

THOROSEAL[®] FX100

Elastomeric Waterproof Coating for Concrete and Masonry In Water Retaining Structures Subject to Movement

DWI APPROVED FOR USE WITH POTABLE WATER

Description of Product

THOROSEAL[®] FX100 powder and liquid when mixed forms a brushable waterproof slurry, which cures to a flexible elastomeric membrane. It is applied to a minimum 2 mm thickness in two coats by stiff brush, broom or spray

Fields of Application

- Water retaining structures which may be subject to movement.
- Retaining water of a low pH or soft quality
- Waterproofing of new structures where movement is expected from drying shrinkage
- To provide anti carbonation protection to concrete

Note: THOROSEAL[®] FX100 is not suitable for prolonged contact with hydrocarbons such as petrol, fuel oil, etc.

Features and Benefits

- DWI approved for use with potable water
- Quick and easy brush or spray application
- Applied to a damp substrate, no drying out of the substrate required
- Solvent free – safe to handle and use, environmentally friendly
- Will accommodate movement up to 0.5mm
- Internal or external application to concrete and masonry
- Effective method of treating cracks and joints

Typical Properties/ Technical Data ^(a)

Wet Density, kg/m ³	1680
Max particle size, mm	0.6
Water resistance, bar	
Positive pressure	1.5
Negative pressure	1.0
Water vapour permeability, μ	985
CO ₂ permeability, μ	100,000
Or at 2mm is equivalent to 500mm of P35 grade concrete cover	
Resistance to chloride ion penetration, %	0.001
Water absorption (ASTM 642C), %	1.5
Crack/joint movement accommodation, mm	0.5
Reinforced with mesh	1.5
Freeze/thaw resistance (ISO/DIS 4846.2)	No scaling after 50 cycles
Tensile strength (28 days), N/mm ²	0.64
Adhesive strength (28 days), N/mm ²	1.00

^(a) Typical values at 20°C

Colours

Available in Grey and White

Tests and approvals

Approved by the Secretary of State for the Environment under Regulation 25 (1)(a) for use in contact with potable water. Specific instructions for use are available upon request.



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Application Procedure

For tanking applications refer to the Thoro Basement Waterproofing Guide.

Substrate quality

Substrates to be treated must be completely clean, structurally sound and mechanically keyed. All surface coatings, defective renders, foreign matter, formwork treatments and other contaminants that may affect the bond adversely should be removed

Substrate Preparation

Substrates should be prepared by abrasive blasting or high-pressure water treatment. *Do not* use scabbling or any other aggressive method.

All mortar joints to be flush-pointed.

Repair with WATERPLUG and/or THORO[®] STRUCTURITE as required.

All wall/floor intersections to be prepared by cutting a 20mm by 20mm chase along the junctions and filling with WATERPLUG, finishing in an angle fillet to "round out" the junction.

Water infiltration through the substrate to be treated should be either diverted by drainage or concentrated at weepholes, which will be plugged with WATERPLUG after the application of the final coat of THORO[®] FX100.

Basements in areas containing high levels of soil or ground water sulphates may require a pre-treatment render. Consult BASF Construction Chemicals (UK) for details.

Mixing

Liquid content

10 litres of THORO[®] FX100 liquid per 25 kg bag of THORO[®] FX100 powder.

Mechanical mixing

Provide adequate ventilation when mixing and applying THORO[®] FX100 powder and liquid.

Blend the powder into the mixing liquid. Use a suitable mixing paddle in a slow speed drill (400 - 600rpm). Mix until a lump-free, slightly viscous slurry is obtained. This should be achieved within 2 minutes. *Do not over mix.*

Allow the mixed material to stand for 10 minutes for full saturation to take place. If applying by spray add 0.4litre of THORO[®] FX100 liquid. Re-mix for 10 - 20 seconds before use.

Mixed material must be used within 60 minutes from the start of mixing, or less under hot weather conditions.

Do not re-temper the mix.

Application

Note: Do not apply to frozen substrates or if the ambient temperature exceeds 30°C or is below 5°C or expected to fall below 5°C within 24 hours.

Always apply the mix to a pre-dampened substrate. High-suction substrates require more dampening than dense substrates. Ensure there is no free standing water on the substrate prior to application. The nominal thickness per coat must be between 1.0 and 1.5mm.

Application methods

THORO[®] FX100 can be applied by *THORO BRUSH, broom or spray. **THORO[®] FX100 must not be applied by trowel.**

* A suitable brush will be 6" (150mm) in width and have a short pile comprising stiff nylon bristles of 3" (80mm) in length.

The first coat **MUST** be worked into the substrate with a stiff brush, while still wet, to ensure an intimate bond to the substrate, even when applied by spray.

First coat

Apply a first coat of THORO[®] FX100 at a minimum thickness of 1mm by brush, broom or spray. Work the mix firmly onto the pre-dampened, prepared substrate by brush or broom. After completing 2 or 3m², strike off with the brush or broom in one direction for a neat appearance and to provide a mechanical key for the second coat.

Care must be taken not to spread the material too thinly. When the material begins to drag or "ball", do not add more liquid, but dampen the substrate again. When applying by spray use a 3-4mm nozzle at a pressure of 3.6 - 5.0 bar (50-70lb/in²).

Allow at least an overnight cure before applying a second coat. Apply the second coat when the first coat is sound enough to receive it without damage.



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Second coat

Dampen the first coat and remove excess moisture. Brush, broom or spray the second coat of THOROSEAL® FX 100 at a minimum thickness of 1mm, onto the substrate (as above) and finish at right angles to the previous coat.

To aid proper coverage the second coat should be a different colour, for example, white on grey.

If the second coat is to be the final finish, it may be finished with a brush or sponge float to give a uniform surface.

If a cementitious plaster or render is to be applied then finish the THOROSEAL® FX 100 with horizontal brush strokes to give more grip. In most situations, these can be applied the next day. If this is likely to be delayed for some time, then the THOROSEAL® FX 100 should be sand dashed immediately after application to aid adhesion.

Never use a gypsum based plaster to cover THOROSEAL® FX 100 in a tanking application.

Curing

Damp cure for 24 hours after which time the THOROSEAL® FX100 must be allowed to air dry. In cold, humid or unventilated areas it may be necessary to leave the application for a longer curing period or to introduce forced air movement.

NEVER use dehumidifiers during curing periods.

Cleaning up and spillages

Tools, equipment and spillages should be cleaned immediately with clean water. Dried material should be removed as soon as possible with xylene.

Additional Information

THOROSEAL® FX 100 stops running water but remains vapour permeable throughout its life. Only vapour permeable coatings and finishes can be applied on to the substrate.

In above ground conditions, MASTERSEAL F1131 is recommended.

All closed areas such as basements or cellars must have adequate ventilation or condensation on the walls will occur. It is most likely to form in areas, which were previously damp. Increasing the ventilation and/or plastering the walls with a lightweight, **cement-based** plaster can alleviate the formation of condensation.

For details of curing periods, wash down procedures and return to service times for applications in contact with potable water, refer to specific IFU (instructions for use).

Coverage per pack

Approximately 21m² per pack at 1mm thickness in one coat.

Apply 2 coats.

Coverage is influenced by the roughness of the substrate. On rough substrates the quantities required will increase significantly.

Packaging

THOROSEAL® FX100 powder is available in 25kg bags.

THOROSEAL® FX100 liquid is supplied in 10ltr plastic containers.

Storage

THOROSEAL® FX100 should be stored under cover, clear of the ground and stacked not more than 6 bags high. Protect the materials from all sources of moisture and frost.

Shelf Life

Rotate stock in order not to exceed the shelf life of 6 months.

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Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Powder Products

Should be handled to minimise dust formation; use light mask if excessive dust unavoidable. Cement powders when wet or moistened can cause burns to skin and eyes, which should be protected during use.

Resin Products

Can cause irritation, dermatitis or allergic reaction. Use protective equipment particularly for skin and eyes. Use only in well ventilated areas.

Spillage

Chemical products can cause damage; clean spillage immediately.

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