

KEMSEAL SF

Flexible Polymer Cementitious Waterproofing For Concrete And Masonry

1 .Description:

KEMSEAL SF is a two component cementitious flexible polymer modified waterproofing for concrete and masonry.

KEMSEAL SF has a unique blend of selected cement, filler and additives applied in powder form (Part A) together with flexible polymer in liquid form (Part B).

The polymer liquid is especially designed to provide high flexibility when mixed and applied on concrete or masonry by mean the coating has a very high elongation and compatible with the concrete thermal expansion. **FIBER MESH** is a fabric which can be used in strip form over joints and cracks or as reinforcement for the whole application. The material can be manufactured based on sulphate resistant cement Type V.

Standard:

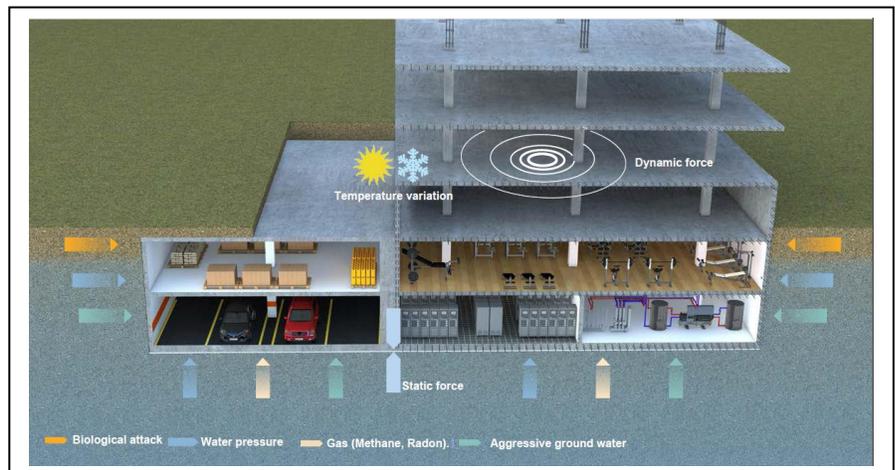
The material complies with ASTM C-190, C-580

2 .Scope:

Prokem is a leading waterproofing company in Egypt and has been producing innovative and high quality waterproofing products since 1997.

Our fully integrated and compatible system solutions are

sustainably produced and well proven in practice for many decades all over Egypt tested and certified according to various international test standards. *Prokem* offers clients, specifiers and contractors the security of clearly defined performance characteristics and the most robust solutions for their specific requirements.



Waterproofing systems for below ground structures are faced with stringent requirements regarding durability, exposure and stress conditions. Today, owners generally request a service life of buildings of 20-30 years or more and infrastructure of up to 50 years. Lack of watertightness can severely reduce the long-term durability of buildings and below-ground structures. This can badly affect its planned use as water

ingress will result in physical attack and deterioration of the concrete and embedded steel.

3. Basement waterproofing concept:

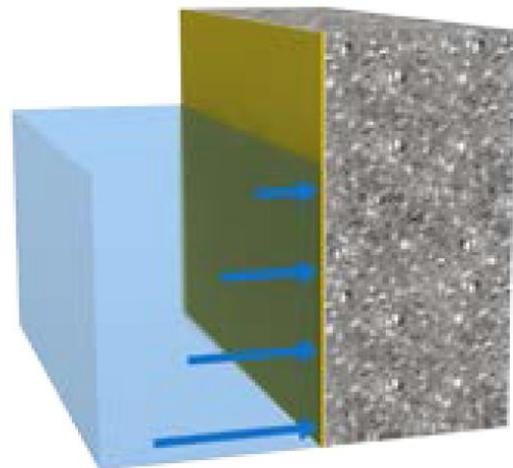
BS 8102:2009 outlines three different waterproofing methods, the choice of which should take the entire relevant project requirements into consideration. The standard suggests consideration be given to the use of dual systems. For example, Type A plus Type B protection where the assessed risks are deemed to be high or the consequences of a failure to achieve the required internal environment are too high.

Prokem are able to offer a complete solution in these circumstances.

3.1. External waterproofing system (type A)

A waterproofing barrier applied on the external surfaces that are exposed to ground water (positive side). The structure is protected against water ingress and also against any aggressive substances or influences.

For some materials such as post applied waterproofing mortars and coatings, access to the external surfaces is required for application after concreting

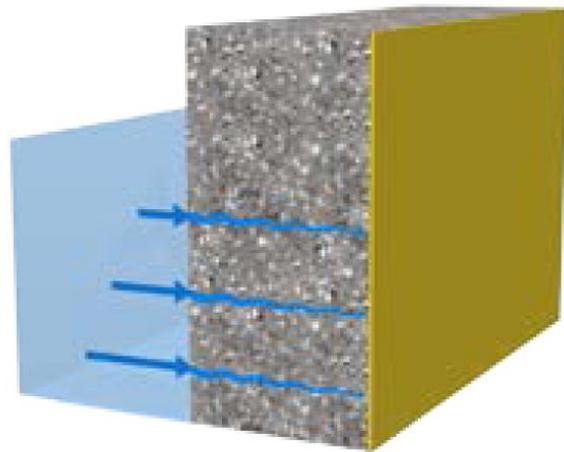


- Grade of watertightness: Grades 1–3 plus additional requirements
- Application: New construction
- Protection provided: Waterproofing & concrete protection
- Durability: Low to high durability (dependent upon application)

3.2. Internally applied waterproofing system (type B)

A waterproof barrier is applied on the internal surfaces of the structure (negative side). These systems do not prevent damage to the structure from water ingress, or concrete damage due to aggressive chemicals. Generally these systems are applied as coatings or sheet membrane linings, and are recommended for refurbishment works for example where access to the directly exposed surfaces is not possible.

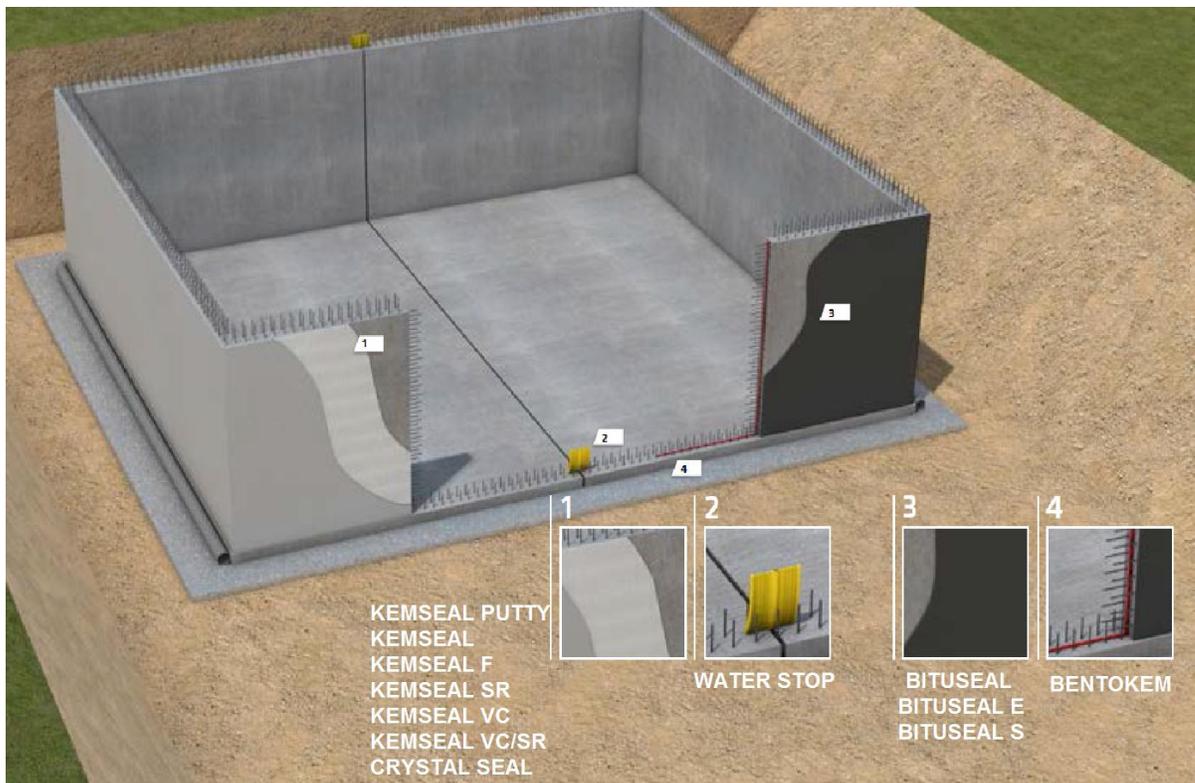
- Grade of watertightness: Grades 1 – 3
- Application: Generally for refurbishment or as additional measures
- Protection provided:
Waterproofing
- Durability: limited durability (as the structure is unprotected)



FAST TO APPLY, CRACK-BRIDGING, CEMENTITIOUS BASED MEMBRANES.

Prokem cementitious applied membranes (CAM) are highly elastic and flexible polymeric systems, usually based on cementitious membrane with excellent technical properties for high performance applications. These materials are applied on prepared / primed external concrete surfaces by spraying and provide excellent solutions for complex detailing.

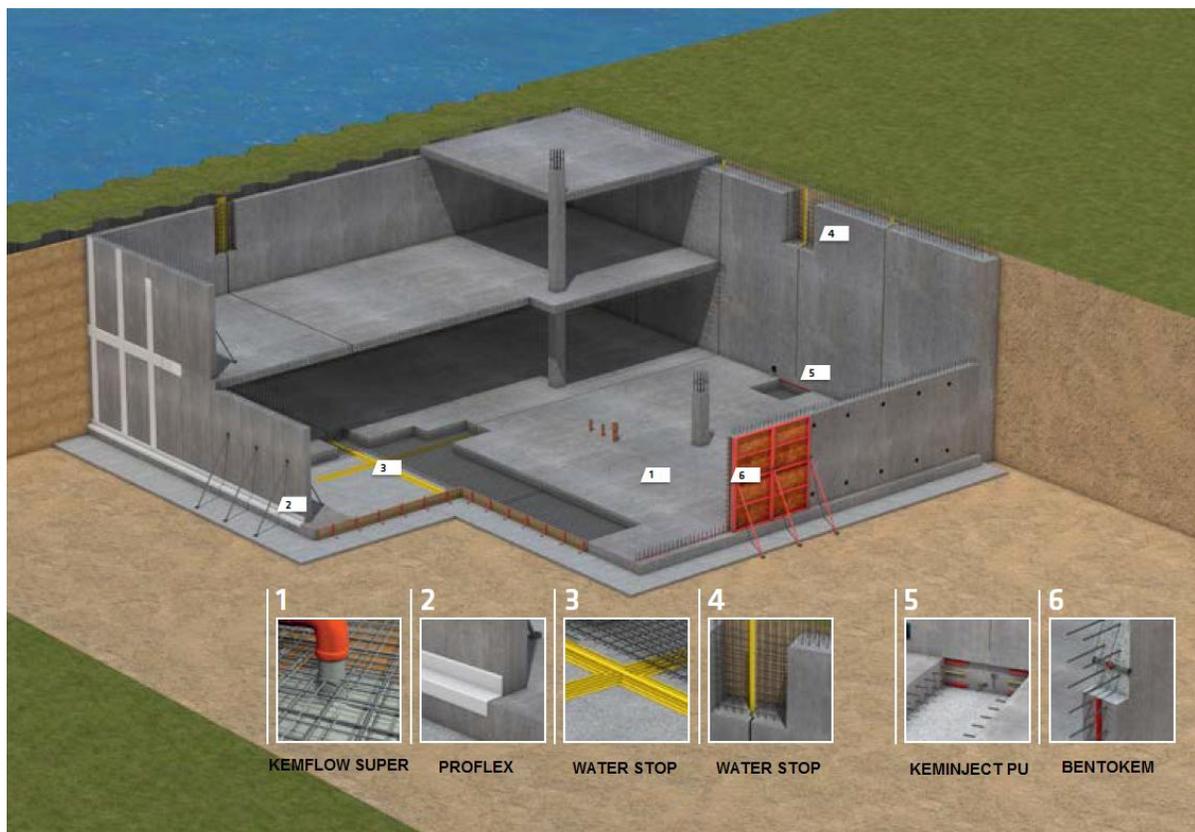
Cementitious applied membranes will also prevent any lateral water underflow in the event of local damage. Application below the base slab is done on a special fleece before the structural concrete slab is placed.



Prokem Watertight Concrete

Prokem are the market leader in concrete waterproofing technology.

Combining this with our expertise in waterproofing has led to the development and evolution of the *Prokem* Watertight Concrete System.



4. Applications such as potable. Water tanks, sprinkler tanks, attenuation tanks, clean and dirty water systems require a specific approach to keeping water in and protecting groundwater against pollution.

4.1. POTABLE WATER TANKS/PITS AND PONDS

Potable water tanks and reservoirs can be protected in various ways including the use of **KEMSEAL SF** or **CRYSTALSEAL** applied systems. Joints and cracks in the structure are commonly sealed using **PROFLEX** system.



4.2. PRIMARY AND SECONDARY SEDIMENTATION TANKS

Retention pools, tanks of sewage water or chemical effluents require chemically resistant linings for protection of the subsoil and groundwater against pollution. Following the specific requirements **KEMSEAL SF**, **CRYSTALSEAL** or epoxy coatings may be chosen.



5. How to use:

5.1. Surface preparation:

5.1.1. Surfaces to be coated with **KEMSEAL SF** must be clean and sound, free of dust loose particles, grease, oil, curing compounds, mould oils, primers from previous membrane systems or bitumen.

5.1.2. Bitumen or primers should be removed by shotblasting or mechanical means.

5.1.3. Spelled concrete should be repaired by cutting out to sound concrete and patching with **KEMREPAIR**.

5.2. Mixing:

5.2.1. **KEMSEAL SF** is supplied in premeasured units.

5.2.2. Slowly add the **KEMSEAL SF** powder to the **KEMSEAL SF** liquid in a suitable mixing container and mix to a lump free smooth consistency.

5.2.3. Do not add water or rework a stiffened mix by adding water.

5.2.4. Leave to stand for 10 minutes and re-mix. Using a drill paddle specially designed to entrap as little air as possible.

5.3. Application:

5.3.1. Dampen surface immediately ahead of application.

5.3.2. Do not apply **KEMSEAL SF** as a thin paint coat, lay it on the wall and level it out.

5.3.3. If wall becomes dry or **KEMSEAL SF** starts to pull during application, dampen the wall again.

5.3.4. Do not thin out the material.

Reinforcing with **FIBERMESH** if required: **FIBERMESH** is embedded in the first coat when it is still wet.

Once cured, a 2 mm thick **KEMSEAL SF** membrane will accommodate movement up to 0.5-1.2 mm when reinforced with **FIBERMESH**

5.3.5. Please consult *Prokem* technical office for more information on specific applications.

6. Theoretical Coverage:

- Approximately 2.0-2.5 kg/m² for two layers depending upon porosity of surface.
- Two coats are recommended.
- For reinforced system 3.5 - 4.0 kg/m²

