



## **WATERBLOK MULTI-PURPOSE RWPC**

### **GENERAL SPECIFICATIONS**

#### **1. COMPANY CONTACTS**

- 1.1. Web link – [www.waterblok.com.ph](http://www.waterblok.com.ph)
- 1.2. Email – [admin@waterblok.com.ph](mailto:admin@waterblok.com.ph)
- 1.3. Telephone – (+632) 448 6146
- 1.4. Fax – (+632) 448 6147 (local 808)

#### **2. MANUFACTURER**

Dalven Products cc, P.O Box 371, Eppindust 7475, Cape Town, South Africa

#### **3. MATERIAL DESCRIPTION**

- 3.1. **General Description:** Non-toxic, odor free, thixotropic, ductile, elastic, taint free, water based mineral filled emulsion of a refined grade of bitumen containing a high percentage of rubber latex.
- 3.2. Waterblok Multi-Purpose RWPC (RWPC) is a brush-applied water-based rubberized bitumen that forms a thick waterproof membrane impervious to water and suitable for an assortment of waterproofing purposes. It:
  - 3.2.1. Is environmentally friendly, water-based, non-toxic and virtually odorless
  - 3.2.2. Has a perfect balance between refined bitumen, rubber latex and mineral fillers enhancing its waterproofing capabilities
  - 3.2.3. Is highly elastic, does not lose its ductility and does not become brittle
  - 3.2.4. It can be applied to virtually any surface including but not limited to, concrete, cement, masonry, brick, stucco, metal, wood, PVC, asbestos, glass, roofing felt, asphalt surfaces, etc.
  - 3.2.5. Does not sag on vertical surfaces
  - 3.2.6. Remains unaffected by long term ponding of water, does not taint the water, no gradual “wash-out” occurs, does not affect aquatic life and fit for storage of potable water
  - 3.2.7. Is applied by brushes or brooms and highly effective on rough substrates
  - 3.2.8. Acts as a rust inhibitor
  - 3.2.9. Is easy to apply and no special skills or equipment is required

3.3. The product finds application in a great variety of instances including the following:

Earth Dam Linings	Galvanized Metal Roofs	Roof Decks	Gutters- metal, PVC, concrete
Concrete Reservoirs	Asbestos Roofs	Toilet / Bathrooms	Flashings
Galvanized Metal Tanks	Asbestos Tanks	Outer Basement Walls	Gables / Parapets

**Waterblok Multi-Purpose RWPC - General Specifications**

Concrete Canals	PVC Tanks	Foundations	Fire / Damp Walls
Chemical Waste Dams	Oxidation Ponds	Potable Water storage tanks	Concrete Slabs
Earth Canal Liners	Filter Beds	Balconies	Screw Holes
Waste- / Landfills	Animal Drinking Troughs	Solid Waste Disposal Areas	Roof Valleys
Fish Ponds	Asphalt Rejuvenation	General Waterproofing	Eaves

3.4. RWPC can also be used in conjunction with a non-woven needle punched geotextile fabric to reinforce edges, joins, drains and/or the entire area of application including earth dams.

**4. PRODUCT DELIVERY, STORAGE and HANDLING****4.1. DELIVERY:**

4.1.1. Materials shall be delivered in original sealed containers as shipped by the manufacturer.

**4.2. STORAGE:**

4.2.1. Store and use at temperatures between 5<sup>0</sup>C and 35<sup>0</sup>C. Do not store for long periods in direct sunlight.

4.2.2. RWPC can be stored for 12 to 24 months.

**5. ACCEPTANCE OF MATERIALS**

5.1. Only material supplied by or having been endorsed as being supplied by the sole distributor and importer Waterblok Systems should be accepted.

**6. APPLICATORS**

6.1. Submit proof of accreditation from Waterblok Systems or proof of enrolment in Waterblok Systems training program with accreditation to follow.

**7. ADDITIONAL MATERIALS**

7.1. Geotextile in accordance with specifications (non-woven needle punched polyester or polypropylene) from and approved by Waterblok Systems. In most cases a 105gsm (grams per square meter) geotextile will suffice. For water impounding applications a 150gsm geotextile is required.

**8. CONCRETE SUBSTRATES**

8.1. Curing periods for “green concrete” must be observed.

**9. SURFACE PREPARATION****CONCRETE AND MASONRY SUBSTRATES**

9.1. Chip off all plaster, irregularities and loose sections from concrete slab. Check concrete slab for structural and/or other defects such as honeycombs. Best method is through light chipping and pounding with a hammer. If such defects are found, it must be repaired. In

severe cases surfaces may need to be treated by light scabbling to remove unsound surfaces.

- 9.2. Existing surfaces onto which RWPC is to be applied should be in a sound condition and free of contaminants such as oil, paint and dust. Holes and cracks wider than 1mm should first be repaired with Waterblok Crack Sealer, a bituminous putty compound or a grout before the primer is applied.
- 9.3. Thoroughly clean the area to be waterproofed and ensure that all dirt, moss, dust and all other foreign matter are removed and the area is totally clean.
- 9.4. Before applying the RWPC primer coat, the surface to be covered may be lightly dampened to break down surface tension effects. The first coat may be applied onto a damp surface but with no free water or permanent dampness present.
- 9.5. Provide cement canting at all edges and pedestals. The minimum dimensions are 25 x 25mm. See Fig. 1 below.
- 9.6. Ensure that all cavities, exposed pipes, exposed Concrete Hollow Blocks (CHB) or other masonry with gaps in the wall be filled and smoothly plastered to ensure proper installation and adhesion of the flashing

#### **OTHER SURFACES**

- 9.7. **Metal, Wood, PVC, Asbestos, Fiberglass, Glass & Roofing Felt:** Ensure that the surface is free of dust, dirt, paint, contaminants (such as oils, detergents, etc.) and rust. In the case of metals it is advisable to apply a rust neutralizer.
- 9.8. **Earth Dams:** See the guidelines relating to the waterproofing of earth dams. The guidelines can be obtained from Waterblok Systems or may be downloaded from the Waterblok Systems website at [www.waterblok.com.ph](http://www.waterblok.com.ph).

#### **10. MIXING**

10.1. The pail of RWPC must be stirred well until totally smooth and all solids dissolved. It must resemble a smooth chocolate-like paste. Water is already added to the pail in the factory so there is no need to add any water. However, should the compound be too solid a small quantity of water (not exceeding 1 liter) can be added but this is rarely necessary.

10.2. Machine mixing should be with positive mixing mixers.

#### **11. MIXING RATIOS**

##### **11.1. PRIMER**

- 11.1.1. Consists of a 50/50 mix of RWPC and clean water.

## 11.2. SATURATION COAT

- 11.2.1. Consists of a 70/30 mix of RWPC and clean water.

## 12. PRIMER COAT

- 12.1. Brush onto surface at a rate of approximately 0.5 liter per square meter. Allow to dry for 2-4 hours (longer if needed until it turns totally black).

## 13. DETAIL WORK

### 13.1. FLASHING

A flashing must be installed at all edges between the floor slab and the wall as well as at all edges of any elevated area such as pedestals, etc. The dimensions of a flashing are normally 200mm vertically against the wall and 300mm horizontally on the floor. This can vary dependant on the site conditions and requirements but should be 150mm vertically and 200mm horizontally at the barest minimum. It is also imperative that canting (see notes above) be installed to ensure proper embedding and optimum adhesion of the geotextile membrane in the RWPC. The installation is as follows:

- 13.1.1. Cut the geotextile in strips (if desired flashing is 200mm vertically and 300mm horizontally the width of the strip shall be 500mm).
- 13.1.2. Prime the entire area where the flashing is to be installed. Application of the primer should extend at least 25mm more vertically and 25mm more horizontally than the flashing requirements. If the flashing is 200mm vertically, the primer must be applied 250mm vertically and if 300mm horizontally, the primer must be applied 350mm horizontally. Allow the primer to dry for 2 hours or longer period until it turns totally black.
- 13.1.3. Apply a thick coat of RWPC (extending the same height and horizontal elevation as the primed area) 150mm to 200mm at a time and immediately embed the geotextile (**FURRY SIDE DOWN**) in the wet RWPC by pushing down hard with the hands and brushing hard with the hands to ensure that there are no creases. The RWPC should penetrate the top of the geotextile through this method. Special care should be taken that all geotextile edges are 100% embedded and that there are no loose areas
- 13.1.4. Repeat the above until the entire flashing is installed.
- 13.1.5. Where joins need to be made, allow an overlap of 50 to 75mm.
- 13.1.6. Special care should be taken in corners. The horizontal section of the geotextile may have to be cut and overlapped to ensure smooth embedding.
- 13.1.7. Apply a RWPC saturation coat over the entire area. Ensure that the entire geotextile section is saturated with this application.
- 13.1.8. Allow to dry for a minimum of 6 to 8 hours or preferably overnight.

### 13.2. DRAINS AND PIPES

- 13.2.1. Prime a 500mm area around the drain or pipe.

- 13.2.2. Cut a section of geotextile sufficient to go around the pipe and overlap by 50mm. The length of the geotextile will normally be 150mm for vertical installation and 150mm for horizontal installation, i.e. a length of 300mm. Cut 150mm long slits 50mm apart in the length of the matting (Fig. 2). Cut another 300mm by 300mm geotextile section and make a cross cut in the middle to tightly fit the diameter of the pipe (Fig. 3).

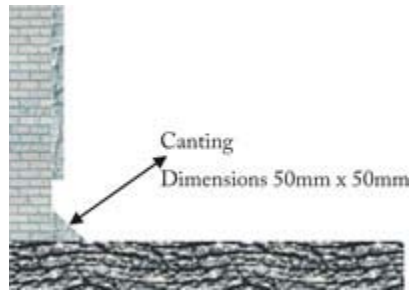
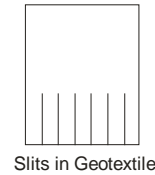
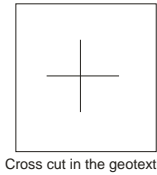


Fig. 1



Slits in Geotextile

Fig. 2



Cross cut in the geotextile

Fig. 3

- 13.2.3. Apply a thick coat of RWPC on the pipe (to a height of 150mm [dependant on the height of the concrete topping to be installed]) and wrap a section of geotextile (**FURRY SIDE DOWN (INSIDE)**) (Fig. 2) around the pipe allowing a 50mm overlap. Apply a thick coat of RWPC on the floor and securely embed the strips of geotextile in it. Apply a saturation coat and allow to dry for 4 hours.
- 13.2.4. Apply a thick coat of RWPC in a 350mm square around the pipe, pull the section of geotextile with the cross cut (**FURRY SIDE DOWN**) (Fig. 3) over the pipe and firmly embed in the wet RWPC. Apply a thick coat of RWPC on the pipe to embed the geotextile triangles. Apply a saturation coat and allow to dry for 6 to 8 hours (preferably overnight).

### 13.3. **CRACKS IN CONCRETE SURFACE**

- 13.3.1. Embed 100mm width strips of geotextile extending 50mm longer than the crack on each side over the crack following the methodology outlined above.

### 13.4. **CONSTRUCTION JOINS**

- 13.4.1. If there are any construction joins a geotextile (0.5m each side of the join [total strip width 1 meter]) must be embedded in Waterblok Multi-Purpose over the entire length of the join following the methodology outlined above.

## 14. **WATERPROOFING APPLICATION**

- 14.1. Apply 3 thick coats of undiluted RWPC over the entire area (**INCLUDING THE FLASHING AREA [EXTENDING 2 INCHES HIGHER] AND DETAIL WORK TO DRAINS, PIPES, ETC.**) using brushes (**DO NOT USE ROLLERS**) allowing drying of 4 hours between coats. **ENSURE THAT NO AREAS ARE LEFT UNCOVERED AND THAT THE APPLICATION IS SMOOTH.**

## 15. CURING

15.1. Allow waterproofing to cure for a minimum of 72 hours. **ENSURE THAT NO ONE HAS ACCESS TO THE WATERPROOFED AREA AND THAT NO DAMAGE OCCURS.** In indoor areas where there is no or little ventilation it is suggested that fans be used to provide ventilation to enhance curing

## 16. FIELD QUALITY CONTROL – Water Tightness Testing (Optional)

16.1. If possible, the waterproofed area shall be given a 24-hour water tightness test upon complete installation of the waterproofing system and curing.

## 17. HINTS & TIPS

- 17.1. If it rains during the application and curing period ensure that all ponded water is removed when the rain stops. This will limit wash-out. Wash tools with water immediately after working. Stubborn residue can be removed with petroleum solvents such as paraffin and white spirits.
- 17.2. If rain is imminent, stop working.
- 17.3. During application make sure that the applicator has a small pail of water to dip the brush in from time to time to prevent clogging of the brush.
- 17.4. When work stops clean the brushes in water and leave it in the water till used again. This will lengthen the lifespan of the brushes as well as ensures good application.
- 17.5. Where overlaps are indicated, allow 50mm.
- 17.6. Where joints occur, ensure that they are staggered in successive layers.

## 18. PROPERTIES AND TESTS

18.1. Typical properties of RWPC:

PROPERTY	RESULTS	TEST METHOD
Water vapor permeability	4.1 g/m <sup>2</sup> / 24 hr/mm @ 75% relative humidity	BS 3177/59
Puncture resistance	54 N/mm thickness	SABS 952-1969
Elongation at breaking point	100%	SABS 952-1969
Breaking force	12.9 N/mm width	SABS 952-1969
Toxicity imparted to water	None	SABS 1217
Effect of UV	Unprotected film has withstood 500 hrs in SABS "weatherometer"	SABS 1134-77
Acid resistance	Unaffected by 30% solution sulfuric acid after 1 year at 25° C	
Softening point	91° C	
Ductility	>100 cm	
Elastic recovery	47.5%	
Flash point	Non-inflammable	
Fire resistance	Low fire spread / fire retardant	
Solids content	61%	
Mass per liter	1.05 kilograms	
Color	Black when dry	
Drying time	2 – 3 hours on a sunny day	
Product type	Water based bitumen emulsion containing rubber latex	
Packaging	Supplied in 20 liter pails and 200 liter drums	

## **19. APPLICATION RATE**

19.1. The average total overall per square meter consumption of RWPC is 1.75 liters when applied to masonry surfaces. This consumption will depend on the number of coats, whether reinforcement geotextile is used or not and the specific requirements of individual types of application. For water impounding applications it is normally 3 liters per square meter. Waterblok Systems should be consulted first to determine the correct application rate for any application at variance with the foregoing.

## **20. DETAILED GUIDELINES**

20.1. The foregoing are the general specifications and guidelines for application of RWPC and, as far as application rate, surface preparation, detail work and application itself, hold true, with minor variances, for all types of application in general terms.

20.2. Detailed Guidelines are available for the following specific applications either directly from Waterblok Systems or downloadable from its website at [www.waterblok.com.ph](http://www.waterblok.com.ph).

20.2.1. Outdoor applications - Roof Deck, Balcony, Canopy, Concrete Gutter, etc.

20.2.2. Indoor applications - Toilet/Bathroom & Wet Areas

20.2.3. Exterior Basement/Retaining Wall

20.2.4. Plywood Roof Backing

20.2.5. Earth Dams

20.2.6. Elevated (above ground) Water Tank

20.3. As ground conditions vary from application to application and project type to project type Application Guidelines can only be finalized once the specific ground conditions have been examined and the best application methodology and application rate are established.

20.4. Upon request specific General Application Guidelines will be furnished for different application types provided however that the final and detailed Guidelines (application rate, surface preparation & application methodology) will only be provided by Waterblok Systems once the specific project & ground conditions are fully known and, if deemed necessary, the site inspected. This will mostly take place directly prior to application when the area is ready to receive the waterproofing application.