

# HIDROZIM FLUID

*Complex additive for concreting at low temperatures with additional water-reducing effect  
In compliance with: EN - 934-2 (Table - 2)*

## Field of application:

Concreting at low temperature conditions (-20 °C)

## Properties:

- Liquid additive for concrete and cement mortars with double effect - plasticizing and set accelerating;
- Enables early strength development of concrete or mortar at low temperatures;
- Reduction of water up to 20%;
- Improves workability of concrete and mortar;
- Improves strength characteristics of concrete and mortar;
- Does not contain chlorides;

## Technical features:

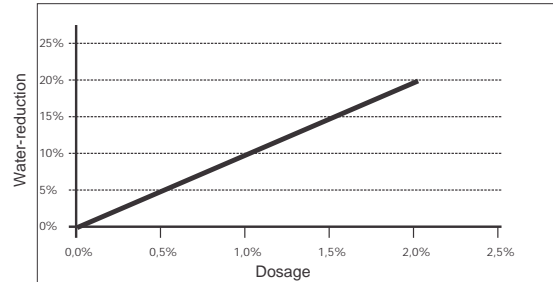
Type:	Modified polymer of acrylic acid / nitrate compounds
Appearance:	Light brown liquid
Dry substance:	45,0±2%
Volume mass:	1,34±0,3 g/cm <sup>3</sup>
Chlorides content:	none
Alkali content:	<4,0%
pH-value:	5,5±1,0

## Dosing:

At temperatures up to -15° the recommended dosage is 1% of cement quantity. At temperatures lower than -15°C recommended dosage is 1,5% up to 2% of cement quantity. Concrete mixture temperature must be at least +5 °C. At lower temperatures it can be achieved by heating some or all of the concrete ingredients. The results received from testing concrete mixtures made using Hidrozim Fluid proves that the cement hydration process does not stop at temperatures below 0° (table 1). Usage of Hidrozim Fluid enables water reduction up to 20%. Concrete mixture needs to be mixed for additional 4-5 min. Concrete mixture prepared using Hidrozim Fluid should be applied as soon as possible. Concrete surface should be protected from surface freezing of the free water.

Time for mould release should be delayed according to temperatures. When concreting at temperatures lower than -20° , surfaces should be additionally heated.

Water-reduction/dosage



## Effect due to overdosing:

Overdosing may lead to acceleration of concrete setting.

## Compatibility:

Hidrozim Fluid is compatible with several additives of the ADING program. If two or more additives are used in the concrete mixture it is necessary to make preliminary tests. Various additives are dosed separately i.e. they are not to be inter-mixed prior to application in the concrete mixture. Hidrozim Fluid is compatible with all types of Portland cement, including sulphate-resistant concrete types

## Packing:

Plastic cans: 1, 5, 7, 14, 28 kg.  
Barrels: 280 kg.  
Containers: 1300 kg.

## Storage:

In original package at temperatures from -18°C up to 35° , and protected from direct impact sunlight. Shelf life: 12 months.

Materials and features	Unit	T e s t			
		Etalon	1	2	
Cement CEM I 42,5N	kg.	350	350	350	
Sand	kg.	742	742	742	
Aggregate	kg.	1085	1085	1085	
HIDROZIM FLUID	kg. (%)	/	3,50 (1,0)	5,25 (1,5)	
Water	kg.	220	198	192	
Initial Consistency	sm.	8	8	8	
Entrained Air	%	1,1	2	2,2	
Pressure strength (samples stored at 20° ):	1 day 7 days 28 days	Mpa (% of Etalone)	15,9 (100) 27,8 (100) 34,1 (100)	18,6 (170) 31,6 (114) 40,3 (118)	20,9 (131) 33,2 (119) 42,4 (124)
Pressure strength (samples stored at -10° )	1 day 3 days 7 days 28 days	MPa	/	15,3 19,2 30,2 37,4	17,1 21,6 31,8 39,3
Pressure strength (samples stored at -20° )	1 day 3 days 7 days 28 days	MPa	/	8,8 9,3 29,1 36,4	9,9 11,7 30,7 38,2

#### Treatment and testing regime:

- Concrete mixture following preparation is embedded to moulds for testing, which are immediately stored to a cooling chamber at temperature of -10°C and -20° .
- When tested at 1 and 3 days, moulds with concrete mixtures are taken out from the cooling chamber after 24 and 72 hours following concrete mixing, than left for 8 hours at a of + 10° temperature and tested afterwards.
- When tested at 7 and 28 days, moulds with concrete mixtures are extracted from the cooling chamber after 72 hours following concrete mixing, than stored at normal conditions until testing at 7th and 28th day.

#### Health hazard:

Hidrozim Fluid does not contain toxic substances, however attention must be paid to avoid contact with the skin, eyes or not to be swallowed. In case of spraying to skin or to eyes, rinsing is required with clean running water. If swallowed, medical assistance must be immediately requested.

#### Fire:

Hidrozim Fluid is a non-flammable liquid

#### Cleaning and deposit:

Cleaning of Hidrozim Fluid remains is done by water. Old and used packaging must be disposed according to local regulations for that type of waste