EPOCON PLUS 52
High Range Water Reducing, Self-Compacting Concrete Admixture

PRODUCT DESCRIPTION
High Range Water Reducing, Self-compacting Concrete Admixture

CHARACTERISTICS
EPOCON PLUS 52 has been developed as a solution for applications in the premixed concrete industries where the highest performance and durability is required.It enables very low w/c ratios to be produced in the concrete without segregation or bleeding and slump retention is increased.It improves concrete surface finish and texture. **EPOCON PLUS 52** is a new generation hyper plasticizer concrete admixture, free of chlorides.

APPLICATIONS
Due to its excellent dispersion properties, **EPOCON PLUS 52** allows the production of high early and high ultimate strength concrete, increasing slump retention especially important for the premixed concrete. It is used for bridges, viaducts, turbo generators, the raft foundation of structures such as harbors, industrial grounds, airports, on the structures that concrete exposed to the corrosive effects and bridge beams with narrow sections.

USAGE
Mix cement (and pozzolanic materials), sand, fly ash, aggregate and 50-70 % of mixing water are mixed until a homogeneous consistency is obtained. **EPOCON PLUS 52** is added to the remaining mixing water and mixed until a homogeneous consistency and required workability are obtained.

COMPATIBILITY
EPOCON PLUS 52 can be used in all types of Portland cement, sulfate resisting cement and supplementary cementitious materials. **EPOCON PLUS 52** should be dispensed directly into the mixer and should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing **EPOCON PLUS 52**, they must be dispensed separately.

TECHNICAL SPECIFICATIONS
Chemical Composition : Polycarboxylic ether based
Form : Liquid
Colour : Light Brown
Density : 1.107 ± 0.02 g/cm^3 (20^{o}C)
PH : 5.0 ± 1.5
Cl - ions Content % : Zero **(a**s EN 480-10**)**

Freeze harm : Complete
Stir or agitate the container before use.
Freeze temperature : 0 °C
Boiling point : 100 °C
Odor : Mild odor
Toxicity : None
Flammability : None
Clean-up : Water
Fumes during treatment : Slight
Environmental Hazards : None

Air Entertainment :
Up to 0 - 2.0% depending on dosage rate and concrete proportioning.

FEATURES / BENEFITS
- When used to produce "flowing" concrete, significantly reduces concrete placement time and cost.
- Reduces segregation and bleeding in the plastic concrete.
- Produces "flowing" concrete with controlled delay of slump loss and workability.
- Greatly reduces water requirements.
- Enables under water concreting and Anti wash-out properties.
- Reduces cracking permeability of hardened concrete.
- Enhance the freezing - thaw cycle of hardened concrete.
- Improve concrete's durability , physical and mechanical properties.
- Improve concrete corrosion resistance against chlorides, sulfates and aggressive environment compounds.

Consumption :
Quality - **EPOCON PLUS 52** is used **in a range of 0.8 to 2.5 liter** per 100 kg of the cementitious material weight **(**Depending on climatic conditions, proportioning and other omponents of the concrete**)**.

Note : *The informations contained herein is based on our technical and practical knowledge and experiences. We can, however, no guarantee for any applications out of our control and recommendations.*

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REMARKS
Usage dosages stated hereunder were obtained in laboratory conditions, they may change depending on the characteristics of other components, ambient conditions and water/cement ratio. Therefore, it is recommended that designs and tests should be conducted at sites using preliminary mixture ratios. **EPOCON PLUS 52** is not suitable to be used with any of the EPOCON series NSF based products.

Relevant Standards :
ASTM C 494 **Type A/F**, BS 5075 Part I, BS EN 934 part 2 (TS EN 934-2)

Packing :
Plastic jerrycan (30 kg), Drums (250 kg), Bulk (storage tanks can be provided for Bulk use)

Shelf Life:
12 months indoors, without opening original package. The product should be stored in a cool, dry storage. Do not store at temperatures below 10 °C or in direct sunlight.

TECHNICAL INFORMATION
Typical Engineering Data: The following data using **EPOCON PLUS 52** was developed under laboratory conditions and according to ASTM C494/05a limits – **Type F**

Mix Design:
Cement content (OPC) 307 kg/m3
Coarse aggregate 62 %
Fine aggregate 38 %

Compressive Strength vs. Control 100%

Days	EPOCON PLUS 52	Specification % of Control
1 day	- 170%	140%
3 days	- 160%	125%
7 days	- 160%	115%
28 days	- 155%	110%
6 Months	- 155%	100%
1 Year	- 150%	100%

Flexural Strength vs. Control 100%

Days	EPOCON PLUS 52	Specification % of Control
3 days	-145%	110%
7 days	-140%	100%
28 days	-130%	100%

SAFETY PRECAUTIONS
As with all construction chemical products, adequate precautions and care must be taken during usage and storage. Avoid direct contact with foodstuff, eyes, skin, and mouth. Keep away from children and animals. Any direct contact with skin, eyes, etc. should be washed thoroughly with clean running water and soap. Use proper safety wear, goggles, and mask, etc..

TECHNICAL ASSISTANCE
EPO Gulf Chemicals; technical department with its highly trained and qualified Chemicals Marketing Advisory team provides a complete service in the field. Please consult your nearest service/sales department for assistance. Field services where provided, do not constitute any supervisory responsibilities.

NOTICE
The information given in this publication is based on present state of our knowledge. Any recommendations and suggestions are made without guarantee since the conditions and procedures are beyond our control. Buyers and users should make their own assessment of our product under their own conditions and for their own requirements.

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