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WATERBLOK FLEXICRETE
GENERAL SPECIFICATIONS

1. COMPANY CONTACTS

1.1. Web link – www.waterblok.com.ph
1.2. Email – admin@waterblok.com.ph

2. MATERIAL DESCRIPTION

2.1. Flexicrete is a latex based admixture used to modify and dramatically improve the properties of cement based mixes. It produces excellent results when mixed with cement to create waterproof cementitious layers. It further enhances cement mixes by:
- 2.1.1. improving adhesion to substrates
- 2.1.2. reducing dust associated with normal cementitious applications
- 2.1.3. improving chemical resistance
- 2.1.4. improving toughness and flexibility of cement mixes

2.2. The product finds application in many instances where a waterproof cementitious layer is required. These would include concrete roof decks, patio's, flower boxes, floor screeds, external and internal walls, shower walls and bases, retaining walls, reservoirs (potable water), swimming pools, tunnels (where wedged between concrete layers), etc.

2.3. In addition, Flexicrete finds application in specialised situations such as reinforcement of friable concrete, chemical holding tanks, food and animal houses, factory floors, garages, dairies, abattoirs and heavy duty floors.

2.4. Flexicrete can also be used in conjunction with Flexicrete reinforcement matting to reinforce edges, joins, drains and/or the entire area of application.

3. PRODUCT DELIVERY, STORAGE and HANDLING

3.1. **DELIVERY:**
- 3.1.1. Materials shall be delivered in original sealed containers as shipped by the manufacturer.

3.2. **STORAGE:**
- 3.2.1. Store and use at temperatures between 5^0C and 35^0C. Do not store for long periods in direct sunlight.
- 3.2.2. Flexicrete can be stored for 6 to 12 months.

4. ACCEPTANCE OF MATERIALS

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

5. APPLICATORS

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

6. ADDITIONAL MATERIALS

6.1. Flexicrete Matting in accordance with specifications from and approved by Waterblok Systems.

6.2. Premium Portland cement approved by Waterblok Systems.

7. CONCRETE SUBSTRATES

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

8. SURFACE PREPARATION

8.1. Existing surfaces onto which Flexicrete mixes are to be applied should be in a sound condition and free of contaminants such as oil, paint and dust. Holes and cracks should be repaired with a Flexicrete compound before new coats are applied.

8.2. In severe cases surfaces may need to be treated by light scabbling to remove unsound surfaces, or treated with a hydrochloric acid and water (1:2) solution which should be well flushed prior to new layers being applied.

8.3. Before applying the first Flexicrete coat, the surface to be covered should be lightly dampened to break down surface tension effects. The first coat should be applied onto a damp surface with no free water present.

9. MIXING

9.1. Flexicrete is mixed with cement in the case of Prime/Bonding coat(s) and Waterproofing coats. In the case of General Purpose Waterproof Renderings or Screeds it is also mixed with sand.

9.2. Mixing should be thorough. Hand mixing batch sizes up to 50 kg is acceptable.

9.3. Machine mixing should be with positive mixing mixers rather than with tumbling action mixers.

9.4. Flexicrete has a plasticizing effect and reduces, and in some cases eliminates the need for the addition of water.

9.5. Flexicrete mixes have a lower water/cement ratio than conventional mixes.

9.6. In mixes containing sand, the sand should be a washed angular type. Fine sand can be used but clay materials should be avoided.

9.7. When mixing with sand, first mix sand and cement. Thereafter add Flexicrete and finally cautiously add water to suit to produce a stiff but workable mix.

9.8. Air entraining agents should not be used in the Flexicrete mix.

10. MIXING RATIOS

10.1. PRIME/BONDING/WATERPROOFING COAT

10.1.1. The recommended prime coat consists of a mixture of 2 parts ordinary Portland cement to 1 part Flexicrete by volume. Add cement to Flexicrete and mix to a smooth, viscous but brushable slurry. Add small quantities of water cautiously to obtain desired workability. Typical prime coat mixes:

	Flexicrete	**Cement**
By volume	1 part	2 parts
By mass	1 kg	6 kg
By mass (per 50 kg cement)	8 kg	50 kg

10.2. GENERAL PURPOSE WATERPROOF RENDERING/SCREED

10.2.1. General purpose waterproof renderings or screeds are prepared according to the following mix proportions:

	Flexicrete	**Cement**	**Sand**
By volume	1 part	2 parts	6 parts
By mass	1kg	5kg	15kg
By mass (per 50kg cement)	10kg	50kg	150kg

10.2.2. Add water cautiously until desired consistency is obtained. Flexicrete has a plasticizing action that reduces the requirement for water in the mix. Mix thoroughly to obtain uniform mix.

11. PRIME/BONDING COAT

11.1. Brush onto surface at a rate of approximately 12 sq.m. per 5 liters Flexicrete (pure prior to mix) and allow to dry. A second prime coat should be applied immediately prior to the next layer to be applied, which should be applied onto the wet prime. The membrane thickness of the prime coat is approximately 1mm.

11.2. A second prime coat (optional) could be applied immediately prior to the next layer to be applied, which should be applied onto the wet prime.

12. DETAIL WORK

12.1. FLASHING

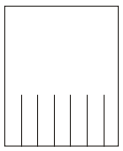
12.1.1. A flashing must be installed at all edges between the floor slab and the wall as well as at all edges of any elevated area such as pedestals, etc. The dimensions of a flashing are normally 200mm vertically against the wall and 300mm horizontally on the floor. This can vary dependant on the site 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

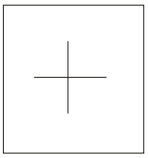
to ensure proper embedding and optimum adhesion of the Flexicrete matting membrane. The installation is as follows:

12.1.1.1. Cut the Flexicrete matting in strips (if desired flashing is 200mm vertically and 300mm horizontally the width of the strip shall be 500mm).
12.1.1.2. While the last (2nd) primer/bonding coat is still wet, embed the Flexicrete matting in the area where the flashing is to be installed.
12.1.1.3. Repeat the above until the entire flashing is installed.
12.1.1.4. Where joins need to be made, allow an overlap of 50 to 75mm.
12.1.1.5. Special care should be taken in corners. The horizontal section of the matting may have to be cut and overlapped to ensure smooth embedding.
12.1.1.6. When the embedded Flexicrete matting is touch-dry, the waterproof coat can be proceeded with.

12.2. DRAINS AND PIPES

12.2.1. Cut a section of Flexicrete matting sufficient to go around the pipe and overlap by 50mm. The length of the Flexicrete matting 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. 1). Cut another 300mm by 300mm Flexicrete matting section and make a cross cut in the middle to tightly fit the diameter of the pipe (Fig. 2).


Slits in Geotextile
Fig. 1


Cross cut in the geotextile
Fig. 2

12.2.2. After dipping the prepared Flexicrete matting (Fig. 1) in the primer mix (application can also be brush-applied), wrap a section of it around the pipe allowing a 50mm overlap and embed the matting where the slits are on the horizontal area..

12.2.3. Pull the dipped section of Flexicrete matting (Fig. 2) over the pipe and firmly embed (application can also be brush-applied).

12.2.4. When the embedded Flexicrete matting is touch dry, the waterproof coat can be proceeded with.

12.3. CONSTRUCTION JOINS

12.3.1. If there are any construction joins Flexicrete matting dipped in the primer mix (0.5m each side of the join [total strip width 1 meter]) must be embedded over the entire length of the join following the methodology outlined above.

13. WATERPROOFING COAT

13.1. The same mix proportions as set out above can be used to create a water resistant layer. In this application, two coats of slurry should be applied onto the primed surface. The first coat is applied onto the wet prime coat. This is followed by a second sealing coat, at right angles to the first, once the first coat is touch dry (after 20 – 30 minutes).

13.2. The thickness of each coat should not be more than 1.5mm and the system (all waterproofing coats) should be allowed to set for at least two days before any further layers or covering material are applied.

13.3. In cases where water resistance is critical, or hydrostatic pressure is anticipated, the proportion of Flexicrete in the mix can be increased by up to a maximum of 100% (e.g. 16kg Flexicrete per 50kg cement). The higher the percentage of Flexicrete, the better the water resistance will be.

13.4. The above system can also be applied in conjunction with a reinforcing Flexicrete membrane. Where optimum strength and stability is required the use of the reinforcement membrane (matting) is recommended. The membrane must be embedded immediately in the wet 1st application. Once it is touch dry, a second generous application can be applied onto the embedded membrane. Allow to dry and apply a final finishing coat.

13.5. An alternative method is to soak the Flexicrete membrane in a bucket of Flexicrete slurry and then to lay the soaked membrane onto the primed surface. (Allow 50mm for overlaps Once this layer is touch dry, a second generous application of Flexicrete slurry is applied over the surface. A final finishing coat is then applied once the second coat has dried. This method is only effective where embedding takes place in small strips.

14. WATERPROOF RENDERING

14.1. Waterproof rendering is in place of the Waterproofing coat and is applied in cases where a general purpose waterproof rendering or screed is required.

14.2. After the prepared surface has been correctly primed and allowed to dry, apply another coat of prime and lay the rendering directly onto the wet slurry. The rendering should be applied in 2 layers of 7mm to achieve the desired thickness of 13mm.

15. CURING

15.1. 2 to 14 days dependent upon use.

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. GENERAL

17.1. Do not apply Flexicrete mortar onto wet surfaces. Remove surface moisture.

17.2. Wash tools with water immediately after working. Stubborn residue can be removed with petroleum solvents such as paraffin and white spirits.

17.3. Promote curing for 48 hours after laying Flexicrete mix to prevent too rapid drying.

17.4. Where potable water is to be stored in contact with Flexicrete, ensure that the final layer has cured for 14 days and then flush before use.

17.5. Where overlaps are indicated, allow 50mm.

17.6. Where joints occur, ensure that they are staggered in successive layers.

18. PROPERTIES

18.1. Typical properties of Flexicrete are as follows:

Appearance	:	Milky white liquid
Specific Gravity	:	1.0
pH	:	11.0
Odour	:	Mild
Water solubility	:	Miscible
Flammability	:	Non-flammable
Boiling Point	:	100^0C
Flash point	:	N/A
Viscosity Brookefield	:	100cps 2/60 @ 20^0C

19. APPLICATION RATE OF FLEXICRETE

19.1. The average total overall per square meter consumption of Flexicrete (unmixed) is 1.5 liters. This consumption will depend on the number of coats, whether reinforcement matting is used or not and the specific requirements of individual types of application. 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 Flexicrete and as far as mixing, mixing ratios, surface preparation, detail work and application itself hold true, with minor variances, for all types of application in general terms.

20.2. 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 (including mixing ratio) established.

20.3. Upon request specific General Application Guidelines will be furnished for different application types provided however that the final and detailed Guidelines (mixing ratio, 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.