

PENTENS WP

Integral Liquid Waterproofing Admixture

Product Data Sheet

Description

PENTENS WP is an integral waterproofing system specially designed for the complete and permanent waterproofing of mass and reinforced structures, ready-mixed and precast concrete, etc.

Uses

- To improve waterproofing properties of concrete.
- PENTENS WP drastically reduces water absorption in structural and precast concrete.
- It is recommended to be used in multi-storey basement, tunnel, water retaining areas, bridge deck, civil and building structure.
- Reduces concrete permeability and water penetration.

Advantages

- Reduces surface absorption.
- Improved workability and plasticity.
- Minimises cracking and plastic shrinkage.
- Minimises bleeding and segregation.
- Provides integral protection, reduces permeability throughout the concrete.
- Integral protection is maintained even if surface damage occurs.
- Lower water: cement ratio improves compressive strength at the same workability.

Technical & Physical Data

Form	Liquid
Appearance	Milky
Specific Gravity	Typical 1.10 at 20°C
Freezing Point	Approximately -4°C
Packaging	20L /pail 200L /drum

Storage:

PENTENS WP has a minimum shelf life of 12 months provided that the temperature is maintained within the range of 5°C to 50°C. Should the temperature of the product fall outside this range, please contact PENTENS Technical Service Department for further advice.

Instruction for Use

Compatibility:

PENTENS WP is compatible with admixture range of retarder and plasticizer and its equivalent when used in the same concrete mix, but it should be added into the mix separately and must not be mixed together prior to application.

Mixes that contain more than one admixture should be ascertained through the trial mix procedure recommended on this data sheet.

PENTENS WP is recommended for concrete containing retarding admixture, conforming to ASTM C494 Type D. It is also compatible with admixture range of superplasticiser or its equivalent, conforming to ASTM C494 Type D.

PENTENS WP is suitable for use with all types of Portland cement and cement replacement materials such as PFA, GGBFS and microsilica.

Trial Mix:

Trial mix shall be conducted for concrete that intends to utilise PENTENS WP to reduce water absorption in a particular concrete structure. The targeted compressive strength of a particular grade of concrete shall comply with BS 5328:1981 or its latest revision. When a particular concrete mix design (with retarding plasticiser and/or superplasticiser) using PENTENS WP has complied with all requirements, actual batching of concrete shall only commence. The use of PENTENS WP shall be supervised adequately. Contact PENTENS Technical Department for further advice. The result of the trial mix should satisfy all requirements of normal concrete properties. The use of PENTENS WP at typical dosage will illustrate an excellent result on water absorption.

Typical Dosage:

PENTENS WP may be dispersed to the gauging water at the rate of 1 litre per 100kg of Portland cement. In certain conditions, a maximum of 1½ dose (1.5L) is recommended. The use of PENTENS WP allows the reduction of water cement ratio by about 10% without affecting its workability (the specified slump is preserved). By doing so, a higher compressive strength can be achieved.

Dispensing

The correct quantity of PENTENS WP should be measured by a dispenser. The admixture should then be added to the concrete along with the mixed water to obtain best results. Contact PENTENS Technical Department for further advice regarding suitability of the equipment and for its installation.

Curing

Good curing practice should be maintained with all structural concrete, especially in situations where overdose occurred. Water spray, wet hessian or a Conc-Cure spray-applied curing membrane should be used.

Limitations:

PENTENS WP ensures great quality for concrete waterproofing. Good concrete practices must be followed at all times. Well-graded aggregates must be used and a minimum of 350 kg/m³ of cement content is recommended for Grade 30 and below. Concrete with higher grade would require higher cement content.

Precautions

Health and Safety:

PENTENS WP is a water-based and non-flammable material. PENTENS WP does not fall into the hazard classifications of current regulations. However, it should not be swallowed or allowed to come in contact with skin and eyes. Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. If contact with eyes occurs, rinse with plenty of water and seek for medical advice. If swallowed by accident, seek medical advice immediately and do not induce vomiting.

Cleaning and Disposal

Spillage of PENTENS WP should be absorbed into sand, earth or vermiculite and transferred to suitable containers. Remnants should be hosed down with large quantities of water. The disposal of excess and waste material should be carried out in accordance of local legislation under the guidance of the local waste regulatory authority.



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