

# SERVIULTRA SEAL®

High performance, one component, negative and positive waterproofing cementitious lining.

## Description

**Serviultra Seal** is **Prompt** cement based premixed mortar as a sole binder, therefore it have all the **Prompt** cement properties. The mix design includes silica quarts fillers, graded high purity sands and rheology adjustors. The mix contains no chlorides, ferrous metal or other deleterious materials. The product is pre-blended and ready for mixing on site to produce a non-shrink, easy to apply, homogenous mortar which rapidly hardens to a strong bonding and impervious material ideal as a waterproof lining either on substrate side at the source of the water (Positive) or on the opposite side (Negative). **Serviultra Seal** may be applied on all types of substrates; concrete, bricks or stones.

A rapid setting version named **Serviultra Seal-R** is available providing a very fast setting time for fast repair applications & fixing. An unwashable Version for under water works is available under the name **Serviultra Seal-UW**.

## Advantages

- Dual sealing by the action of Alumina gel formation and the high compactness Calcium Silicate hydrate.
- Decreased permeability as well as characteristics improvement over 10 continued years of water contact.
- Continuous sealing of cracks and voids by autogeneous healing due to the slow hydration of Dicalcium silicate(C<sub>2</sub>S).
- Resists alkalis and acids of PH as low as 4.
- Resists carbonation providing excellent protection to steel reinforcement.
- Formulated for short and long term efficiency – Life time.
- Nontoxic, suitable for food industry and potable water.
- Excellent adhesion.
- Unlike sheet linings, it doesn't need surface smoothing before application.
- Doesn't need any protection against abrasion or U.V. after application.
- Unlike bituminous waterproofing systems, it will never break down under microbiological activity.

## Uses

**Serviultra Seal** can be easily used to line vertical, horizontal or overhead substrates whether the application is interior or exterior. **Serviultra Seal** linings are resistant to all types of ground table water, sea water, brackish water, sanitary sewage and industrial sewage. Typical waterproofing applications include but are not limited to:

- Sewage treatment plants.
- Water retaining structures.
- Foundations.
- Negative waterproofing linings.
- Pointing and laying sewage bricks.
- In and around the sea.
- Fast concrete repair.

## Standards & Specifications

|  |                         |
|--|-------------------------|
| Color                                      | Grey                    |
| Setting time                               | 20 min. @ 20°C          |
| *(Setting time is adjustable upon request) |                         |
| Toxicity                                   | Non-toxic               |
| Fresh density                              | 2.2 Kg/liter            |
| Adhesion                                   | > 10 Kg/cm <sup>2</sup> |



**Linear Shrinkage** typical value at 28days according to BS EN 12617-4 (%): 0.04%

**Linear Expansion** typical value at 28days according to BS EN 12617-4 (%): 0.01%

**Compressive Strength** typical values (MPa) according to BS EN 196-1

Water to powder ratio = 0.16 by weight

| 24 hours | 7 days | 28 days | 56 days | 90days |
|----------|--------|---------|---------|--------|
| 28       | 33     | 37      | 40      | 42     |

\*Compressive strength is increasing thereafter.

**Depth of water penetration: (According to BS EN 12390-8)**

| Age(days)/pressure(bar) | 14 days /1.0 bar | 28 days / 2.0 bar | 56 days / 3 bar |
|-------------------------|------------------|-------------------|-----------------|
| Penetration (mm)        | 0                | 0                 | Na              |

**Package & Coverage**

**Serviultra Seal** is supplied in 25 Kg bags. (Other sizes maybe available upon request)  
 After mixing with water, the 25 Kg bag yields about 12.75 liters of mortar covering 1.0 m<sup>2</sup> of about 12.5 mm thickness achievable in two layers on an even surface.  
 Allowance should be made for any possible wastage or surface unevenness when estimating.

**Application Instructions**

**Surface preparation**

All substrates should be clean, free from dust, loose particles, grease, oil or any other foreigner matter.  
 All concrete surface defects (Honey combs, Rock pockets, air voids .....etc.) should be repaired following a proper repair procedure, using **Serviultra Seal**, water is to be added to the dry mix while mixing with gloved hands to a mastic consistency. Before applying **Serviultra Seal**, all surfaces should be saturated with water with no running water (saturated surface dry). No bonding agent is required.

**Mixing**

- In a suitable container add 3.50 – 4.0 liters of potable water and start mixing with a slow speed drill (350 - 450) rpm while adding gradually the content of a 25 Kg bag of **Serviultra Seal** for enough time to produce a homogeneous mix.
- Mechanical mixing is essential for a rapid and homogeneous mix. Forced action pan mixers or free fall mortar mixers are suitable.

**Application**

- **Serviultra Seal** can be applied in a single application or multiple layers depending on the task conditions.
- The mortar should be pressed firmly with the trowel to insure a good compaction and bond with the substrate.
- If successive layers are required, they should be applied immediately after the previous layer and finished as usual.
- If time elapsed between two successive layers, the previous one should be thoroughly wetted prior to the application of the second one. There is no limit for the total applied thickness due to the low heat of hydration.
- Once the applied mortar is hard enough, it should be cured for at least 24 hours by means of water, wet hessian or by using a curing compound.
- For waterproofing, the average lining thickness will be 12 mm with a tolerance of ± 2 mm applicable in two layers.

**Precautions**

- Protect the **Serviultra Seal** bags from direct sun rays or any other source of heat before use, this can lead to a very fast setting.
- Avoid working on hot substrates.
- Avoid mixing with hot water.
- **Avoid contact with gypsum or any other sulfates on substrate, mixing water or curing water in plastic state.**

**Health and safety**

**Serviultra Seal** is alkaline when mixed with water and should not come into contact with skin or eyes. Avoid inhalation of dust during mixing and wear safety glasses, dust mask and gloves. If skin contact occurs, wash thoroughly with clean water. Should eye contact occur, rinse immediately with plenty of clean water and seek medical advice.  
 Full health and safety data are given in Product Safety Data Sheet.

**Storage & shelf life**

**Serviultra Seal** should be stored in normal temperature and closed shaded dry area in undamaged original packing. It is recommended to be re-tested after 6 months from the production date.

**Technical support**

For any technical support, please consult our technical office or representatives.