denudation of reinforcement bars, remove concrete around them by at least 10 mm. To clean the reinforcement bars from rusty materials to grade 2 according to GOST 9.402-2004, it is recommended to use sand blasting or sand-water cleaning. Replace the reinforcement bars, where required.

**MORTAR MIXING:** Prepare only as much mortar mix as can be used within 25-30 minutes starting from mixing with water. The optimum mixing water temperature is 20 ±2 °C. In case of the mixing water temperature decrease, mortar mix setting time increases. In case of the mixing water temperature increase, the setting process decreases. Mix a dry mix "F 700" with water in the ratio of 0,15-0,165 Ltr of water per 1 kg of dry mix. Stir slowly by adding the dry mix into water. Hand mixing is allowed for a small volume of mortar mix. Mixing with a slow-speed drill (500-600 r/min) is optimal. While stirring, the initially high viscosity of mortar mix decreases. Stir for 5 minutes to obtain a plastic uniform mixture with no lumps. Regularly stir the mortar mix during the use to maintain its initial consistency.

**Warning!** Measure accurately the mass of dry mix and the volume of water required for mixing. Subsequent addition of water into the prepared mortar mix is not allowed.

**APPLICATION:** Damp the surface properly before applying mortar mix "F 700". Apply the layer of "F 700" mortar to the surface using a trowel or float by hand or by wet shot-creting method. The optimum layer thickness shall be 6-60 mm. Allow 3-4 hours after application, if a next layer of 6-60 mm in thickness can be applied. Where a new layer is required, the last layer of mortar mix "F 700 Repair" shall be worked with a notched trowel for a better adhesion of the new layer with the last one.

**CONSUMPTION OF DRY MIX:** 1.8 kg/m<sup>2</sup> with a layer thickness of 1 mm. The consumption of dry mix for wet shot-creting method taking into account the rebound value can be increased by 20% on vertical surfaces and by 30% on ceiling surfaces.

**POST-TREATMENT:** The treated areas shall be protected against mechanical effects and temperatures below 5°C for a period of three days. Make sure that the treated surfaces are kept damp for a period of three days. The methods are as follows: periodic water spraying or covering the surface with polyethylene film.

**SAFE HANDLING INFORMATION:** Wear alkali-resistant rubber gloves when handling this product. The mix contains Portland cement irritating to eyes and skin. On contact with water, an alkali forms. Avoid contact with eyes while mixing and applying. In case of contact with eyes, rinse immediately with water and seek medical advice.

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