DENSOCRETE PPE TH

CE

Complex mixture (concentrate) for mortars and concretes

1. Product characteristics

Single-component pulverized mixture consisting of specially ground and graded carbonate fillers, expansive admixtures, redispersible polymers, low modular polypropylene fibers (PP fibers), thixotropic admixtures and other active components.

- enhances significantly spraying capability of mortars and concretes
- significantly reduces fallout and creeping of mortars after application
- mortars acquire very good adhesion to concrete base and reinforcement
- reduces actively shrinkage cracking
- mix acquires high frost resistance and enhanced water tightness.

2. Use

DENSOCRETE PPE TH is a complex mixture intended for preparation of mortars and concretes in-situ, especially the ones, which are intended for mechanical application to vertical surfaces and ceilings. It is intended especially for repairs and fabrication of reinforced concrete structures with enhanced demands for water tightness. Usual batching amounts to 240 kg/m^3 (see below).

3. Physical and mechanical parameters

Indicative recipe*:*

	Content per 1 m^3
CEM I 42,5 R (kg)	≈ 400
Washed siliceous sand, size <4 mm (kg)	≈ 1 310
DENSOCRETE PPE TH (kg)	≈ 240

Requirements/results of the mortar with indicative recipe according to EN 1504-3

	Testing method	Requirements	Results
Compressive strength (MPa)	EN 12190	>25	>28
Chloride Ion Content	EN 1015-7	< 0.05 %	< 0.05 %
Adhesive Bond (MPa)	EN 1542	>1.5	>1.5
Carbonation Resistance	EN 13295	$d_k \leq$ control concrete	complies
Linear shrinkage-expansion (MPa)	EN 12617-4	Adhesion after test ≥ 1.5	≥ 1.5
The modulus of elasticity (GPa)	EN 13412	≥ 15	≥ 15

Physical and mechanical parameters of the mortar with indicative recipe according to EN 1504-3

Tensile bending strength after 28 days (MPa)	> 6.0
Shrinkage (%)	< 0.05
Max. depth of penetration according to EN 12390-8 (mm)	50
Frost resistance	min. T 100

NOTE: *The above parameters are informative and are not generally guaranteed by the manufacturer. Before using the mixture, probative tests must be performed with the selected source of aggregate and cement.*

Parameters of the DENSOCRETE PPE TH mixture

Color	Non-standard white
PP fibers contain (% by vol.)	Min. 0.45 %
Water-soluble chlorides contain	Max. 0.01

4. Test certificates

Meets the requirements of EN 1504-3, TP ŘSD Sec. 31 and TP SSBK III.
The product is certified according to Act no. 22/1997 Coll. and the Regulation (EU) no. 305/2011 (CPR).

Continuous independent production quality control is provided by AZL 1687 LABBET®.
Supervision of Quality Management Systems, Environmental Relations and OSH is carried out by Certification Body No. 3029

5. Instruction for preparation and application

The repair mortar is prepared directly in-situ by mixing appropriate quantity of **DENSOCRETE PPE TH** concentrate with tested quantities of aggregate (sand) and Portland cement. The mixture is dry-stirred into mortars or concretes. The classic gravity concrete mixer can be used for mixing.
The prepared mix is applied by dry or wet spraying but manual application is possible as well. The mortar is manually applied by rendering or fining off. The mortar is applied in separated layers, which should not exceed triple size of maximum grain of used sand in daily area.
Base. Any incoherent, loose, weatherworn or otherwise visibly damaged concrete shall be completely removed from the repaired concrete base before application. Corroded reinforcement shall be carefully released and cleaned of any corrosive products. Before application of repair material, humidification of the base surface shall be properly and continually performed for minimally 120 minutes. The properly humidified concrete shall be dully dump, and not covered with dump shining water film.
Workability of the mixture is 50 - 60 minutes under 20 °C.
Neither temperature of the base nor temperature of ambient air shall be below + 5 °C and above + 30 °C.
After the initial setting of the last layer a polyurethane finisher is used for surfacing.
Surface treatment. Repaired surfaces shall be properly treated immediately after completion. This treatment shall avoid direct exposure to sun, wind effect and other factors accelerating undesirable evaporation of the batch water. Use of treatment agents, **DENSOCURE W** and **DENSOCURE R**, proved well.

6. Product batching

Specific consumption of the mixture usually ranges from approximately 220 to 240 kg of the mix per 1 m^3 of mortar (concrete). It is desirable to test batching of chosen components from local sources (cement, aggregate) in dependence on special purpose of the worked up mix.

7. Packing and storage

The product is supplied in 25 kg PE-lined paper bags. **DENSOCRETE PPE TH** must be efficiently protected against moisture during transportation and storage. Shelf life in undamaged packing is 6 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 **DENSOCRETE PPE TH** mixture does not require any extraordinary hygienic precautions. The product contains alkalis and therefore any contamination of mainly eyes or mucous membrane must be prevented.
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 (para. 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.

11. CE marking

CE 07	
BETOSAN s.r.o. Na Dolinách 28, 147 00 Prague 4	
DENSOCRETE PPE TH	
3-2/072013	
Parameters of mortar with indicative recipe	
Compressive strength	> 28 MPa
Chloride Ion Content	< 0,05%
Adhesive Bond	> 1,5 MPa
Linear shrinkage/expansion	≥ 1,5 MPa
Carbonation Resistance	complies
The modulus of elasticity	≥ 15 GPa
Dangerous substances	meets 5.4
Reaction to fire	Class A1
EN 1504-3:2005	
1301	
A product designed for repairs of concrete with static function	

Technical Data Sheet No. 3-2
Issued 19.9.2019
8 068 302 369

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