

ADINGPOKS AKVA

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

FILED 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 3mm on vertical and horizontal surfaces, as well as curved surfaces (tunnels, domes etc.);
- Protection of concrete in chemical aggressive environments, protection from carbonation and freezing;
- Increase physical-mechanical properties of concrete;
- Surface protection 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)
- Pre-coating for improving structural bonding of polymer-cement based reparation mortars

PROPERTIES

- Protection of concrete in aggressive environments;
- Protection of steel reinforcement in aggressive environments;
- Protection of concrete from ingress and carbonation;
- 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;
- Available in grey and white color
- Improving decorative finish;

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 12190	1,8-1,9 g/cm ³
Pot-life at 20-25°C	EN ISO 9514	30-40min
Permeability to CO ₂	EN 1062-6	S _D >50m
Permeability to water vapor	ISO 7783	Class II 5m≤S _D ≤50m
Capillary absorption and permeability to water	EN 1062-3	< 0,1kg/m ² *h ^{0.5}
Adhesion pull-off test	EN 1542	≥ 2N/mm ²
Abrasion resistance	EN ISO 5470-1	< 3000mg
Thermal compatibility	EN 13687-1	≥ 2N/mm ²
Resistance to impact	EN ISO 6272-1	Class III ≥20Nm

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/mm ²
Bending strength	EN 12190	≥ 5N/mm ²
Presence of chlorides	EN 1015-17	≤ 0.05%
Module of elasticity	EN 13412	≥ 15 GPa
Limited shrinkage / expansion	12617-4	≥ 2N/mm ²
Capillary absorption	EN 13057	≤ 0.5kg/m ² *h ^{0.5}

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 saturate 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 mechanical spraying in layers 1mm to 3mm thick. In case of mechanical application using *airless* pump, in order to increase workability of material, in the mixture A+B+C component 3% do 4% water can be added and mixed until homogenization.

CONDITIONS AND LIMITATIONS OF APPLICATION

Adingpoks Akva is 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. Quantity of material that is prepared needs to be in accordance with open application time (40min at temperature up to 25°C). Product should not be applied in conditions of high relative air humidity (above 70%), or it can lead to prolonged setting of the material and strength development. In case of application in closed spaces, it is necessary to provide ventilation.

In the case of mechanical application, 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 (A+B+C): 1,5-2,0 kg/m²

CLEANING

Tools and equipment are cleaned with water immediately after usage.



PACKAGING

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

STORAGE

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

CE MARKING

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ADING AD Skopje Novoselski pat (ul.1409) 6p.11, 1060 Skopje, North Macedonia 17 GDF001/4 EN 1504-2:2004	ADING AD Skopje Novoselski pat (ul.1409) 6p.11, 1060 Skopje, North Macedonia 17 GDF001/4 EN 1504-3:2004
<p style="text-align: center;">ADINGPOKS AKVA</p> <p style="text-align: center;">Epoxy-cement coating for concrete surface protection</p> <p>Adhesion strength by pull-off test : $\geq 2,0$ MPa</p> <p>Capillary absorption and permeability to water : $w \leq 0,1 \text{ kg/m}^2 \cdot \text{h}^{0,5}$</p> <p>Permeability to water vapour : Class II $5 \text{ mS} \leq S \leq 50 \text{ m}$</p> <p>Permeability to CO₂ : $S \leq 50 \text{ m}$</p> <p>Abrasion resistance : $< 3000 \text{ mg}$</p> <p style="text-align: center;">Class III $\geq 20 \text{ Nm}$</p> <p>Impact resistance : After loading, no cracks, no delamination</p> <p>Thermal compatibility: Freeze-thaw cycling with de-icing salt immersion : Bond strength after 50 cycles $\geq 2,0 \text{ N/mm}^2$</p>	<p style="text-align: center;">ADINGPOKS AKVA</p> <p style="text-align: center;">Concrete repair mortar based on epoxy polymer (PC)</p> <p>Compressive strength : $\geq 45 \text{ N/mm}^2$</p> <p>Water soluble chloride : $\leq 0,05\%$</p> <p style="text-align: center;">Bond strength after test</p> <p>Restrained shrinkage/expansion : $\geq 2 \text{ N/mm}^2$</p> <p>Elastic modulus : $\geq 15 \text{ GPa}$</p> <p>Capillary absorption : $\leq 0,5 \text{ kg/m}^2 \cdot \text{h}^{0,5}$</p> <p>Dangerous substances : No performance determined</p>

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.