

# NATCEM (P) AC

**PROTECTIVE COATING & CONCRETE REPAIR MORTAR No.1** August 2011

## USES.

NATCEM (P) AC is a blend of a potable water approved natural cement based binder, specially dried and graded aggregates and food grade retarders to be used both internally and externally as an anti-carbonation coating and for concrete repairs to potable water retaining structures.

NATCEM (P) AC can be used as an anti-carbonation barrier and a repair mortar to brick, concrete and blockwork potable water retaining structures.

NATCEM (P) AC can be applied to concrete, brick and blockwork.

## PROPERTIES.

- Tested to BS 6920:200 Effect on Water Quality
- Easy to apply using brush, roller or trowel.
- Wide range of application thickness.
- Low permeability provides protection against water-borne chlorides.
- Excellent adhesion to concrete and masonry.
- Low shrinkage.
- Can be applied to wet and cold surfaces.
- No curing compound necessary
- Sets down to zero.
- For use in contact with potable water.
- Can be used underwater.
- Adheres to wet & green concrete
- Fast Curing ½ hour only after set
- Fast Setting
- No need to grit blast steel reinforcement

## USES.

NATCEM (P) AC is designed for a thickness application from a minimum thickness of 3 mm up to 120 mm to both concrete, brick & masonry surfaces. It can also be used to produce a surface in readiness for a protective coating. NATCEM (P) AC is used as a non-structural repair mortar to infill surface imperfections, spalling concrete and voids and to provide an anti-carbonation coating.

## METHOD OF USE

### PREPARING THE SURFACE.

Do not use on frozen or over heated substrates (Outside the range of 0° - 30°C). Prepare the surface in advance to provide an adequate key. This can be by high-pressure water jet, grit blasting or scabbling to remove all surface contamination that may affect the adhesion of the NATCEM (P) AC to the substrate. The surface to which the NATCEM (P) AC is to be applied should be clean, free from dust and thoroughly dampened. Where deemed necessary steel or aluminium mesh can be used. Ensure that a 3 mm minimum thickness of material is obtained.

### PRIMING.

There is no need to prime any reinforcement. On reinforcement it is only necessary to remove the loose rust, which can be done by wire brushing.

### MIXING.

#### APPLICATION BY TROWEL

If one bag or less is to be mixed it should be mixed with a rose bud type paddle attached to an electric drill (900 rpm, 1000 W). Mix vigorously for at least 2 minutes after adding all the mixture to the water. NATCEM (P) AC is designed to give a fluid mix but this only develops after sufficient mixing. For larger quantities, optimum mix results can be obtained using conventional mixing machines. When applying by plastering methods, add the NATCEM (P) AC gradually to 5 litres of clean water per bag, whilst mixing continuously. **The mix will appear dry at first.** Continue mixing until fluidity develops. If greater fluidity is required additional water may be added to a total of 5.5 litres per bag.

Exceeding this ratio will lead to lower strength and a longer setting time. In cold weather the set can be accelerated using warm water, likewise in hot weather cold water can be used to slow down the set.

#### APPLICATION BY BRUSH OR ROLLER

If one bag or less is to be mixed it should be mixed with a rose bud type paddle attached to an electric drill (900 rpm, 1000 W). Mix vigorously for at least 2 minutes after adding all the mixture to the water. NATCEM (P) AC is designed to give a fluid mix but this only develops after sufficient mixing. For larger quantities, optimum mix results can be obtained using conventional mixing machines. When applying by brush or roller methods, add the NATCEM (P) AC gradually to 6 litres of clean water per bag, whilst mixing continuously. **The mix will appear dry at first.** Continue mixing until fluidity develops. If greater fluidity is required additional water may be added to a total of 6.5 litres per bag.

Exceeding this ratio will lead to lower strength and a longer setting time. In cold weather the set can be accelerated using warm water, likewise in hot weather, cold water can be used to slow down the set.

When applying by brush or roller, two coats may be necessary to ensure no pinholes and adequate 3 mm minimum thickness.

Ensure that the first coat has set prior to application of the second coat and that the surface of the first coat is well wetted prior to the application of the second coat.

## APPLICATION.

### GENERAL.

Well dampen the surface to which the NATCEM (P) AC is to be applied with water by spray, brush or roller prior to the application of the material. Ensure that at all times any surface to which NATCEM (P) AC is to be applied remains wet. Place the material as quickly as possible after mixing. A 3 mm minimum thickness of the material is always necessary. If a smooth finish is required **DO NOT** apply additional water to the surface during finishing as this may cause surface cracking. Once setting has started **DO NOT** attempt to re - mix or to smooth the surface, this will cause the mechanical properties in particular strength and adhesion to be lost.

### SETTING TIMES.

NATCEM (P) AC is designed to begin to set at 35 minutes and finish setting at 40 minutes at 20°C. In winter NATCEM (P) AC can be used down to 0°C. The set will be slower but can be accelerated by using warm water. In very hot temperatures the set will be faster but can be slowed by using cold water.

### CLEANING.

NATCEM (P) AC should be removed from tools and equipment with water immediately after use.

### HOW TO SPECIFY.

NATCEM (P) AC shall be mixed and applied to prepared surfaces all strictly in accordance with the manufactures instructions. Please contact Natural Cement Distribution Ltd. with any queries arising from concern for climatic and or substrate conditions.

### SETTING TIME & STRENGTH GAIN.

Start Set	35 Min	at 20° C
End Set	40 Min	at 20° C
		Compressive Strength (Mpa)
At 1 Hour		3.5
At 3 Hours		4.5
At 24 Hours		5.25
At 7 Days		11
At 28 Days		21
<i>Strength continues to develop thereafter.</i>		

## **YIELD.**

Generally 1 x 25 Kg bag of NATCEM (P) AC mixed with 5 litres of water will produce approximately 10 litres of finish mortar.

## **STORAGE.**

NATCEM (P) AC is packaged in a polythene inner bag with a re-sealable tie in a stitch sealed woven polypropylene outer bag that should be stored in dry conditions and will remain usable for at least 12 months from date of manufacture.

## **PRECAUTIONS.**

We strongly recommend the use of GLOVES GOGGLES and MASK.

For further information please refer to Product Safety Data Sheet for full details.

## **DISPOSAL OF WASTE.**

Via an authorised waste disposal contractor to an approved waste disposal site, observing all local & national regulations.

## **MANUFACTURER & TECHNICAL SUPPORT.**

### **NATURAL CEMENT DISTRIBUTION LTD.**

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