

WRDA[®] 90

Mid Range Concrete Plasticiser

Product Description

WRDA[®]90 is a mid-range concrete plasticiser or water-reducing agent for concrete and cement based grouts. It is particularly useful for imparting extreme workability to concrete mixtures so that large or difficult pours can be made with little or minimal vibration. Alternatively, it can be utilised to affect large water reductions in concrete of normal workability to achieve higher early and ultimate strengths.

WRDA[®]90 is an extremely powerful deflocculating agent and operates by dispersing cement into its primary particles, dramatically increasing the flow characteristics of the cement paste.

WRDA[®]90 is a multi dosage plasticiser performing as a non-retarding plasticiser at low dosage and as a superplasticiser at moderate dosage rates without excessive retardation.

WRDA[®]90 is formulated from carefully selected raw materials and is manufactured under controlled conditions to give a consistent product. It is based on an aqueous solution of modified organic polymers and conforms to EN934-2. Depending upon dosage level, it also conforms to Type A, D and G of ASTM C494 and complies with BS 5075: Part 1 and BS 5075: Part 3.

Benefits and Advantages

- Allows concrete to be placed in free flowing condition without segregation.
- Minimal effect on setting time whether used as a superplasticiser or high range water reducer.
- Increased strengths at all ages.
- Allows extremely low water/cement-ratios to be utilised with moderate cement contents.
- Reduced permeability by reducing capillary pores in the hardened matrix.

Typical Properties

Appearance	Dark Brown liquid
Air Entrainment:	Minimal increase 1% maximum
Chloride Content:	nil as per EN480-10
Freezing Point:	-4 °C

Addition Rates

Range: 300 ml – 800 ml per 100 kg cement (0.3% – 0.8% volume by weight cement)

The performance of WRDA[®]90 is best assessed after preliminary tests on site using the actual concrete materials to determine the optimum dosage and effect on properties such as ultimate compressive strength and early strength gain. As a guide to these trials, we recommend an addition rate of 500 ml per 100 kg cement.

WRDA[®]90 is supplied ready for use. It should be added to the concrete mix during the mixing cycle with the water, after the addition of the cementitious component. It should not be added to the cement. No extension of normal mixing time is necessary, except when high workability concrete is being produced on site. When used in this manner, it can be added 'on-site', however a further 2 minutes mixing is recommended.

When using flowing concrete, temporary increases in formwork pressure will occur and this should be taken into account at the design stage.

Serious overdosing of WRDA[®]90 will generally produce a concrete mix of even greater workability and set retardation without any increase in air entrainment. In cold weather this retardation will be further increased. If intentional or accidental increases above the recommended addition rate are employed, care must be taken to allow for the effect on the stripping of formwork. In such cases, however, provided the concrete is properly cured, the ultimate strength will generally be higher than for normal concrete.

Compatibility

With cements:

WRDA[®]90 can be used with all types of Ordinary Portland Cements. For use with other cements we recommend you consult GCP Applied Technologies.

With other admixtures:

WRDA[®]90 should not be premixed with other admixtures. The performance of the material may be affected by the presence of other chemicals. We recommend you consult GCP Applied Technologies in such circumstances.

Dispensing

It is preferable that liquid admixtures for concrete should be introduced into the mixer by means of automatic dispensing equipment. A range of equipment and advice on supply and fitting are available from GCP Applied Technologies on request. As with most concrete admixtures, WRDA[®]90 must not be allowed to come in contact with other admixtures prior to being mixed into the concrete.

Health and Safety

See WRDA[®]90 SDS (Safety Data Sheet) or consult GCP Applied Technologies.

Packaging

WRDA®90 is supplied in 205-litre, non-returnable containers. Alternatively, bulk deliveries can be arranged.

Storage

WRDA®90 should be stored above 0 °C and protected from frost. If the product does freeze, it should be thawed out slowly and re-mixed mechanically prior to use.

Storage life in manufacturer's drums:

12 months from date of manufacture.

Storage life bulk storage:

12 months from date of delivery

Technical Service

The Technical Service department of GCP Applied Technologies is available to assist you in the correct use of our products.

gcpat.ae | United Arab Emirates customer service: +971 4 5139560

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Last Updated: 2022-11-18

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