

Superplasticizing admixture

PRODUCT DESCRIPTION

Mapefluid® RN-30 is a highly efficient liquid superplasticizing admixture for concrete and mortar, based on acrylic copolymer.

Mapefluid® RN-30 can be used in all types of concrete to improve workability and/or reduce the need of mixing water. Some special areas of use are:

Mapefluid® RN-30 is used to produce water tight concrete demanding high or very high strength and increased durability in aggressive environments.

Mapefluid® RN-30 is excellent when producing concrete that needs to retain its workability over longer periods of time, e.g. longer transport and hot weather conditions.

Mapefluid® RN-30 is excellent when producing pre-stressed concrete elements, where high early strength is needed.

Mapefluid® RN-30 gives self compacting concrete a high deformability and ability to flow and secures the concrete's stability when placed.

Mapefluid® RN-30 is excellent when producing concrete for casting of floors.

Mapefluid® RN-30 is ideal for production of frost resistant concrete (combined with air entraining agents, such as **Mapeair 25**).

Due to its chemical composition, **Mapefluid® RN-30** differs radically from traditional superplasticizers based on sulphonated melamines or naphthalenes; to obtain the same workability, a lower dosage is needed, and its maximum dispersing action is not dependent on when it is added to the mix. As concrete mixes with **Mapefluid® RN-30** retain their workability for a longer period than melamines and naphthalenes do, the

need of adding extra liquids in the automixer when arriving at site, is largely reduced. Such adding is nevertheless unproblematic; but care must be taken to secure a thorough mixing (at least 5 minutes plus another minute for each m³ at full speed is recommended).

In general, the mixing time with **Mapefluid® RN-30** should be prolonged somewhat compared to traditional (SM and SN) superplasticizers.

PROPERTIES

Mapefluid® RN-30 is an aqueous solution of active polymers that very efficiently disperses cement granules. Principally its dispersing action can be used in three ways:

- to reduce the amount of mixing water only - compared to that of plain concrete with the same workability. The result is increased strength, reduced permeability and improved durability.
- to improve workability – compared to that of plain concrete. The result is a concrete with improved performance characteristics.
- to reduce both water and cement – so that the water to cement ratio and concrete performance remain unchanged compared to concrete without admixtures. In this case (less cement), there are both economic and technical advantages, due to reduction in drying shrinkage, creep and thermal stress caused by the heat developed during cement hydration. This method is especially recommended for mixes with a high cement content (> 350 kg/m³)

ATTENTION

Mapefluid® RN-30 is compatible with other admixtures, such as accelerating and retarding agents. Together with air entraining agents (e.g. **Mapeair 25** and

Mapeair L), it is ideal for producing concrete resistant to freezing and thawing. The effects of other water reducing admixtures are slightly reduced in combination with **Mapefluid® RN-30**. Therefore, no such admixtures are normally needed when **Mapefluid® RN-30** is used.

When producing SCC, **Mapefluid® RN-30** can be combined with **Viscofluid TA** or **Viscofluid SCC** to increase the viscosity of lean mixes.

PACKAGING

Mapefluid® RN-30 is available in 25 litre cans, 200 litre drums and 1000 litre containers. It can also be delivered in bulk. Stored frost free in unopened packaging, product properties remain unchanged throughout the first twelve months.

DOSAGE

The properties of **Mapefluid® RN-30** can be used effectively to achieve the intended results (increased strength, improved workability, reduced cement content) through varying the dosage between 0.3 and 1.2 % by weight of cement. Increased dosages give longer open time (+ postponed setting time) and reduced loss of workability. Larger dosages and lower temperatures can give retarded concrete. Testing under actual local conditions with actual materials is therefore paramount before larger pours.



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SAFETY INSTRUCTIONS

For health, safety and environmental information, see separate HSE data sheet at www.resconmapei.com

WARNING

Although the technical details and recommendations contained in this product report correspond to the best of our knowledge and experience, all the above information must, in every case be taken as merely indicative and subject to confirmation after long-term practical applications: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application; in every case, the user alone, is fully responsible for any consequences deriving from the use of the product.

All deliveries from Rescon Mapei AS are made in accordance with the sale- and delivery conditions applicable at the time, and these conditions are taken to be accepted on placement of an order.

N.B! FOR PROFESSIONALS

TECHNICAL SPECIFICATIONS

Product specifications:

Form:	Liquid
Colour:	Yellowish
Viscosity:	Easy flowing; < 50 mPa · S
Dry material content, %:	29 ± 1.5
Density, g/cm ³ :	1,08 ± 0,02
pH-value:	7 ± 1
Chlorides, %:	≤ 0.01
Alkali content (Na ₂ O-equiv.), %:	≤ 1.5

CONCRETE PERFORMANCES

As a water reducer / plasticizer (equal workability):

Ordinary Portland cement (CEM I – 42.5 R)		
kg/m ³ (Norcem Standard):	350	350
Admixture dosage (% by weight of cement):	0	0.6
Water/cement ratio:	0.51	0.39
Air content (in %):	2.0	2.2
Water reduction (in %):	-	23.5
Compression strenght (N/mm ²)		
after 1 day:	22	37
after 7 days:	36	53
after 28 days:	42	62

As a superplasticizer (increased workability):

Ordinary Portland cement (CEM I – 42,5 R),		
kg/m ³ (Norcem Standard):	350	350
Admixture dosage (% by weight of cement):	0	0.6
Water / cement ratio:	0.48	0.48
Air content (i %):	2.1	1.2
Workability, mm:		
Slump, 5 min:	35	220
Slump, 30 min:	30	210
Slump flow, 5 min:	-	510
Slump flow, 30 min:	-	445