

# MONOCRETE XP rapid



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WATERPROOFING

BETOSAN

## Rapidly hardening hydro insulation mix with XYPEX ADMIX C-1000 admixture

### 1. Product characteristics

A single-component liquefied fine-grained hydro insulation repair material containing sealing admixture XYPEX ADMIX C-1000. Meets the requirements of class R4 according to EN 1504-3.

- designed for concrete repair (principle 3, 4 and 7 method 3.1, 3.2, 3.3, 4.4, 7.1 and 7.2 according to EN 1504-3)
- extremely fast hardening
- does not contain chlorides, fully compatible with reinforced concrete
- permanently seals the concrete due to secondary crystallization
- high chemical resistance, seals concrete base against petroleum products
- frost resistant
- perfect adhesion to concrete base

### 2. Use

**MONOCRETE XPrapid** is a rapidly hardening prefabricated mix intended especially for local or general repairs of concrete or masonry structures, where rapid hardening is required. Mix features very short setting time and extremely rapid strength increase. The mix can be loaded with light traffic after 6 hours, material can be fully loaded after 24 hours. It creates sealing membrane resistant against water, oils, organic solvents, oil products, etc. on the surface of the concrete structures.

### 3. Physical and mechanical parameters

#### Requirements / results according to EN 1504-3 class R4

	Testing method	Requirements R4	Results
Compressive Strength (MPa)	EN 12190	> 45	> 58
Chloride Ion Content	EN 1015-7	< 0.05 %	< 0.01 %
Adhesive Bond (MPa)	EN 1542	> 2.0	> 2.0
Carbonation Resistance	EN 13295	$d_k \leq$ control concrete	complies
Restrained Shrinkage/Expansion (MPa)	EN 12617-4	Adhesion after test $\geq 1.5$	> 1.5
Elastic Modulus (GPa)	EN 13415	> 20	> 20

#### Physical and mechanical parameters

Color	Non-standard grey	
Tensile bending strength (MPa)	6 hours	> 2.50
	24 hours	> 5.50
	28 days	> 9.50
Compressive strength (MPa)	6 hours	> 10.0
	24 hours	> 26.0
	28 days	> 58.0
Static E-module (GPa)	< 28	
Thermal expansion coefficient (K <sup>-1</sup> )	11.0 ± 0.5x10 <sup>-6</sup>	
Frost resistance	> T150	
Filtration coefficient <b>k</b> (ms <sup>-1</sup> )	2.5x10 <sup>-12</sup>	
De-icing chemicals resistance according to ČSN 73 1326 method A	> 75	

### 4. Test certificates

Meets the requirements of EN 1504-3. The product is certified according to Act No. 22/1997 Coll. and Regulation (EU) No 305/2011 of the European Parliament and of the Council (CPR). Continuous independent production quality control is provided by AZL 1687 LABBET®. Supervision of quality management, environmental and OSH systems is performed by Certification Body No. 3029.

### 5. Instruction for preparation and application

**Base.** Dirt and incoherent, loose or otherwise visibly damaged concrete shall be completely removed from the base before application. Corroded reinforcement, if any, shall be cleaned of any incoherent corrosive products.



Tensile strength of surface layers of the concrete base should be optimally at the level of 1.5 MPa. Before application, humidification of the surface of the base shall be properly and continually performed for at least 120 minutes. Before casting, the surface shall be dully damp, and not covered with shining water film. Rapidly leaking areas of the structure need to be drained using drainage hoses and after full surface application of the material close the drainage openings with rap-idly setting hydro insulation putty **WATERIFIX rapid**.

**Mix preparation.** The mixture is single-component mixed with water only. For stirring it is necessary to use a mixer with forced circulation. In case of preparation of small amount, the mix can be mixed with a propeller mixer driven by an appropriate electric drilling machine. **Regular gravity mixers cannot be used for mixing of this material due to very short setting time. When preparing larger volume of the material, it is necessary take into account that workability of the mix is 10 to 15 minutes at 20°C.**

MONOCRETE XP rapid	Dry component (kg)	Water (liters)	Thickness of applied layer (mm)	
	15	2.0 ÷ 2.3	min. 10	max. 25

**Workability** of the mix is 10 ÷ 15 minutes at 20°C. Workability time adequately shortens at elevated temperatures. Neither **temperature of concrete substrate** nor temperature of ambient air shall be below + 1°C and above + 35°C. Mix has limited capacity to cure in freezing condition.

The mix is applied by standard processes (placement on horizontal bases or pouring into a formwork etc.) In case of application of thicker layers, it is recommended to slightly vibrate it. After initial setting standard processes (smoothing by a wooden or steel trowel or polystyrene finisher) are used for surfacing. No additional water shall be worked up into the surface.

**Surface treatment.** Concrete surface shall be protected against direct sunshine and wind immediately after completion. Intensive treatment shall be carried for at least 3 – 6 hours after the casting. Optimal treatment means to cover the surface with permanently moistened geotextiles.

## 6. Specific consumption

Specific consumption of the spread amounts to 1.7 ÷ 1.8 kg/m<sup>2</sup> at 1 mm of layer thickness.

## 7. Packing and storage

The product is packed into PE pails of 15 kg weight. The product must be efficiently protected during transportation and storage against moisture, especially against rain. Shelf life in original undamaged packing is 3 months. After the expiration of min. shelf life, which is stated on the packaging, ingredients are not fully effective at reducing chromium VI below 2 ppm.

## 8. Health protection at work

Handling the **MONOCRETE XPrapid** dry rehabilitation mortar does not require any extraordinary hygienic precautions. The product contains alkalis and therefore any contamination of mainly eyes or mucous membrane must be prevented. Health and labor safety rules applicable to work with cement or lime mortars are to be adhered to. Issued MSDS meets the requirements of EC-Regulation 1907/2006, Article 31.

Because the product meets the criteria for classification as hazardous, it is necessary to provide the recipient or carriers with MSDS.

In countries where regulation REACH (par. 33.1): EU regulation on chemicals and their safe use (REACH: EC 1907/2006) is valid, professional users and distributors must be provided with following information automatically and without request:

*This product is subject to Regulation (EC) No. 1907/2006 (REACH). It does not contain any substances that could be released from product under normal or reasonably foreseeable conditions of use. Therefore, there are no registration requirements for substances in articles within the meaning of. Article 7.1 of the Regulation.*

*Based on our current knowledge, this product does not contain SVHC (substances of very high concern) from candidate list published by the European Chemicals Agency in concentrations above 0.1% (w / w).*

## 9. Waste disposal


During disposal of contaminated packages or clearing debris from product, it is necessary to follow the Act No. 185/2001 Coll. on waste, as amended.

## 10. Important notice

All information mentioned above, especially advice for processing and application of our products is based on our knowledge from the development of chemical products and on years of experience with applications in practice at standard conditions, and proper storage and use. Due to the differing conditions during processing, high count of products, varying nature and modifications of base and other external influences, the procedure based on the information provided or on other written or oral recommendations, may not always ensure satisfactory working results. BETOSAN s.r.o. assumes no liability for provided advice or recommendation. The applicator must prove, that he submitted complete information on time and in writing which is necessary for a proper detailed assessment by BETOSAN s.r.o. The applicator must test the suitability of the products for the intended application. Proprietary rights of third parties, above all, must be taken into account. All received are orders subject to our current "General sales and delivery conditions ". Please always make sure that you follow the most recent issue of the Technical Data Sheet. It is available, along with other information, at our Technical Department or at [www.betosan.cz](http://www.betosan.cz)



## 11. CE marking

 1301	
<b>BETOSAN s.r.o.</b> Na Dolinách 28, 147 00 Prague 4	
07	
4-16/072013	
EN 1504-3:2005	
<b>MONOCRETE XP rapid</b> Product designed to repair concrete with static function	
Compressive strength	> 58
Chloride Ion Content	< 0.01%
Adhesive Bond	> 2.0 MPa
Carbonation Resistance	complies
Restrained shrink- age/expansion	> 1.5 MPa
Elastic modulus	> 20 GPa
Dangerous substances	meets 5.4
Reaction to fire	European class A1

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