# ADINGPOKS AKVA

Epoxy-cement based coating/mortar for reparation and surface protection of concrete; Compliant to EN 1504-2, method 1.3(C), 2.2(C), 8.2(C), 5.1(C) and EN 1504-3, method 3.1, 7.1

# FIELD OF APPLICATION

Adingpoks Akva is tri-component, epoxy-modified cement mortar for reparation and surface protection of concrete and reinforced concrete structures.

Adingpoks Akva is used for:

- Skimming and leveling of surface imperfections up to 3 mm on vertical and horizontal surfaces, as well as curved surfaces (tunnels, domes etc.);
- Protection of concrete in chemicaly aggressive environments, protection from carbonation and freezing;
- Increase physical-mechanical properties of concrete surface;
- Enables surface protection of concrete from ingress, moisture control and increased physical resistance according EN1504-2
- Reparation of concrete according EN 1504-3
- Active coating of the reinforcement (control of anodic area)

# PROPERTIES

- High strength characteristics;
- High resistance to wearing (abrasion);
- Waterproofed;
- Vapor-permeable;
- Excellent adhesion to moist and dry concrete;
- Increases adhesive bonding between old and new concrete or repairing mortar
- Enables quick application of secondary coatings;

# **TECHNICAL FEATURES**

PROPERTY	METHOD	DECLARED VALUE
Appearance		
A component		white liquid
B component		light yellow liquid
C component		cement powder
Mixing ratio		A:B:C = 1:1,5:7
Density	EN 1015-6	1,8-1,9 g/cm <sup>3</sup>
Pot-life at 20-25°C	EN ISO 9514	30-40min
Permeability to CO <sub>2</sub>	EN 1062-6	S <sub>D</sub> >50m
Permeability to water vapor	ISO 7783	Class II 5m≤S <sub>D</sub> ≤50m
Capilary absorption and permeability to water	EN 1062-3	< 0,1kg/m <sup>2</sup> *h <sup>0.5</sup>
Adhesion pull-off test	EN 1542	≥ 2N/mm²
Abrasion resistence	EN ISO 5470-1	< 3000mg
Thermal compatibility	EN 13687-1	≥ 2N/mm²
Resisance to impact	EN ISO 6272-1	Class III ≥20Nm



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Chemical resistance



Increases chemical resistance of concrete in aggressive environments (prevents ingress of carbon and sulfuric gasses). Material is not used for protection from intense chemical aggression (impact of acids and alkaline).

Compression strength	EN 12190	≥ 45N/mm²
Bending strength	EN 12190	≥ 5N/mm²
Presence of chlorides	EN 1015-17	≤ 0.05%
Module of elasticity	EN 13412	≥ 15 GPa
Limited shrinkage / expansion	12617-4	≥ 2N/mm²
Capillary absorption	EN 13057	$\leq 0.5$ kg/m <sup>2</sup> *h <sup>0.5</sup>

# **METHOD STATEMENT:**

## SUBSTRATE PREPARATION

Concrete substrate on which material is applied must be clean, sound, firm and free of dust and grease. Cement bleeding residues and traces of paint and oils must be cleaned mechanically or chemically. Ambient and substrate temperature need to be 10-30°C. In case of reparation of old and damaged concrete elements, exposed steel reinforcement and anchors must be cleaned from corrosion, remains of paint and oil (using steel brush or sand-blasting). In order to achieve higher adhesion, on porous concrete substrates it is recommended to apply Adingpoks Akva Prajmer prior to application of Adingpoks Akva.

It is recommended to apply Adingpoks Akva minimum 7 days after the casting of concrete in order to avoid crack formation due to initial shrinkage of concrete. In case when primer is not applied on the substrate, prior to application of Adingpoks Akva concrete must be saturated with water.

# **APPLICATION**

Prior to application, components A and B must be mixed separately. Then, component B is slowly added to the component A and it is mixed constantly using slow electrical mixer (300 to 500 rot /min) until complete homogenization. To these mixture, component C is gradually added and again mixed until homogenization. Application of material is carried out manually with metal trowel, or by spraying in layers 1 mm to 3 mm thick. In case of application using pump for spraying, in order to increase workability of material, in the mixture (A+B+C) 3% do 4% water can be added and mixed until homogenization.

#### CONDITIONS AND LIMITATIONS OF APPLICATION

Adingpoks Akva should be applied on the concrete surface pre-coated with Adingpoks Akva Primer or directly to concrete saturated with water. Temperature of concrete substrate and ambient temperature during application and 24 hours after application need to be between +10°C and 30°C, and relative humidity lower than 70%. During this period, applied material need to be protected from direct exposure to sun and wind. In case of application in closed spaces, it is necessary to provide ventilation.

In the case of application by spraying, if Adingpoks Akva is diluted with higher quantity of water than recommended, it can cause segregation, uneven layer of material on the vertical surfaces and crack formation.

#### CONSUMPTION

Adingpoks Akva, for one layer 1mm thick (A+B+C): 1,5-2,0 kg/m<sup>2</sup>

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# **CLEANING**

Tools and equipment are cleaned with water immediately after usage.

# PACKAGING

Set A+B+C: 28,5 kg A component: 3 kg B component: 4,5 kg C component: 21 kg

# **STORAGE**

In original closed packing, in dry chambers, at temperatures from 10-30°C, protected from direct exposure to sunlight. Usage: 9 months.

## **CE MARKING**

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2032	2032	
ADING AD Skopje	ADING AD Skopje	
Novoselski pat (ul.1409) бр.11, 1060	Novoselski pat (ul.1409) 6p.11, 1060	
Skopje, North Macedonia	Skopje, North Macedonia	
17	17	
GDFF001/6	GDFF001/6	
EN 1504-2:2004	EN 1504-3:2004	
ADINGPOKS AKVA	ADINGPOKS AKVA	
Epoxy-cement coating for concrete surface protection	Concrete repair mortar based on epoxy polymer (PC)	
Adhesion strength by pull-off test $\geq$ 2,0 MPa	Compressive strength : ≥45 N/mr	
Capillary absorption and permeability to water : $w \le 0.1 \text{ kg/m}^{2*}h^{0'5}$	Water soluble chloride : ≤ 0,055	
Permeability to water vapour : Class II 5m≤S₀≤50m	Bond strength after tes	
Permeability to CO <sub>2</sub> : S <sub>0</sub> >50m	shrinkage/expansion : ≥2 N/mm	
Abrasion resistance : <3000 mg	Elastic modulus : ≥15 GPa	
Class III ≥ 20 Nm	Capillary absorption : ≤ 0,5 kg/m <sup>2</sup> *h <sup>o∙s</sup>	
After loading, no cracks, no Impact resistance : delamination	Dangerous substances : No performance determined	
Thermal compatibility: Freeze- Bond strength after 50 cycles thaw cycling with de-icing salt		
immersion $\geq 2,0 \text{ N/mm}^2$		

Health hazards: Avoid contact of the product with skin and eyes and avoid direct inhalation when mixing components. In case of accidental contact of the product with the skin, remove it immediately with clean water and soap. If the material splashes into the eyes, immediately rinse the eyes with clean water and seek medical advice. It is necessary to ensure ventilation of the premises where resins are handled.

Fire: Adingpoks Akva is a non-flammable liquid. Additional information are provided in the Safety Data Sheet of the product. Cleaning and disposal: Loose residues of Adingpoks Akva should be cleaned with water. Old and used packaging should be disposed of in accordance with local rules and regulations for that type of waste. Additional information are provided in the Safety Data Sheet of the product.





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