

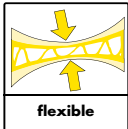
Watertite WA16

Wet area composite waterproofing system

Designed for swimming pool and heavy traffic areas

CHARACTERISTICS

- ▶ Good flexibility.
- ▶ High chemical resistance
- ▶ Good mechanical properties
- ▶ Anti-fungal/ Anti-bacterial
- ▶ Good adhesion to both, porous and non-porous surfaces
- ▶ Good mechanical properties
- ▶ For ceramic tiles (glazed & terracotta), vitrified tiles, porcelain tiles, mosaic tiles and natural stones like granite, sandstone
- ▶ Easy workability
- ▶ Crack resistance
- ▶ Smooth surface finish



DESCRIPTION

Watertite WA 16 composite waterproofing membrane and tile finish system is specifically designed for water body structures which are continuously subjected to high water pressure together with cleaning and water purifying chemicals.

FIELDS OF APPLICATION

- Swimming pools, Large tiles and heavy traffic areas

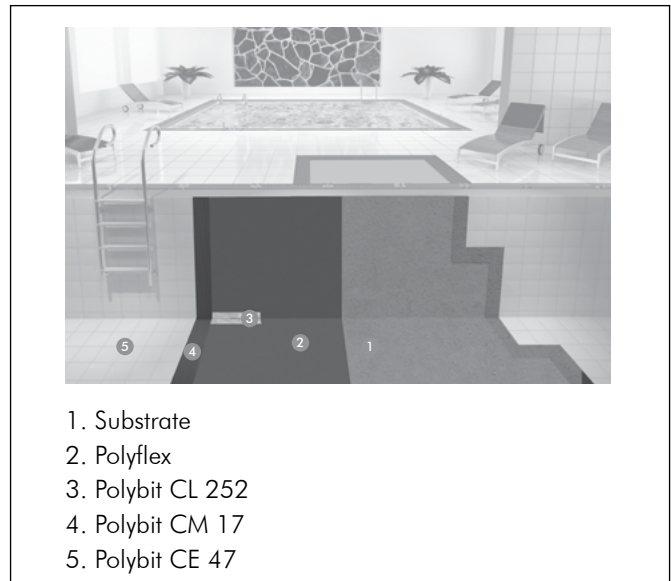
WATERPROOFING SYSTEM

Swimming pools are large water body structures which are continuously subjected to high hydrostatic pressures and load. Together with that the tiling finish system is exposed to cleaning chemicals. The water exposure on such structures are categorized as high exposure to permanent internal water pressure, indoors and outdoors. The different components of the composite waterproofing membrane with tile finish system are as follows:

Polyflex - A two component polymer mortar composite flexible water proofing slurry is applied at a minimum thickness of 2mm in two coats on the concrete surface to protect the underlying screed against moisture penetration. All corners, joints, edges, floor drains and other penetrations is sealed with Polybit CL252 non-woven sealing tape which is embedded onto the 1st coat of the waterproofing coating.

TILING SYSTEM

Fixing of the ceramic tiles or glass mosaic tiles is done using Polybit CM17 flexible tile adhesive using the thin bed fixing method.



1. Substrate
2. Polyflex
3. Polybit CL 252
4. Polybit CM 17
5. Polybit CE 47

Joint filing of the tiles is done with Polybit CE 47 chemical resistant epoxy resin based joint filling grout.

APPLICATION INSTRUCTIONS OF WATERPROOFING SYSTEM

The application temperature should be between 5°C to 45°C. Application procedures may vary slightly depending upon site conditions. The general recommended guidelines for the application of the coating system is as follows:

Surface preparation

The surface must be structurally sound and free of oil, grease, dust and other contaminants which will affect the bonding. Any structural cracks and potholes shall be repaired with a suitable repair mortar from the Polycrete* range of repair mortars. The surface to be treated should be pre-saturated with water prior to application. However, any standing water shall be removed prior to application.

Mixing

Polyflex is supplied in two pre-measured parts which just requires on site mixing. Do not mix more material than that can be used within the pot life. Part mixing can be carried out by mixing 3 parts of powder with 1 part of liquid (by weight). Pour the liquid into a suitable container and slowly add the powder to the liquid. Mix the contents using a slow speed drill (300-400rpm) fitted to a proprietary paddle mixer till a homogenous, lump free and creamy consistency is achieved. DO NOT ADD WATER TO DILUTE THE MATERIAL.

Application

It is recommended to apply Polyflex in two coats to provide a minimum thickness of 2mm. Each coat shall be applied @1.8 kg/m² which will give a dry film thickness of 1mm. The coating can be applied with a stiff brush or by an airless spray of nozzle size of 3-4mm and a pressure of 6-7 bar. After the application of the first coat and whilst the coating is still wet, embed a glass fibre mesh (CL 252 or similar materials) at all corners and other joints for added reinforcement. The second coat shall be applied after the first coat dries off completely (6-8 hours @25°C, 50% rh). For general protection against carbonation and alkali attacks, the coating can be applied in minimum 1mm thickness.

Protection

Adequate protection needs to be provided for the coating in the following conditions:

- Areas subjected to mechanical abrasion
- Flowing water areas

Curing

The coating shall be cured immediately after it dries by wet hessian cloth or mist spraying for a minimum period of 72 hours. The coating will achieve its full mechanical properties within 7 days at 25°C and 50% rh.

APPLICATION INSTRUCTIONS OF TILING SYSTEM

Substrate preparation

Polybit CM 17 adheres to all solid, load bearing, clean, dry and moist substrates free of substances which may impair adhesion.

- concrete (residual moisture ≤2%)
 - anhydrite substrates without floor heating (residual moisture below 0.5%) and gypsum (residual moisture below 1%) substrates – mechanically roughened, cleaned from dust and primed with CT 17
 - aerated concrete (free from dust and primed with CT 17)
- Substrates must not be wet. Any existing dirt, loose layers and paint coating with low strength shall be mechanically removed. Absorbent substrates shall be primed with CT 17 and left to dry for at least 2 hours. Surface unevenness of up to 5 mm can be filled on the previous day using Polybit CM 17 mortar.

Application of Polybit CM 17

Pour Polybit CM 17 into the precisely measured amount of clean water (25-29% by weight, 6.25 – 7.25L for 25 kg) and mix with a drill and mixer until a homogenous mass without lumps is reached. Leave for 3 min. and then mix again. Apply the mortar with a suitable notched trowel on the substrate. Size of trowel teeth depends on tile size. For indoor use, the mortar coverage (wetting) on the tile backside must be at least 65%. The floating-buttering method shall be used for larger tiles and for outdoor applications (i.e. additionally a thin layer of the mortar should be spread on the tile's backside, wetting equal or more than 90%). Place the tiles only during the open time of the adhesive. The width of grouts should be the same and should depend on tile size and exposure conditions. Fresh excess mortar can be removed with water; hardened material can only be mechanically removed. Grouting can be done after approx. 12 hours using Polybit grouts. Walkability is reached after 24 hours. Expansion joints, joints at the corners of walls and floor and around sanitary equipment shall be filled with silicone sealant. Work should be carried out in dry conditions at an air and surface temperature from 5°C to 45°C

Application of Polybit CE 47

CE 47 adheres to all solid, load-bearing, clean and dry surfaces free of substances which can cause separation.

The surface, thin-bed mortar or bedding mortar must have set sufficiently hard, and joints must have been uniformly scraped. CE 47 is supplied in two components in either a single container or two separate containers. Add hardener (component B) to the base solution (component A) and mix with an electric drill and mixer attachment at approx. 400-800 rpm until completely free of lumps. It is absolutely necessary to lift off the complete tin lid, using e.g. a screwdriver or trowel, and to scrape the hardener (component B) with a spreader or trowel completely out of the upper into the lower container (component A = resin) where the 2 components are mixed until a homogeneous mixture is obtained. When using only partial amounts, it is necessary to remove them by scraping from the two containers. Afterwards they can be closed again. Ensure a uniform, homogeneous color of the mixture.

Screeding Technique

Apply the CE 47 mixture with an epoxy grouting board to the dry and clean ceramic coverings, filling the points completely and without any cavities. Then remove any excess material by skimming it diagonally off the tile surface.

Cleaning

Emulsify any excess CE 47 on the tile surface by making circular movements with a coarse sponge pad and very little water. Wipe off the resulting slurry with a soft sponge (hydro sponge). Then wipe again using a clean, soft sponge and very little water. Frequently rinse the sponge in clean water. Do not begin cleaning the surface before CE 47 has started to set. For final cleaning wait at least 3 but no more than 6 hours to remove the remaining film from the tile surface with a soft sponge. Cleaning is facilitated if approx. 10 % spirit is added to the cleaning water. Warm water also facilitates cleaning.

PLEASE NOTE

Use CE 47 only at surface and air temperatures of 10°C to 40°C. CE 47 contains epoxide compounds. CE 47 in white may discolor (yellow) if exposed to heavy UV Light. Should you need support or advice, please consult our technical service.

STANDARDS

Tested and conforms to C2TES1 Class as per EN 12004, ANSI A118.4, ANSI A118.3

STORAGE & SHELF LIFE

Store in a cool, dry place and keep away from all sources of heat and sunlight. The shelf life is up to 12 months when stored as per recommendations and in unopened conditions.

HEALTH & SAFETY

As with all construction chemical products caution should always be exercised. Protective clothing such as gloves and goggles should be worn. Treat any splashes to the skin or eyes with fresh water immediately. Should any of the products be accidentally swallowed, do not induce vomiting, but call for medical assistance immediately.

SUPPLY

| | |
|-------------------|--|
| Polyflex 20kg kit | (Part A 15kg bag) (Part B 5L pail, wt 5.0kg) |
| Polybit CL 252 | 100mm x 50m |
| Polybit CM 17 | 25 kg paper bag |
| Polybit CE 47 | 5Kg Kit |

TECHNICAL SPECIFICATION - WATERPROOFING SYSTEM

| PROPERTIES | VALUES | TEST STANDARDS |
|---|-----------------|-----------------------|
| color | Grey/ off white | - |
| Mixed density, [g/cc] | 1.8±0.02 | ASTM D 1475 |
| Pot life, [minutes] | 45 | - |
| Tensile strength, # [N/mm ²] | > 8 | ASTM D 412 |
| Elongation, [%] | > 50 | ASTM D 412 |
| Adhesion strength, [N/mm ²] | > 0.5 | ASTM D 4541 |
| Crack bridging, [mm] | > 0.5 | ASTM C 836 |
| Hydrostatic pressure @5 bar, [50m] | No leakage | BS EN 12390, (part 8) |
| Hydrostatic negative pressure @3 bar, [30m] | No leakage | BS EN 12390, (part 8) |
| Toxicity | Non toxic | BS 6920 [WRAS] |
| Reaction to fire | Class A | ASTM E 84 |
| Abrasion resistance, # [mg] | < 75 | ASTM D 4060 |
| VOC, [g/l] | < 50 | ASTM D 3960/ D 2369 |
| Drying time, [hours] | 6-8 | - |
| Full cure, [days] | 7 | - |
| Service temp, [°C] | -5 to 70 | - |

TECHNICAL SPECIFICATION - TILING SYSYTEM - POLYBIT CM 17

| PROPERTIES | VALUES |
|--|---|
| Base | Mixture of cements with |
| mineral fillers and modifier | |
| Color | Grey |
| Bulk density | 1.35±0.05 g/cc |
| Mixing proportion | 6.25 – 7.25L of water for 25Kg |
| Pot life | > 60 minutes |
| Application temperature | 5°C to 45°C |
| Walkability | approx. 24 hours |
| Grouting | after 12 hours |
| Temperature resistant | -30°C to 80°C |
| Tensile adhesion strength [ANSI 118.4] | <ul style="list-style-type: none"> - Initial >1.0 MPa - extended open time (30 mins) >0.5 MPa - after water immersion >1.0 MPa - after heat ageing >1.0 MPa - after freeze-thaw cycles >1.0 MPa |
| Slip | <0.5mm |
| Transverse deformation | ≥2.5 mm and <5 mm |

Amount required;

| Tile size | Notch depth | CM 17 [kg/m ²] |
|------------|-------------|----------------------------|
| up to 10cm | 4mm | 1.6 |
| up to 15cm | 6mm | 2.1 |
| up to 25cm | 8mm | 2.7 |
| up to 30cm | 10mm | 3.4 |
| Above 30cm | 12mm | 4.2 |

TECHNICAL SPECIFICATION - TILING SYSYTEM - POLYBIT CE 47

| PROPERTIES | | | VALUES |
|-----------------------------------|-------------------|----------------|--------------------------------|
| Base | | | Epoxy resin with mineral |
| fillers and additives. | | | |
| Fresh mortar density | | | approx. 1.6 kg/dm ³ |
| Mixing ratio | | | A : B = 3 : 1 parts by weight |
| Application temperature | | | 10°C to 40°C |
| Application time | | | approx. 90 minutes |
| Open time | | | approx. 90 minutes |
| Load-bearing strength | | | after 24 hours |
| Chemical resistance | | | after 7 days acc. to |
| resistance table 1.40 | | | |
| Temperature resistance | | | -30°C to 100°C (dry heat) |
| Bond strength [ANSI 118.3] | | | > 1000 Psi [14days] |
| Initial setting time [ANSI 118.3] | | | 4hours |
| Linear shrinkage [ANSI 118.3] | | | <0.15% |
| Tensile adhesion strength | | | > 15 N/mm ² [7days] |
| Tile size in cm | Tile thickness mm | Joint width mm | Amount kg/m ² |
| 5 / 5 | 5 | 4 | Approx. 1.3 |
| 10 / 10 | 8 | 4 | Approx. 1.0 |
| 15 / 15 | 6 | 6 | Approx. 0.8 |
| 10 / 20 | 6 | 6 | Approx. 0.9 |
| 10 / 20 | 10 | 8 | Approx. 1.9 |
| 20 / 20 | 10 | 8 | Approx. 1.3 |

All values given are subject to 5-20% variation

Apart from the information given here it is also important to observe the relevant guidelines and regulations of various organisations and trade associations as well as the respective standards. The aforementioned characteristics are based on practical experience and applied testing. Warranted properties and possible uses which go beyond those warranted in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23°C and 50 % relative air humidity at laboratory conditions unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed.

The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of wilful misconduct or gross negligence on our part. This technical data sheet supersedes all previous editions relevant to this product.