

# MIRA<sup>®</sup> 45

Mid-Range Water Reducing Admixture

## Product Description

MIRA<sup>®</sup> 45 is an extremely versatile product designed for a range of concrete applications, under both normal and high ambient temperatures. It can be used at various dosage levels to reduce water content and to increase consistence in concrete mixtures.

Low dosages are used for water reduction, consistence improvement with excellent retention and limited retardation. High dosages will produce greater water reductions or alternatively can be used to produce highly fluid mixtures. MIRA<sup>®</sup> 45 is based on specially selected polymeric sulphonate materials and is manufactured under controlled conditions to give a consistent product. Depending on the addition rate, MIRA<sup>®</sup> 45 conforms to EN 934 Part 2.

## Advantages

- Effective over a wide range of cement contents
- Imparts excellent consistence retention
- Used to affect large water-reductions in concrete, to achieve high early and ultimate strength as required in precast/pre-stressed concrete
- Produces, high-consistence concrete, ideal for piling applications or areas of congested reinforcement
- Compatible with ggbs and fly ash concretes
- Increases cement economics
- Aids cohesion of concrete
- Multi-role capabilities

## Typical Properties

MIRA <sup>®</sup> 45	
Appearance	Dark Brown Liquid
Specific Gravity (20 °C)	1.165
Alkali Content (eq.Na <sub>2</sub> O)	2.20%
Chloride Content	Nil
Air Entrainment	1.0-2.0 %
Freezing Point	0 °C

## Method Of Use

MIRA<sup>®</sup>45 is supplied ready for use. When producing high consistence concrete it should be added in its supplied form with part of the batching water after the addition of the cement. After the addition of MIRA 45, a further mixing cycle of at least two minutes is recommended to enable MIRA<sup>®</sup> 45 to efficiently disperse the mix constituents.

## Compatibility with Cements

MIRA<sup>®</sup>45 can be used with most types of Portland cements. It is also effective in concrete containing fly ash or ground granulated blastfurnace slag. For use with special cements we recommend contacting GCP Applied Technologies.

## Compatibility with Admixtures

MIRA<sup>®</sup>45 is fully compatible with all GCP admixtures normally used in concrete production. Each admixture must be added separately. Individually added, each will deliver exactly the results desired. However, the performance of the material may be affected by the presence of other chemicals and we would recommend that GCP be consulted in such circumstances.

## Addition Rates

Range	200 ml - 1200 ml per 100 kg cement
	0.20% -1.20% (v/w) by wt. of cement
As a guide to trials an addition rate of 0.40-0.80% volume by weight of cement is suggested.	
For advice and assistance with trials we recommend that you consult GCP Applied Technologies.	

MIRA<sup>®</sup>45 is a versatile, high performance product that benefits from a wide variety of applications. As with most products of this type, level of effectiveness is governed by the quantity of product used and the specific nature of the concrete mix. The performance of MIRA<sup>®</sup>45 is best assessed after preliminary tests using the actual concrete materials to determine the optimum dosage and effect on both plastic and hardened concrete.

## Effects of Overdosing

Overdosing of MIRA<sup>®</sup>45 will generally produce an increase in consistence and in certain circumstances a slight increase in air entrainment. Overdosing, particularly in cold weather; could be accompanied by retardation of set of the concrete. However, because of the retardation characteristics of MIRA 45, this will be minimal, depending on the amount overdosed. Providing overdosed concrete is properly cured, the ultimate strength will generally be higher than that of a normal concrete. Planned overdosing outside the recommended range should be further discussed with GCP Technical Service department. Any situation where an overdose is suspected, careful inspection of the concrete in its plastic state should be conducted. Particular attention to consistency and cohesiveness prior to a decision on the suitability of the concrete for the particular application in question.

## Dispensing

It is preferable that the MIRA<sup>®</sup>45 should be introduced into the mixer by automatic dispensing equipment. Equipment or advice on dispensing can be obtained from GCP.

## Health and Safety

For further information on Health and Safety matters regarding this product we recommend that you consult the relevant Material Safety Data Sheet from GCP. In line with general chemical handling precautions avoid contact with skin or eyes and protective gloves/goggles should be worn.

## Packaging & Storage

MIRA<sup>®</sup>45 is supplied in both 15 and 205 non returnable drums and 1,000 litre totes. Alternatively, bulk deliveries can be arranged. MIRA<sup>®</sup>45 should be stored away from the extremes of temperature and then protected from frost. If the product does freeze, it should be thawed and carefully re-mixed before use. The product should be kept out of direct sunlight in shaded storage at all times.

### Storage Life in Manufacturer 's Drums :

12 months from date of manufacture.

### Storage Life in Bulk Storage:

12 months from date of delivery.

## Technical Service

Our Technical Service department of GCP Applied Technologies is available to assist you in the correct use of our performance chemicals.

gcpat.uk | Customer Service: Tel: 01925 855330 Fax: 01925 855350

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

MIRA is a trademark, which may be registered in the United States and/or other countries, of GCP Applied Technologies Inc. This trademark list has been compiled using available published information as of the publication date and may not accurately reflect current trademark ownership or status.

© Copyright 2020 GCP Applied Technologies Inc. All rights reserved.

GCP Applied Technologies (UK) Ltd, Gate St, Dukinfield SK16 4RU.

This document is only current as of the last updated date stated below and is valid only for use in the United Kingdom. It is important that you always refer to the currently available information at the URL below to provide the most current product information at the time of use. Additional literature such as Contractor Manuals, Technical Bulletins, Detail Drawings and detailing recommendations and other relevant documents are also available on [www.gcpat.uk](http://www.gcpat.uk). Information found on other websites must not be relied upon, as they may not be up-to-date or applicable to the conditions in your location and we do not accept any responsibility for their content. If there are any conflicts or if you need more information, please contact GCP Customer Service.

Last Updated: 2025-05-13

[gcpat.uk/solutions/products/mira-mid-range-water-reducers/mira-45](http://gcpat.uk/solutions/products/mira-mid-range-water-reducers/mira-45)