Watertite WA14

Wet area composite waterproofing system

Designed for indoor high-water exposure zones

CHARACTERISTICS

- Good flexibility.
- Thermal co-efficient of expansion similar to that of concrete
- Good adhesion to both, porous and non-porous surfaces
- Highly durable
- 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
- Anti-fungal/Anti-bacterial

DESCRIPTION

Watertite WA 14 system is a composite waterproofing membrane and tile finish system is designed for Public showers where the floor and wall surfaces are exposed to continuous water splashes without any hydrostatic pressure for longer duration time.

FIELDS OF APPLICATION

- Public showers, saunas, wellness centers

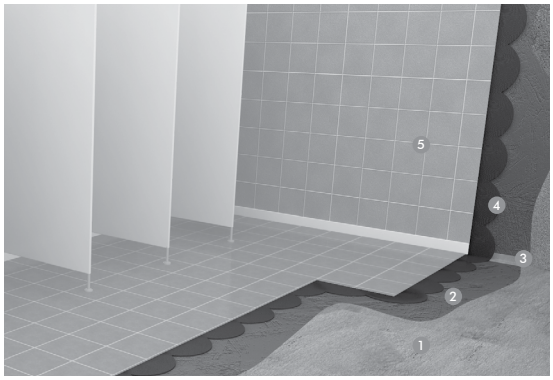
WATRPROOFING SYSTEM

Public showers or amenities are exposed to and subjected to continuous splashes of water for longer period of time. Such areas are categorized as high-water exposure zones without hydrostatic pressure for indoors. 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 covering is done with Polybit CM16 flexible tile adhesive using the thin bed fixing method. Filling of tile joints ranging from 1mm to 12mm widths is done with a specially formulated polymer modified cementitious joint filling grout Polybit CE33.



1. Substrate
2. Polyflex
3. Watertite CL 252
4. Polybit CM 16
5. Polybit CE 33

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 (Watertite 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 16 can be applied on even, load-bearing and compact substrates, free of any substances that reduce adherence (grease, bitumen, dust):

- 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 16 mortar.

Application of Polybit CM 16
Pour Polybit CM 16 into the precisely measured amount of clean water (7.5 – 8.5 L) and mix with a drill and mixer until a homogenous mass without lumps is reached. Leave for 2 min. and then mix again. Apply the mortar with a suitable notched trowel. 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. Do not lay tiles butt jointed, fresh excess mortar can be removed with water; hardened material can only be removed. Grouting on the wall can be done after 8 hours and after 24 hours in floor 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.

Application of Polybit CE 33
The surface and thin-bed mortar, dispersion adhesive or thick-bed mortar must have set sufficiently hard and dry. Scraped joints must first be wetted. In case of tile coverings with a porous or non-scratchproof surface test suitability of CE 33 for grouting.

Pour Polybit CE 33 in the measured quantity of cold and clean water and mix with an electric mixer until you obtain a homogenous mixture, free of lumps. 1.5 L of water are required for 5 kg of Polybit CE 33. Mix again after 3 minutes. Apply the joint mortars using the slurry technique. Wipe over and clean freshly grouted tiles with a damp sponge Remove the dry film later with a soft cloth. Dampen the freshly grouted joints after 24 hours to prevent surface moisture deficiency. Floor tiles can be walked on after only 24 hours. Use CE 33 only in dry conditions and at temperatures of 5°C to 40°C.

STANDARDS
Tested according to EN 12004, ANSI A118.4, ANSI A118.6 and EN 13888

STORAGE & SHELF LIFE
Polyflex and Polybit CM 16 is to be stored 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.
Polybit CE 33 shelf life is 24 months for 5kg foil bag and 12 months for 20kg paper bag if stored as per recommendations.

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)
Watertite CL 252	100mm x 50m
Polybit CM 16	25kg paper bag
Polybit CE 33	5 kg foil bag, 20 kg paper bag

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	Nontoxic	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 16

PROPERTIES	VALUES
Base	Mixture of cements with mineral
fillers and modifier color	Grey and white
Bulk density	Approx. 1.5 + 0.05g/cc
Mixing proportion	Approx. 7.5 – 8.5L of water for 25kg of powder
Initial maturing time	Approx. 2min
Pot life	Approx. 2hrs
Application temperature	From 5°C to 40°C
Walkability	After 24hrs @ 25°C
Temperature resistant	-30°C to 70°C
Tensile adhesion strength [ANSI 118.4]	Sec 5.3 >120 Psi [28days @ 20minutes] Sec 5.3 >100 Psi [28days @ 30minutes]
Sag on vertical surface [ANSI 118.4]	Sec 6.0 >120 Psi
Shear Strength of Glazed Wall Tile [ANSI 118.1]	Sec 7.1.2 >300 Psi [7days air curing] Sec 7.1.2 >200 Psi [7days water immersion]
Shear Strength of Porcelain Tile [ANSI 118.4]	Sec 7.2.2 >75 Psi [1days] Sec 7.2.3 >200 Psi [7days] Sec 7.2.4 >150 Psi [7days water immersion] Sec 7.2.5 >200 [28days]
Open time	Approx. 20 minutes
Initial tensile adhesion	≥ 01.0 N/mm^2
Amount required: Tile size up to 10cm up to 15cm up to 25cm up to 30cm above 30cm	 notch depth CM 16 [kg/m^2] 4mm 1.8 6mm 2.3 8mm 3.0 10mm 3.8 12mm 4.6

TECHNICAL SPECIFICATION - TILING SYSYTEM - POLYBIT CE 33

PROPERTIES	VALUES
Density	approx. 1.12 kg/ dm^3
Mixing ratios	1.5-1.6 L water at 5kg
6.0-6.4 L water at 20 kg	
Application time	90 min.
Application temperature	from +5°C to +40°C
Compressive strength [ANSI A 118.6]	@ 1day >600 Psi
@ 28days >3000 Psi	
Flexural strength [ANSI A118.6]	@28days >60 Psi
Trafficable	after 24 hours
Colors	available in 10 colors

Indicative consumption

Tile type	Size (mm)	Joint width (mm)	Consumption, (Kg/m^2)
Mosaic	5/5	1.5 - 2	approx. 0.5
Tile	5/5	3	approx. 0.8
Tile	10.8/10.8	2	approx. 0.35
Tile	15/15	3	approx. 0.38
Tile	10/20	3	approx. 0.38

All values given are subject to 5-20% variation

Henkel Polybit Industries Ltd.; PO Box: 293, Umm Al Quwain, UAE
Tel:+971(6)76 70 777; Fax:+971(6)76 70 197; henkelpolybit@henkel.com
Henkel Polybit Industries Ltd.; PO Box: 5911, Dammam-31432, KSA
Tel:+96613808 4061 / 62, Fax: +966 13 812 1164; polybitdammam@henkel.com
www.henkelpolybit.com