

# MIRA<sup>®</sup> 2116

Superplasticiser

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## Product Description

MIRA<sup>®</sup> 2116 is an aqueous solution of chemical dispersants combined with other chemicals which increase its beneficial effects on the quality and plasticity of a concrete mix. Mira 2116 is a high range water reducer, commonly referred to as a superplasticiser. It is an aqueous solution of a modified naphthalene sulfonate. It is a low viscosity liquid which has been formulated by the manufacturer for use as received. Mira 2116 contains no added chloride.

Mira 2116 is formulated to comply with the following chemical admixture specifications for concrete: BS 5075: Part 3: 1985; SS 320:1987; AS 1478 Type HWR (App C4, Class (g)(i)). One litre of Mira 2116 weighs approximately 1.17kg ± 0.02kg.

## Dispersion

Mira 2116 is a superior dispersing admixture having a marked capacity to disperse the cement agglomerates normally found in a cement-water suspension. The capability of Mira 2116, in this respect, exceeds that of normal water-reducing admixtures.

## Applications

Mira 2116 produces concrete with extremely workable characteristics referred to as high slump, flowing concrete. Mira 2116 also allows concrete to be produced with very low water-cement ratios at low or normal slumps. Mira 2116 is ideal for use in prestress, precast, bridge deck or any concrete where it is desired to keep the water-cement ratio to a minimum and still achieve the degree of workability necessary to provide easy placement and consolidation. Mira 2116 will also fluidise concrete making it ideal for tremie concreting or other applications where high slumps are desired.

## Product Advantages

- The low sodium content of Mira 2116 is particularly useful in applications where a limit on the equivalent sodium oxide of the mix design is specified.
- Mira 2116 can produce high slump flowable concrete at no loss in strength.
- Mira 2116 can produce low water-cement ratio concrete and therefore, high strengths.
- Mira 2116, in prestress/precast work, can be used to substantially reduce or eliminate the high energy requirements of external heat for accelerated curing.
- Mira 2116 concrete produced with Type I cement may be substituted for normal concrete produced with Type III cement to achieve early release strengths.
- Mira 2116 concrete, even at high slump, exhibits no significant segregation compared to concrete without a superplasticiser at the same slump.
- Mira 2116 aids in rapid discharge of concrete from truck mixers thereby reducing on the job time and improving mixer utilisation.

## Addition Rates

Addition rates of Mira 2116 can vary with type of application, but will normally range from 400 to 1,500mL / 100kg of cementitious material. In most instances the addition of 400 to 1,100mL / 100kg of cementitious material will be sufficient. At a given water-cement ratio, the slump required for placement can be controlled by varying the addition rate. Should job site conditions require using more than recommended addition rates, please consult your local GCP representative.

## Compatibility with Other Admixtures

In concrete containing Mira 2116, the use of an air-entraining agent (such as DARAVAIR® or DAREX® AEA) is recommended to provide suitable air void parameters for resistance against freeze-thaw attack. Most water reducers or water-reducing retarders are compatible with Mira 2116 as long as they are separately added to the concrete. Pretesting of the concrete should be performed to optimize dosages and addition times of these admixtures. Caution should be exercised when using Mira 2116 together with a retarder, as excessive retardation can occur if the admixture dosages are too high. The admixtures should not be in contact with each other before they enter the concrete.

## Dispensing Equipment

Please contact your local GCP representative for further information regarding the dispensing equipment for this product.

## Packaging

Mira 2116 is available in bulk, and in 205L drums. Mira 2116 contains no flammable ingredients. It will begin to freeze at approximately 0°C, but will return to full strength after thawing and agitation. In storage and for proper dispensing, Mira 2116 should be maintained at temperatures above 0°C.

## Health and Safety

Read and understand the product label and Safety Data Sheet (SDS). All users should acquaint themselves with this information prior to working with the products and follow the precautionary statements. SDSs can be obtained by contacting your local GCP Applied Technologies representative or office.

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