

# SUPERFLUID-21M1M

*Polycarboxylate-based Hyperplasticizer for concretes, with high degree of water reduction and long-lasting consistency keeper*

*In compliance with: EN 934-2 T-11.1 & T-11.2 and ASTM C494 Types D&G*

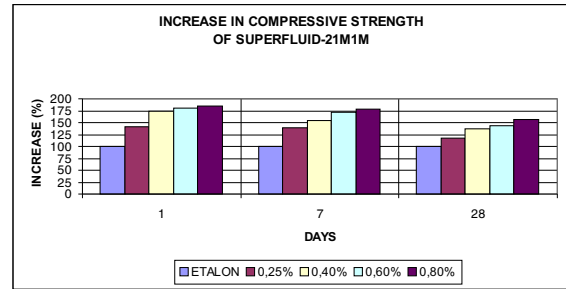
## Field of application:

Superfluid-21M enables a high reduction of water in relation to concrete mixture prepared without admixtures, as well as production of chuted ("flowing") concrete without extra addition of water. It enables a long-lasting consistency maintenance of concrete. Used for:

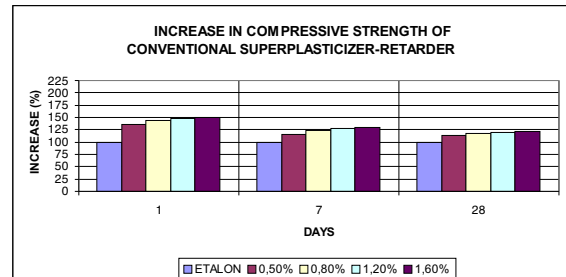
- preparation of ready-mix concretes;
- transported (ready-mix) concretes;
- massive concretes;
- concreting at high temperatures (hot climates);
- concrete mixtures with a very low w/c ratio;
- chuted ("flowing") concretes resistant to segregation and bleeding;
- concreting of heavily reinforced concrete cross sections;
- Production of self-compacting concretes (SCC), especially design to fill complex and densely reinforced sections using only gravity - with no vibration.

## Properties:

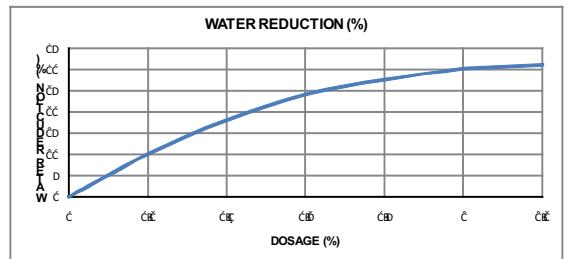
- Long-lasting consistency maintenance of concrete (up to 3 hours);
- Considerably improves the workability of concrete, without increase in quantity of water, without a danger of segregation;
- Improves the compactness of concrete;
- Improves the appearance of concrete surface;
- Reduces water by 30%;
- High initial and final strengths;
- Increases resistance to frost;
- Increases watertightness;
- Reduces or eliminates the need for vibration;
- Reduces shrinkage of concrete;



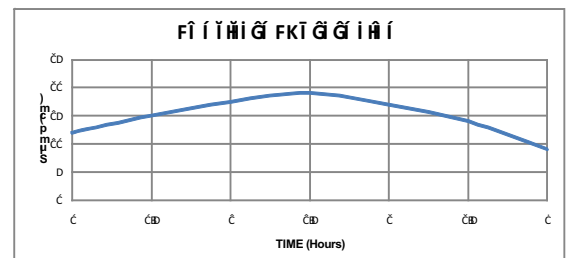
The concrete mixtures have been prepared according to EN 480-1:2000, concrete I with cement CEM I 42,5 N "TITAN"



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The concrete mixtures have been prepared according to EN 480-1:2002, concrete IV with cement CEM I 42,5 N "TITAN"

## Technical features:

Appearance:	yellow to brown liquid
Dry substance:	30±2%
Bulk density (at 20°C):	1,05±0,02 g/cm <sup>3</sup>
Chlorides content:	0%
Alkali content:	< 4,0%
pH-value (at 20°C):	5,0-8,0

## Dosing:

Dosing of Superfluid-21M1M depends on the function of concrete.

With low dosing from 0,25% to 0,8% by weight in relation to the cement mass, they can be used for preparation of classical concretes.

For the preparation of self-compacting concretes (SCC), dosing ranges within the limits from 1,0% to 1,5% in relation to the cement mass and the particles <0,125 mm together, depending on the kind used and used quantity of fine particles.

Dosing could be performed manually or automatically, in the course of preparation of the concrete mixture. Maximum effect is achieved when Superfluid-21M1M, along with 20%-30% water, is added, after mixing the aggregate, the cement and 70% to 80% of the water required for preparation of concrete. Time duration of mixing the fresh concrete mass with addition of Superfluid-21M1M should be increased at least by 50% in relation to mixing time for concrete without admixtures, i.e. should not be less than 3 minutes.

## Effect due to overdosing:

Overdosing can cause segregation of concrete.

## Compatibility:

Superfluid-21M1M is compatible with a number of admixtures of ADING production program. If in the same concrete mixture two or more admixtures are used, it is necessary to conduct preliminary tests. Different admixtures are batched separately i.e. are not intermixed prior to insertion into the concrete mixture.

Superfluid-21M1M is usable with all types of Portland cements, also including the sulphate resistant cements.

Superfluid-21M1M is not compatible and should not be used in combination with admixtures based on beta-naftalen sulfonate (Fluiding, Superfluid, Superfluid-M1, Superfluid-M1M, Hidrofob)

## Packing:

plastic cans:	5, 10 and 20 kg.
drums:	200 kg.
containers:	1000 kg.

## Storage:

In original closed packing, at a temperature from 5°C to 45°C and protected against direct exposure to sun. Shelf life: 12 months.

Superfluid-21M1M does not contain toxic substances; nevertheless, it is necessary to take care not to come to contact with skin, eyes or not to be swallowed. In case of splashing on the skin or into the eyes, it is necessary to rinse with pure flowing water. If it has been swallowed, it is necessary to ask for medical assistance.

Superfluid-21M1M is a non-flammable liquid.

Cleaning of the Superfluid-21M1M residues is by using water. The old and used packing should be discarded in accordance with the local relevant regulations for that kind of waste.