

WRDA[®] P59

Water reducer for economical concrete production with set time control

Product Description

WRDA[®]P59 is an aqueous solution of complex organic compounds combined with other chemicals which increase its beneficial effects on the quality and plasticity of a concrete mix. It does not contain calcium chloride. WRDA P59 is manufactured under rigid control which provides uniform, predictable performance. It is supplied as a clear yellow, low viscosity liquid, ready-to-use as received.

WRDA P59 water-reducing admixture is a ready-to-use low viscosity liquid which is factory premixed in exact proportions to minimise handling, eliminate mistakes and guesswork.

WRDA P59 is a chemical admixture meeting the requirements of the following chemical admixture specifications for concrete: ASTM C 494 as a Type A, Type D and Type G admixture; BS 5075: Part 1; GB 8076-1997.

One litre weighs approximately $1.09\text{kg} \pm 0.02\text{kg}$.

Applications

WRDA P59 produces a concrete with lower water content (typically 8 to 15% reduction), greater plasticity and higher strength. It is used in ready mix plants, block and concrete products plants, in lightweight and prestressed work, and wherever concrete is produced. It is also used by contractors in field equipment such as job site plants and pavers.

Compared to other water reducers, WRDA P59 will typically impart the following additional benefits:

- More controlled set time (minimal retardation over a wide range of dosages).
- Higher ultimate compressive and flexural strengths.

Advantages

Most calcium-chloride-free water-reducing admixtures on the market today produce some significant degree of set retardation. Minimal extension of setting time has been experienced in field concrete containing WRDA P59. Under closely controlled laboratory conditions, the retardation observed with the addition of 200 ml of WRDA P59 per 100 kg of cementitious material is in the range of 15 to 20 minutes, well within the limit of the accuracy of the test method. The use of WRDA P59 produces a plastic concrete that is more workable, easier to place, more pumpable, and has better finishability than plain or other admixed concrete. In the hardened state, WRDA P59 concrete has higher compressive and flexural strengths at all ages than untreated or conventionally admixed concrete. The greater degree of plasticity achieved, compared with conventional water-reducing admixtures, allows improved finishability.

Dispensing Equipment

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

Packaging

WRDA P59 is available in bulk, and 205L drums. WRDA P59 contains no flammable ingredients. It will freeze at about -2°C, but will return to full strength after thawing and thorough agitation.



Finishability

Finishers have stated that the cement paste, or mortar, in WRDA P59 admixed concrete has improved trowelability. The influence of WRDA P59 on the finishability of lean mixes has been particularly noticeable. Floating and troweling, by machine or hand, easily imparts a smooth, close tolerance surface with less machine time and labour.

Addition Rates

Excellent results are typically obtained using addition rates of 200 to 600mL of WRDA P59 per 100kg of cementitious material (for dosage rates above 600mL / 100kg cementitious material, please consult your local GCP representative). In some cases it may be necessary to use higher addition rates due to variations in cement, aggregate or other job conditions

Compatibility with Other Admixtures

WRDA P59 is compatible in concrete with all air entrainers such as DARAVAIR® or DAREX® AEA® air-entraining admixtures. Due to a synergistic effect of WRDA P59, the quantity of air entrainer admixed in concrete may be reduced by about 25%. By combining the separate effects of air entrainment and dispersion, the water requirement of concrete may be reduced up to 15%. Each admixture should be added separately. While WRDA P59 contains no calcium chloride, it is compatible with calcium chloride in concrete mixes. Again, each should be added separately.

Health and Safety

See WRDA P59 Material Safety Data Sheet or consult GCP Applied Technologies.

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