FURTHER USES OF CONCRETE BLOCK PAVING IN THE U.K.

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Summary

Concrete Block Paving has for many years been used by Engineers for "Structural" uses and this paper shows other applications and uses other than roads etc. The list is unending and illustrates the versatility of this product.

Introduction

We have all seen and heard of the uses of concrete block paving in roadways, port areas and the like, but it has many more uses for the engineer and architect alike.

This paper is designed to show the engineers and architects how to use concrete block paving in alternative application, in many cases laying the blocks in the conventional manner.

The first area is the upgrading of the hard landscaping in depressed areas, bringing a new texture and colour to an area which is subject to depravation, poor visible and mechanical performance. Slightly different but in the same context where insurance claims are involved. An example of this is where a concrete road, although sound, has been attacked by de-icing salts and the top matrix affected. By laying sand and blocks as an overlay, this not only saves the costs of picking up the concrete, relaying and waiting for it to cure, blocks can be laid and then used immediately. It has been shown that when blocks and sand are laid over an existing pavement, it strengthens the construction.

The concept of immediate use must make concrete block paving viable for temporary reinstatement for trenches or surfaces.

The visual effect of the patterns and colours of concrete block paving can be used for many internal applications such as car showrooms, public spaces and exhibition centres.

Concrete block paving made to BS6717 has excellent properties and one of these is abrasion resistance, and a local tank producer has used cbp in his tank testing area where all other materials have failed.

Because of its small size, it is possible to 'bend' the profile of the pavement for applications in taking the surface from the flat to the vertical, as in the case of bung walls.

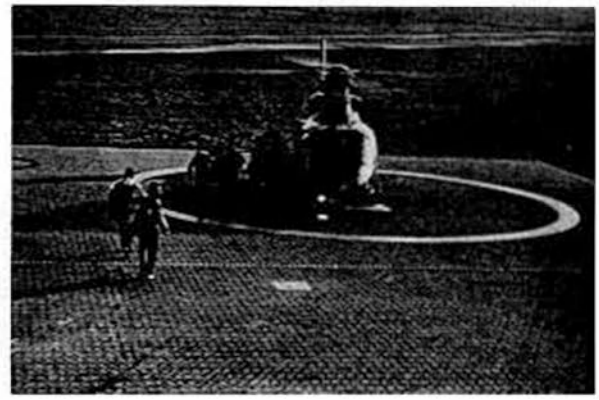
Erosion of natural material is a problem and this is where concrete block paving can be used. In water courses off the hillside where at the height of the rain period large quantities of water flow through, earth cut waterways, if lined with blocks, stops further widening of such ways, stops fine earth being transferred to the large storage areas and helps the flow of water.

Using concrete block paving and treating them with an external coating of paint containing a small grit, they can be used when coloured black or white and laid in a chevron pattern for roundabouts. When using this concept, it reduces costs and if the white block has a glass bead incorporated in the surface, it improves the visibility, especially at night time.

Applications

In military and civilian areas, block paving not only provides a durable surface, but offers quick and long lasting installations.

The helicopter pad is a classical example of such installation.



Photograph 1. Helicopter Pad

With all modern equipment, accuracy in installation needs to be evaluated and in photograph 2. the object of the installation was to test the tanks, not the blocks. After two years and three tests per week the blocks are still being used, albeit they have been scored by

the metal of the tracks unlike the previously used materials which last only a few months.



Photograph 2. Tank Testing Area

Using these experiences, the applications have spilt over into specialist areas, where impact resistance is important. Photograph 3 shows a metal barrel being stored in a brewery.



Photograph 3. Barrel Storage Area

Where aggressive chemicals are being stored, the durability of the blocks is far greater than insitu concrete and in photograph 4. the fertiliser is stored inside the building and a shovel tractor picks up the material in its bucket, scraping the bucket along the blocks to pick up the material.



Photograph 4. Chemical Storage Area

The concept of blocks being able to support load has moved into the rail freight area, and photograph 5. shows such a use.



Photograph 5. Rail Freight Storage Area

Attempts have been made to encourage the farming community to use blocks because they, the farmers and their workforce, can lay blocks when it is convenient. One enlightened farmer saw a distinct advantage of laying blocks in a very large shed, in which during the winter and lambing period he erects pens and brings his sheep in. During the other period of the year the pens are removed and he then stores his crops and other stock materials. There are other usages in this area - cow byres and milking stalls, stables and even the farm hard standing areas.



Photograph 6. Farm Use

The advantages of concrete block paving have now been recognised as being not only an engineering road material, but an architectural material to brirg life to dull areas and bring about complete visual changes.

By using different colours and laying them into various shaped areas, an artistic impression is obtained. Photographs 7 & 8 illustrat this by the creation of shape and patterns.



Photgraph 7



Photograph 8

In a more formal use, using stancard rectangular blocks, the architect has prcduced a more formal layout in a conservatory complimenting the block work with block paving.



Photograph 9. A Conservatory

In indoor public places where there are large numbers of people, blocks have been used to compliment the blocks which have been laid outside. Photographs 10 and 11 are examples of the exhibition centre areas.

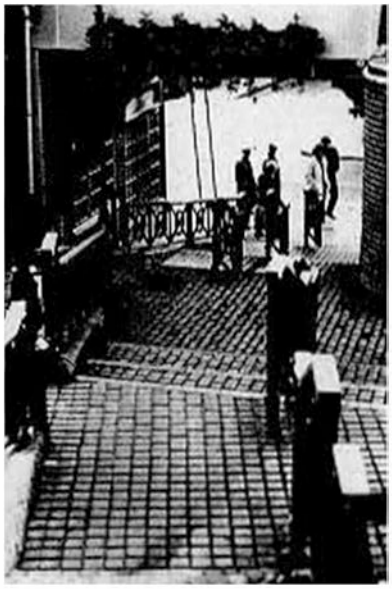


Photograph 10



Photograph 11.

Where changes of levels are involved, the blocks have been used to form the step and transition areas.



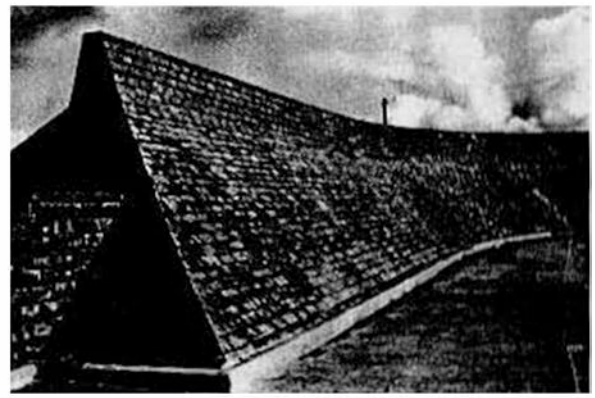
Photograph 12. Steps

As architects become more aware of the aesthetical appearance and appeal, they are incorporating features into their schemes. Photograph 13 shows an area including a sculpture.



Photograph 13. Sculpture

Using aesthetical appeal and the desire to be functional, photographs 14 and 15 illustrate how blocks can be "bent" round angles as well as providing a sound wall around an airport.

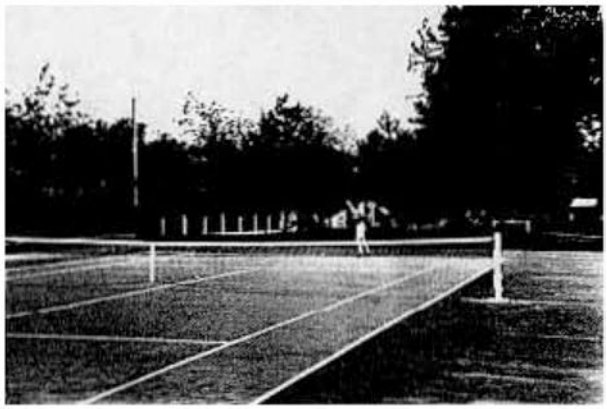


Photograph 14. Sound Barrier Wall



Photograph 15. Sound Barrier Wall

Landscape architects are also finding out about the wide applications and usage of blocks and their use in the leisure field. In photograph 16, a ternis court has been laid out in two colours as an "all weather" court. A close up of the blocks is illustrated in photograph 17.



Photograph 16. All Weather Tennis Court



Photograph 17. Close Up

further use in the leisure area is in "crazy golf" courses, and provides an added attraction to the art of crazy golf, as is seen in photograph 18.



Photograph 18. Crazy Golf Course

For something out of the ordinary, an interior designer has taken the special shaped blocks and laid them in the traditiona' pattern to form this attractive feature in a rest area.



Photograph 19. interior Design

To enhance one of our overseas Embassies, concrete block paving has been laid outside the doors where military guards patrol and is shown in photograph 20.



Photograph 20.

Not new in Holland, but new in the United Kingdom, is the use of blocks to provide suitable erosion resistant surfaces, as well as slipways for boats. This is illustrated in photograph 21.



Photograph 21. Slipway

Finally, to see our way more clearly, different coloured blocks have been laid to indicate traffic movement.



Photograph 22. Arrow Making

In complete contrast. the careful use of resins painted onto individual concrete blocks and bonding glass reflecting beads into the top paint film, creates this chevron on a round-about laid on sand in the normal way. Not only does it provide suitable indication of a roundabout both day and night, it also means a reduction of more conventional indicators, thus offering a cost saving.



Photograph 23. Roundabout

Conclusions

This paper is intended to illustrate some of the uses discovered by the author and is by no means the limit to the uses of concrete block paving. With the increase in sales of block paving, with more people using and designing schemes, then the usage and application of blocks will increase in both the engineering and landscape locations.