

WRDA[®] WP4

Waterproofing Plasticiser

Product Description

WRDA[®]WP4 is a liquid plasticiser, or water-reducing agent used to effectively reduce permeability of concrete to improve the water tightness. The effect is achieved reducing the w/c ratio by its adsorption onto the surface of the cement particles in a concrete mix giving a powerful deflocculating action

WRDA[®]WP4 is formulated from carefully selected raw materials and is manufactured under controlled conditions to give a consistent product. It is based on high grade modified lignosulphonic acid derivative and depending on addition rate conforms to Type A, B & D materials of ASTM designation C-494 and complies with BS EN 934-2.

Product Advantages

- WRDA[®] WP4 is recommended for use where waterproofing or structural concrete is specified. Significant reductions in water permeability and penetration can be obtained compared to the control mix.
- The effective plasticising action of WRDA[®] WP4 will give increased workability to most types of concrete mixes. Harsh mixes, such as those produced with crushed rock aggregates, are considerably improved in the plastic and hardened state.
- When used for its water reducing effect, reductions in the water content in the region of 10% can normally be achieved with subsequent increases in strength, impermeability and durability.
- The reduction in excess water which can be achieved, is effective in increasing the impermeability of concrete. Surface finishes can be improved and blemishes such as 'sand runs' overcome.
- WRDA[®] WP4 is of particular value in concreting operations subject to high ambient temperatures.

Typical Properties

Appearance	dark brown liquid
Specific Gravity	1.17 at 20°C
Air Entrainment	approx. 1%
Chloride Content	Nil
Freezing Point	0°C

Method of Use

WRDA[®]WP4 is supplied ready for use. It should be added to concrete mixes during the mixing process, at the same time as the mixing of water.

It should not be added directly to the cement. No extension of normal mixing time is necessary.

Compatibility with Cements

WRDA®WP4 can be used with all types of Portland, Pozzolanic and blast furnace cements. It is also compatible with cements containing fly ash and silica fume.

Compatibility with other Admixtures

WRDA®WP4 should not be premixed under any circumstances with other admixtures. Other GCP Applied Technologies admixtures can be usefully combined within the same mix but should be evaluated by trial mixes first.

Addition Rates

Range: 0.2%–0.8% volume by weight of cement

The performance of WRDA®WP4 is best assessed after preliminary tests on site, using the actual concrete under consideration to determine the optimum dosage and effect on concrete properties such as ultimate compressive strength, early rate of gain of strength, air content, setting time etc., when these are of consequence.

As a guide to tests, addition rates of 0.4% by weight of cement should be initially evaluated.

Effects of Overdosing

Overdosing of WRDA®WP4 will generally produce a considerable increase in workability and in certain circumstances, slight increase in air entrainment. This particularly in cold weather will be accompanied by a retardation of the initial and final set of the concrete. In such cases, however, provided the concrete is properly cured, the ultimate strength will generally be higher than for normal concrete. The effects of overdosing will also be exaggerated when sulphate resisting cement is used in place of ordinary Portland cement.

Dispensing

It is preferable that liquid admixtures for concrete should be introduced into a mixer by means of automatic dispensing equipment, details of which can be supplied upon request.

Health and Safety

For further information see WRDA®WP4 SDS (Safety Data Sheet) or consult GCP.

Packaging

WRDA®WP4 is supplied in nominal 210 litre, non-returnable containers.

Alternatively, 1000 litre IBCs or bulk deliveries can be arranged.

Storage

WRDA®WP4 should be stored in original containers or suitable closed tanks, preferably out of direct sunlight and protected from extremes of temperature.

Storage Life in Manufacturer's Drums:

12 months from the date of manufacture

Storage Life in Bulk Storage:

12 months from the date of delivery

Technical Service

The Technical Service Department of GCP is available to assist you in the correct and best use of our products. These resources and advice are at your disposal entirely without obligation. Please contact:

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