

# ION EXCHANGE HYDRAULIC BINDERS



INNOWACJE SOLIDNE Z NATURY

EXCLUSIVE DISTRIBUTOR IN POLAND



FOR SOIL STABILIZATION



FOR IMMOBILIZATION OF WASTE



FOR IMPREGNATION OF CONCRETE



### RoadCem® – ROAD FOUNDATIONS

The preparation causes a catalytic reaction of cement hydration, enabling the formation of needle-like crystalline structures in the bonded materials. Allows in-situ bonding of any type of soil to create a stiffened, highly durable foundation that will replace the aggregate from the imported aggregate. RoadCem® substructures can be designed to meet the highest load and durability requirements. Thanks to high rigidity and flexibility, RoadCem® foundations are used all over the world for the construction of roads, squares and technical platforms. They can be used periodically without a wear layer or running surface, so they can be recycled at the end of temporary work.

These unique properties provide significant time and cost savings compared to alternative framework methods.



Multimedia:  YouTube

[Ion exchange stabilization in conditions of high soil moisture](#)

(click)

[Ion exchange stabilization of soil with a high degree of plasticity](#)

(click)



Allows you to stabilize the ground in place in any weather.

Flexible, unbreakable, with increased stiffness and impact resistance. Stabilizes all types of soil, reducing field excavation depth and volume of material to be removed. The proven dynamic absorption properties of soil concrete enable easy, fast and safe pile installation.

100% recyclable.



## ImmoCem® – WASTE NEUTRALIZATION AND PROCESSING

The preparation is designed to be used in the immobilization of impurities. ImmoCem®'s ability to act as an absorber, flocculant, catalyst, molecular sieve, neutralizer and ion exchanger makes it very versatile in application. It is used to convert waste into environmentally friendly and useful building materials. It is used to effectively immobilize organic and inorganic chemical contaminants, and is also highly effective in immobilizing heavy metal contaminants. It works so effectively due to the formation of strong, nanoscale crystalline structures (lattice structures) in bound materials containing chemical impurities.

The resulting product is a durable, stable silicate matrix - ZEOLITE CONCRETE - from which there is no leaching into the environment.



### EFFECTIVELY IMMOBILIZES

metals and metalloids,  
asbestos,  
inorganic corrosive substances,  
cyanides,  
solid organic substances (e.g. resins, tars),  
polychlorinated biphenyls (PCBs),  
polyaromatic hydrocarbons (PAH),  
dioxins, herbicides, pesticides,  
acid tars,  
salty slags,  
phosphogypsum,  
municipal sewage sludge,  
dissolved organic carbon (DOC).



### ConcreCem® – IMPREGNATION AND PROTECTION OF CONCRETE

The preparation was developed as an admixture improving the durability of concretes and mortars.

It contributes to a significant reduction in water permeability, significantly increasing resistance to salt and acid, improving thermal resistance and general physical and chemical properties of concrete.

It acts as a catalyst, modifying the internal chemistry of the cement hydration process, effectively promoting the formation of stable crystalline compounds.

Acceleration of curing time. Increased cement hydration.

Higher early endurance development.



Increases compressive strength.

Increases resistance to acids and sea water.

Increases thermal resistance to both high as well as low temperatures.

Reduces permeability (impregnates).



### VanStab Laboratory. R&D.

Development of recipes for zeolite concrete. Research on the possibilities of immobilizing various types of waste and their combination with aggregates. Remediation of polluted soils in situ and ex situ in the technology of immobilization of toxins with the use of ion-exchange hydraulic binders. Research on the physical properties of zeolite concrete.

Research on the leachability of elements from zeolite concrete produced with waste.

We work with:





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 YouTube

