merlincoatings
THE IDEAS COMPANY

# Barrier Coat

## Preparation, Application and Use guide

### Preparation

### New Concrete

New concrete must be left to reach an acceptable hardness before any preparation is attempted. Surface laitance should be removed by light vacuum shot blasting, scarifying or surface grinding. The use of acid etch solutions is not recommended.

### Old Concrete

On lightly stained concrete the removal of the surface layer would be sufficient preparation. Areas of heavy staining should be treated by one or more of the following methods: Vacuum shot blasting, Scabbling or Hot compressed air burning. Consultation with a trained specialist is strongly recommended to establish the most apt method.

With all the above techniques, pre-cleaning of heavy deposits of oil or grease with a suitable multipurpose degreaser then rinsing with clean towns water will reduce the transmission of contaminants to other areas during final preparation.

Expansion joints should either be raked out or protected during the preparation and coating processes.

### Conditions

Prior to the application of Barrier Coat, the surface must be clean, cured sufficiently to take foot traffic and be free of surface water or laitance.

The air and surface temperature must be above the minimum required both during application and the curing process.

The use of naked flame heaters is not advisable as they increase the relative humidity to a point which condensation can form on the cured

Barrier Coat leading to reduced adhesion of any subsequent application.

### Mixing

Barrier Coat is supplied in pre-weighed units this ensures the correct ratio of base to activator is achieved, the splitting of packs is not recommended.

Only mix as much material that can be applied during the stated working life. Diluents or solvents must not be added to Barrier Coat in any circumstance.

To ensure correct mixing, a helical paddle attached to a slow speed drill or mixer is recommended.

Pour the Part B component into the Part A container, removing as much Part B component as is practically possible.

Once all the Part Bcomponent has been transferred to the Part A container, mix at a controlled speed until homogeneous. Moving the paddle gently across and round the mixing vessel will stop dead spots occurring. Excessive speed or movement of the mixing paddle will result in air entrainment which can affect the coating film and vapour permeability.

After mixing, to maximise the working life of the product, transfer into several smaller containers, this will help dissipate any heat build up in the bulk material.

### Application

Barrier Coat can be applied as either a one or two coat application depending on the surface finish or condition of the base slab. Unlike conventional priming systems Barrier Coat can safely be applied to the substrate as soon as sufficient strength has been obtained to allow preparation.

Barrier Coat can be applied to very green slabs to aid the curing process and enable subsequent installations to take place much sooner than with conventional systems.

### One Coat Application

One coat application should only be carried out on substrates that are smooth, free from defects such as hairline cracking, heavy blast profile or erosion. Apply by

pouring the mixed Barrier Coat directly onto the area to be treated and spread using a rubber edged squeegee or trowel to give the required film thickness. Working in regular blocks will help to reduce the possibility of missed areas especially in low light conditions.

A minimum application rate of 3 square metres per kilo is required.

## Two Coat Application

Apply by brush or short pile mohair roller to give an even, smooth finish, reducing the possibility of bubbles forming within the film. The use of a roller tray or scuttle is advised, as pouring the material directly onto the area to be treated then rolling out will result in uneven film thickness, giving low coverage rates and a patchy appearance to the finished coating.

When applying two coats, the second coat if possible should be applied at 90 degrees from the direction of the first, this minimises the possibility of missed areas.

Minimum application rates of 4 square metres per kilo for the first coat and 6 square metres per kilo for the second are required.

On very uneven or porous surfaces the practical coverage rate can be significantly reduced, also in some instances a patchy appearance is obtained in the finished coating resulting in the need to apply a further coat.

The cured surface of Barrier Coat has a natural tack. The procedure of broadcasting an aggregate into the wet primer is not recommended as this can lead to voids forming through or within the film resulting in increased vapour transmission.

Under no circumstance should aggregate be broadcast during a one coat application.

## Overcoating or Subsequent Installations

Polymer screeds or adhesives should be applied to Barrier Coat within 5 days of the application of the final coat. Should over coating not be carried out within 5 days the surface must be lightly abraded to remove the surface gloss and a mechanical key obtained. If required a suitable bonding primer can be applied onto the cured Barrier Coat to increase the level of adhesion with subsequent applications.

Once Barrier Coat has cured it is compatible with most screed, coatings and adhesive systems.

Overcoating can be performed once the Barrier Coat film has reached sufficient hardness to be walked on without the risk of causing physical damage. Typical overcoating time at temperatures above 10° Celsius would be 14 hours or overnight curing.

## Cured Film Properties

### Life expectancy

Barrier Coat is a permanent membrane to control the transmission of water vapour from the base slab and subject to there being no future structural movement, cracking, physical or mechanical damage will protect for the life of the floor.

### Fire Protection

When fully cured Barrier Coat applied using the correct coverage rates and application methods will give Class 0 Surface Spread of Flame fire protection as tested by Warrington Fire Research, January 2004. Test reports WARRES No's 136762 & 136763.

### Vapour Permeability

Barrier Coat when applied at the recommended minimum film thickness will give a Water Vapour Transmission rate of less than 2 milligrams per square metre per 24 hours, as tested to BS EN ISO 7783-1 by the Building Research Establishment Ltd, February 2005, test report 219725/R1.

### Water Permeability

When tested using a Karsten permeability test all samples gave a nil result, Barrier Coat applied at the recommended film thickness is classified
as impermeable.

### Bond Strength

Lap shear adhesion 16 Mpa
Adhesion to damp concrete (abraded) 10 Mpa
Adhesion to wet concrete (applied through surface water) 4 Mpa

In all tests to both damp and wet concrete the bond strength exceeds the cohesive strength of 40 N/mm concrete.

### Storage Conditions

Unless stated on the product technical data sheet all Merlin products have a shelf life of up to 2 years when stored in unopened containers with normal warehouse conditions.
Minimum storage temperature 5° Celsius
Do not expose to direct heat or sunlight
Keep away from sources of ignition
Keep dry
Do not allow to freeze