

Hydroeffect - polyfunctional water proofing modifier

"Hydroeffect" is a hydro technical additive meant for heat insulation and waterproofing of cement-containing materials. It has no need of steam-curing of concrete structures while hardening.

It secures strength enhancement, improvement of heat insulation and freeze resistance, plasticizing effect, resistance to corrosive medium. When adding to reinforced steel it exhibits corrosion resistance. The additive also retains permeability to gas and vapor.

Hydrotechnical additive "Hydroeffect" secures protection from capillary rise, underground water, front-facing rain, condensation at dew point, capillary condensation.

The agent is a polyfunctional modifier (MFM) - multifunction compound made by means of nanotechnologies with synthesized components of organic compounds. It has strict physical-chemical qualities and is meant for performance buildup and technology improvement of constructional and other cement-containing manufacture by means of adding it to the formula while mixing the composition.

Agent is made out of domestic (Ukrainian) raw material. It is a chemically neutral composite.

Specifications:

- plasticizing effects - 20-22cm
 - compression capacity - at least 130-140% (after 28 days)
 - at least 150-160% (after testing freeze resistance, 60 days)
 - water absorption capacity - at least 400 cycles
 - expenditure - 0.3% of cement mass (1.0 l/m³ of concrete)
- Specifications are based on application of 0.5l of the additive to 1m³.

Testing was performed at the Institute of Binding (Cementing) Materials named by V.D. Gluhovsky.

Scope of use:

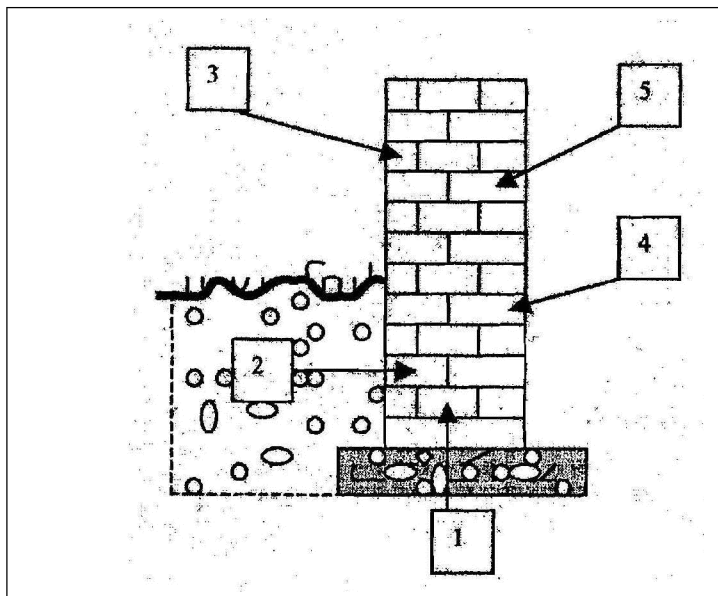
- airfield and road pavement, overpasses, paving tiles
- tanks, foundations, swimming pools, dams, basements, tunnels, pipe canals, bridges, piers, viaducts, docks, elevators, cisterns with fresh water, wells, etc.
- other cement-containing materials.

Methods of application:

- adding the agent into the composition while dispensing or mixing materials.

Technical specifications "Hydrophobizators liquid organ silicone "Hydroeffect" № TY YB.2.7-24.1-1417706533-001

The ways water penetrates into the building structure



- capillary rise
- underground water
- front-facing rain
- condensation at dew point
- capillary condensation

"Hydro technical concrete" - "Warm concrete" Specification comparison

Tab. №1

	Formula of Hydro technical concrete for variable water level.	"Hydroeffect - Hydrotechnical additive"	
		<u>"Warm concrete"</u> (0.15% of cement weight)	<u>"Hydro technical concrete"</u> (0.3% of cement weight)
<u>Material requirements for 1m³of concrete</u>			
Cement M400	492kg	320κkg	
Water	204l	160l	
Crushed stone	1092kg	1200kg	
Sand	600kg	850kg	
<u>Grades and Marks</u>			
Cement	M400	M400	M400
Concrete grade	B25	B35 -B40	B40
Water resistance mark	W8	W10	W12
Freeze resistance mark	F200	F400	F400
Workability	Π3	Π4	Π5
<u>Additives</u>			
	Superplasticisor C- 3-1.5 kg Densifier(HK)-5 kg "Hydrophobisator " ΓΚЖ-11K-1 kg	"Hydroeffect - Hydro technical additive"-0.5l	"Hydroeffect - Hydro technical additive"-1.0l

Advised application quantity of "Hydroeffect - Hydrotechnical additive":

- 0.15% of cement weight - "Warm concrete";
- 0.3% of cement weight - "Hydro technical concrete"

Application Features of polyfunctional modifier "Hydroeffect - Hydrotechnical additive"

Tab. №2

Technical	▪ improvement of 4 and more performance specifications by means of adding only one Additive - No need to add other additives ▪ manufactured products are <i>converted</i> to another quality level "hydro technical" concrete, "warm" concrete	▪ it is advised not to use other additives without pretesting their compatibility as far as the outcome is unpredictable
Technological	▪ plasticizing effect – grade II5;(P5) ▪ no need to water concrete structure in 15-20 min after adding the Additive concrete will stop absorbing water ▪ no need to steam-cure concrete; ▪ period of concrete specified strength is shortened to 10-14 days ▪ period of timbering usage is shortene	
Economical	▪ reduction of cement expenditure while retaining and improving mechanical and other properties of concrete ▪ eliminating expenses for other additives ▪ prime cost reduction ▪ cost increase of final product	