

SHIELDPROOF ADL

Liquid Integral Waterproofing Admixture (Hydrophobic Pore-blocking Agent)



MICSHIELD®

Description

Shieldproof ADL is a highly effective liquid waterproofing admixture, reacts with cement to form hydrophobic material, specially designed for reducing the water permeability of concrete and improving the waterproofing characteristics of concrete and cement mixes.

Uses

- Production of concrete with permanent water impermeability characteristics.
- Concrete water tanks.
- Foundations, tunnels and basements.
- Wastewater storage tanks.
- Dams, swimming pools, and corrosive environments.

Characteristics / Advantages

- Increases durability of concrete.
- Reduces shrinkage.
- Self-healing characteristics.
- Cost effective.
- Reduces permeability of concrete and cement mixes to water and moisture.
- Reduces segregation and significantly improves workability.
- Compatible with all types of Portland cement.
- Reduces ingress of sulphates and carbonation.
- Invulnerable to damage with long-lasting protection properties against water and moisture, hence, reducing maintenance costs of concrete structures.

Typical Properties

Appearance / Color	Cloudy liquid
Specific Gravity @ 23°C	1.03 ± 0.01
Chloride Content (EN 480-10)	Nil

Application Instructions

1. Direction of Use

Shieldproof ADL should be added into the gauging water of the concrete mix. The recommended minimum cement content is 350 kg/m³ with a maximum water/cement ratio of 0.45, and the mix design must be confirmed by trials to verify the properties of the concrete.

2. Dosage

1.0 – 2.0% by weight of cement and supplementary cementitious materials.

It is always recommended to carry out trial mixes, since the exact dosage rates depend on many factors such as required slump, quality of cement and aggregates, water/cement ratio, ambient temperature etc.

- An excessive dosage may cause retardation of setting time, without negatively affecting the final strength of concrete.
- Never add **Shieldproof ADL** to dry cement or dry aggregates.
- It must be considered that a low water/cement ratio increases the water impermeability of concrete.

It is advised to reduce the required quantity of water by the same addition rate of admixture (1:1).

3. Dispensing

Shieldproof ADL is added to the gauging water or simultaneously poured with it into the concrete mixer at the batching plant.

Shieldproof ADL is suitable for use with all types of Portland cement (OPC and SRC) and cement blends with supplementary cementitious materials such as GGBS, PFA, and micro-silica.



4. Concrete Placement and Curing

When using **Shieldproof ADL** in concrete, it is important to observe the rules for best-demonstrated concreting practices in production, placing, and curing. ACI Manual of Concrete Practice can provide valuable guidance.

Fresh concrete must be cured properly especially at high temperatures in order to prevent plastic and drying shrinkage. Apply a curing compound or use wet hessian and polythene.

5. Cleaning

Collect and dispose of spillage. Do not discharge into drains or watercourses or onto the ground. Soak up with an inert absorbent or container and remove in the best available method.

Shelf Life and Storage

Shieldproof ADL has a shelf life of 12 months when stored in its original unopened packaging in cool and dry conditions, protected from direct sunlight, heat, and moisture. Shelf life may be reduced if the recommended storage conditions are not followed.

Packaging

Shieldproof ADL is supplied in 20-, 25-L jerrycans and 1000-litre tanks. Bulk delivery on request.

Safety Instructions

Refer to the most recent Material Safety Data Sheet for information and advice on the safe handling, storage, and disposal of the product.

Limitations

- The mix design must be proportioned for the local materials used and trial mixes performed to verify admixture dosage to give the required concrete properties.
- If frozen and/or if precipitation has occurred, only use the admixture after it has been totally thawed and mixed.
- Do not add directly onto dry cement or aggregates.
- When using high-workability concrete, take special care that formwork is properly installed and secured.
- If the setting time of the concrete is extended, ensure proper curing. In this case, other properties may not be affected, and a higher ultimate strength can be achieved.
- Check compatibility when using with other admixtures.

Technical Support

Refer to technical information, method statement, or contact technical support team for any inquiry.

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Version 230515 SP-AF-ADL-002

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