

# CONCRETE BLOCK PAVING

*Efflorescence is only a temporary problem*



***A walk-over in cost, looks and  
durability for Concrete Block Paving***







## **WHAT IS EFFLORESCENCE!**

There is a chance that after a few weeks or months pass, a white haze may appear on the surface of the pavers. This so-called white haze is known as efflorescence and is a natural phenomenon. It may appear randomly or in certain areas, and will be more pronounced on dark coloured pavers. The white haze may give the impression that the colour of the pavers is fading. When wet, the white disappears and the colour of the pavers is enhanced. When dry, the white haze reappears.

## **EFFLORESCENCE DOES NOT LAST FOREVER**

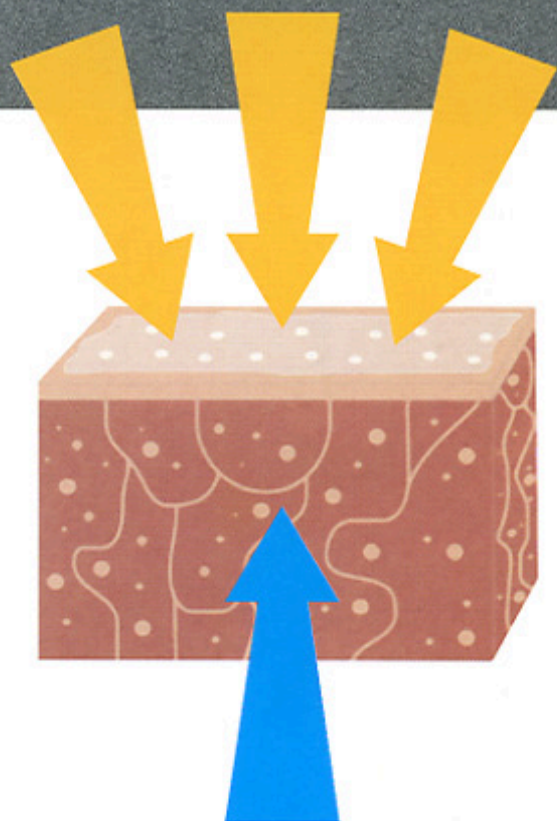
Rain usually washes the efflorescence away in about 1 to 2 years. If you do not want to wait that long, you can wash with diluted hydrochloric acid (1 part hydrochloric acid, 20 parts water) as a quick remedy. This has the additional advantage of washing out the lime in the upper layers of the concrete. However, the stone surface becomes rougher and the shade changes slightly. The acid should be washed off thoroughly with water afterwards.



## **THE CHEMISTRY OF EFFLORESCENCE**

All concrete products contain cement, which produces lime or water-soluble calcium oxide. Lime can also be in the bedding sand, aggregate based materials or soil. Although concrete products are solid, strong and very dense, they contain millions of microscopic capillaries that run from the interior to the surface. Moisture from rain, sprinkler systems, underground sources, poor drainage or dew enters these microscopic capillaries and forms calcium oxide. Inside the concrete product this reacts with the water in the capillaries and forms calcium hydroxide. This rises to the surface, reacts with the carbon dioxide in the air and forms a white haze of calcium carbonate. When the moisture on the surface of the concrete product evaporates, the white haze of efflorescence becomes visible.





***Efflorescence emerged from pores within a magnified area of a concrete paver. The calcium has been carried to the surface by water.***

**RAIN, DEW,  
CONDENSATION**



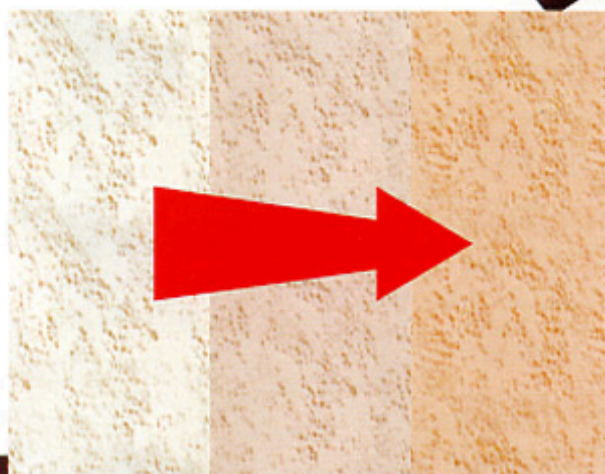
**CEMENT PASTE**



**EFFLORESCENCE  
LASTING FOR 2 YEARS**

## **ELIMINATING EFFLORESCENCE**

Care during the manufacture of the coloured pavers is the best recipe. Sufficient compaction of the concrete prevents excessive amounts of open pores, which open the way for water to penetrate inside. Most manufacturers of concrete products put chemical additives in the concrete to reduce the likelihood of efflorescence. It is impossible to completely eliminate the chances of efflorescence, due to the fact that the condition is a natural by-product of hardened concrete. Efflorescence will decrease when no more calcium hydroxide is available to move to the surface of the concrete product. There are cleaners available that can remove efflorescence. These will enhance the natural beauty of your concrete product.







## **PAVING MEMBERS (August 2004)**

### **PRODUCER MEMBERS**

\*Companies which hold the SABS mark

|                                       |                       |
|---------------------------------------|-----------------------|
| Altocrete                             | (016) 363-0340.       |
| Bamburi Special Products - Kenya      | (09254) (2)824-478    |
| Baybrick                              | (035) 791-1256        |
| Bosun Brick*                          | (011) 310-1161        |
| Brick & Concrete Industries - Namibia | (09264) (61) 280-4103 |
| Brickcast Industries*                 | (031) 507-7094        |
| Cape Brick                            | (012) 511-2006        |
| Cast Industries*                      | (011) 316-2375        |
| C.E.L. Paving Products                | (021) 905-5998        |
| Columbia - DBL*                       | (021) 905-1665        |
| Concor Technicrete*                   | (011) 495-2200        |
| Consteen                              | (011) 701-3875        |
| Corobrik*                             | (031) 560-3911        |
| Deranco Blocks*                       | (041) 463-3338        |
| Ecco-Euro Paving                      | (011) 786-3109        |
| False Bay Bricks                      | (021) 904-1620        |
| Infraset*                             | (011) 652-0000        |
|                                       | (031) 705-2323        |
| Inca Masonry Products*                | (043) 745-1215        |
| Kwena Brickforce - Botswana           | (09267) 322-850       |
| Mimosa                                | (016) 362-0507        |
| MVA Bricks*                           | (012) 386-0050        |
| Neat Contech*                         | (046) 648-1359        |
| Stanger Brick & Tile*                 | (032) 457-0237        |
| Vanstone*                             | (012) 541-2056        |
| Vibro Bricks*                         | (012) 374-2032        |
| White River Cement Bricks             | (013) 750-1271        |

### **NON-PRODUCER MEMBERS**

|                         |                |
|-------------------------|----------------|
| Brick King & Associates | (021) 948-6218 |
| Inca (Cape)             | (021) 904-1620 |

### **CONTRACTOR MEMBERS**

|                          |                |
|--------------------------|----------------|
| Daron Construction       | (034) 955-1333 |
| Kay Crete                | (031) 765-2830 |
| Oryan Projects           | (083) 327-6877 |
| Pave Show                | (012) 346-6958 |
| PYW Paving               | (031) 903-2104 |
| Roadstone Civil & Paving | (083) 266-3183 |
| SA Paving, Gauteng       | (011) 483-1350 |
| Sun Paving               | (031) 705-5123 |
| The Paving Syndicate     | (011) 640-3333 |
| Valcal International     | (011) 867-2771 |
| Vesles Civils            | (012) 662-3030 |



**CONCRETE  
MANUFACTURERS  
ASSOCIATION**  
Quality cast in concrete

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