

# Method Statement

## Nitoflor Hardtop/Hardtop Standard

### Section A : General Comments

#### High temperature working

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

- (i) Store unmixed materials in a cool (preferably temperature controlled) environment, avoiding exposure to direct sunlight.
- (ii) Keep equipment cool, arranging shade protection if necessary. It is especially important to keep cool those surfaces of the equipment which will come into direct contact with the material itself.
- (iii) Try to avoid application during the hottest times of the day, arrange temporary shading as necessary.
- (iv) Make sufficient material, plant and labour available to ensure that application is a continuous process.

#### Equipment

It is suggested that the following list of equipment is adopted as a minimum requirement

<i>Protective clothing</i>	:	<i>Protective overalls</i>
	:	<i>Good quality gloves, goggles and face mask</i>
<i>Application equipment</i>	:	<i>Hand application trowel</i>
	:	<i>Wooden float</i>
	:	<i>Steel or plastic finishing float</i>

#### Application - Points Of Note

Fosroc operates a policy to encourage the use, where possible, of approved or licensed applicators. This ensures that repairs are completed satisfactorily so that the long term performance of the materials is assured.

### Section B : Application

#### 1.0 Site organization

Successful application of Fosroc's monolithic floor hardeners is dependent, above all, on good site organization. This should include consideration of the following main points :

- 1.1 Note the recommendations for the base concrete in the 'Application criteria' section of the relevant data sheet.
- 1.2 Total spread rate is generally achieved in 2 stages depending upon intended traffic usage i.e 7 or 3 kg/sqm.

Note : Refer to the 'Application criteria' section of the relevant data sheet to check recommended spread rates required for a particular product.

- 1.3 The total floor area should therefore be split into bays of known size, where each individual area is easily divisible by these figures, so that full bags can be used in each application rather than trying to 'split' a bag. For example :

Total floor area = 1000 m<sup>2</sup>

Total spread rate = 5 kg/m<sup>2</sup>

**OPTION 1** Split into 4 bays of 250 m<sup>2</sup>

First application = 250 x 3 kg/m<sup>2</sup> = 750 kg = 30 bags

Second application = 250 x 2 kg/m<sup>2</sup> = 500 kg = 20 bags

**OPTION 2** Split into 3 bays of 333 m<sup>2</sup>

First application = 333 x 3 kg/m<sup>2</sup> = 999 kg = 39.96 bags

Second application = 333 x 2 kg/m<sup>2</sup> = 666 kg = 26.64 bags

Clearly Option 1 will be far easier to apply correctly.

- 1.4 Once this calculation has been completed, sufficient materials to meet the specified spread rate should be laid out around the perimeter of each bay.

## 2.0 Concrete Placement

- 2.1 Place and level the base concrete in accordance with good practice.
- 2.2 Pay particular attention to bat edges ensuring full compaction, and avoiding segregation or excessive bleed.

### 3.0 Bay and joint edges

3.1 Generally subject to heavy wear or impact, these areas may be reinforced by one of the following methods prior to full treatment of the entire surface.

a) Immediately after leveling the freshly placed concrete, floor hardener should be sprinkled, by hand, at the rate of 0.5 kg/lin. m in a strip 100 mm or 150 mm wide along the bay edge, and then hand trowelled into the surface.

or

b) Immediately after leveling the freshly placed concrete, remove a wedge of concrete 10 mm deep at the slab edge, and tapered up to slab level. Replace this with a very stiff paste of floor hardener mixed with a small amount of water. Ensure that it is fully compacted onto the base concrete.

### 4.0 First application

Timing of this application is critical to the overall success of the system, and care should be taken to ensure that adequate supplies of labour, plant and material are available to complete the whole area while sufficient moisture is still available to fully react with the powder. Conversely, the full benefit will not be gained if the material is applied too early, when bleed water is still present.

The first application of floor hardener will generally occur 1 to 2 hours after the base concrete has been placed. However, it should be noted that high temperatures and/or windy conditions will speed the rate of drying considerably.

4.1 This should begin once any bleed water has evaporated, but when a wet “sheen” can still be clearly seen on the concrete surface.

4.2 At this stage the concrete should have stiffened to the point where light foot traffic leaves an imprint of 3 to 5 mm in the surface of the concrete.

4.3 On large floor areas it will be necessary to work progressively behind the laying team to ensure application at the right time.

4.4 The first application should be applied at the 50 or 70% of specified dosage (unless otherwise stated on the ‘Application criteria’ section of the relevant data sheet) across the entire concrete surface.

Note : This should include application at the bay or joint edges, and any other areas of the floor which were identified as needing reinforcement.

4.5 This is then left to absorb moisture from the base concrete. When the floor hardener has turned uniformly dark, the first application can be floated. This can be done using a wooden float, or power float on large areas. However, it is important that the surface is not ‘overworked’.

## 5.0 Second application

- 5.1 This may commence immediately after floating of the initial application. On large floor areas it will be necessary to work in two teams, one following the other to ensure application at the right time.
- 5.2 The floor hardener should be applied at right angles to the initial application.
- 5.3 Spread evenly at the rate of 30-50% of specified rate (unless otherwise stated on the 'Application criteria' section of the relevant data sheet) across the entire concrete surface.

Note : This should include application at the bay or joint edges, and any other areas of the floor which were identified as needing reinforcement.

- 5.4 This is then left to absorb moisture from the base concrete. When the floor hardener has turned uniformly dark, the floor can again be floated. This can be done using a wooden float, or power float on large areas, working to a neat final finish.

## 6.0 Curing

- 6.1 Proper curing of concrete floors treated with monolithic floor hardeners is essential to the physical properties of the finished floor.
- 6.2 Concure LP90/LP90(M)/WB should be spray applied in accordance with its current application instructions
- 6.3 In adverse conditions (e.g. windy conditions or ambient temperatures greater than 30°C), supplementary curing in the form of polythene sheeting, taped down at the edges, should be used.

## 7.0 Cleaning

- 7.1 All equipment should be washed with clean water immediately after use. Cured material can only be removed by mechanical means.

### Section C : Approval and variations

This method statement is offered by Fosroc as a 'standard proposal' for the application of Nitoflor Hardtop/Hardtop Standard. It remains the responsibility of the Engineer to determine the correct method for any given application. Where alternative methods are to be used, these must be submitted to Fosroc for approval, in writing, prior to commencement of any work. Fosroc will not accept responsibility or liability for variations to the above method statement under any other condition.