THIS METHOD STATEMENT COVERS THE SURFACE PREPARATION, MIXING & APPLICATION OF **MasterTop 135PG,** A SYNTHETIC MINERAL CEMENTITIOUS COMPOSITE FLOOR REPAIR TOPPING.

**METHOD STATEMENT: MasterTop 135PG**

**APPLICATION OF THE SYSTEM SHOULD ONLY BE UNDERTAKEN BY COMPETENT AND EXPERIENCED SPECIALISTS.**

**Application thickness 5 – 15mm**

## 1. SUBSTRATE PREPARATION:

IF in any doubt as to the quality of the concrete that is to be resurfaced, we would strongly recommend that direct tensile testing of the surface be carried out using the "standard" Ø50mm or 50mm square dollies and a "Pull-Off" test rig. The minimum value achieved must be **>1.5MPa** and preferably should be **>2.0 MPa** for areas that would be subject to heavy vehicular traffic.

**Small Patches.**

1.1. Square cut around the perimeter of the required repair areas to a depth of at least 15mm and chip away the concrete against these saw cuts to produce a thickened edge to the repair. Do NOT allow feather edging of the **MasterTop 135PG.**

1.2. If possible, install anchor grooves into the concrete substrate approx. 25mm in from the edges and the same width and depth as the thickness of the repair itself.

**Large Surface Repairs**

1.3. Square cut around the perimeter of the required repair areas to a depth of at least 15mm and mechanically scabble / scarify the concrete surface to remove all weak surface laitance and provide a very rough but sound exposed aggregate surface, grit blast or high pressure wash to ensure all fractured concrete is totally removed.

1.4. Large panel repairs may be prepared by slicing the surface to the required depth with a suitable floor saw and breaking across the strips with a wide spaded chipping hammer.

If possible, install anchor grooves into the concrete substrate approx. 25mm in from the edges and the same width and depth as the thickness of the repair itself. Anchor grooves should be provided on either side of the known / planned location of saw-cut joints as well as the perimeter.

Surface grinding is NOT recommended as a suitable means of surface preparation as it does not create the required "heavy" surface profile **(ICRI - CSP 9).**

**External floor areas to be repaired should be provided with shade and wind protection wherever possible or carried out at night along with any other possible protection from the elements as is practically possible.**

1.5. All sections must be carefully checked with a suitable Aluminium straight edge to ensure that the absolute minimum repair thickness of >5mm will be achieved. Ideally the repair thickness should be consistent across the entire area with no rapid changes in thickness.

1.6. Vacuum the prepared concrete surface to remove all dust and concrete particles.

1.7. Insert steel pins into any "joints" that pass through the repair area so that the accurate positioning of the joint can be expressed through into the new surface.

1.8. Any shuttering required MUST be firmly fixed to the substrate and ideally should consist of small steel "angles" mechanically fixed to the required levels. Shuttering should be set to either line-up with existing joints or be carried past the joint and then the edges cut back after removal of the shuttering to the required position of the "construction" joint.

## 2. SURFACE PRIMING:

### Epoxy Bonding

2.1. Ensure the surface is clean, dry and dust free. Re-vacuum the surface if necessary. Confirm that the surface profile is as recommended **(ICRI - CSP 9). If NOT do not proceed with the installation without confirmation from the main contractor etc. that they are prepared to accept all responsibility.**

2.2. Prime with **MasterBrace ADH 1414** ensuring total coverage of the surface. Apply to relatively small areas at a time (20 -30$m^2$) as the bonding layer must still be tacky when overlaid (see 2.4)

2.3. Add the **MasterBrace ADH 1414 "B"** component to the **"A"** component, then mix for 1-2 minutes using a drill fitted with a suitable paint stirrer until homogeneous.

2.4. Apply to the substrate with a stiff bristled brush, then allow an induction time of 30 to 60 minutes after application (must still be tacky), before applying the **MasterTop 135PG.**

## 3. CEMENTITIOUS BONDING:

3.1. The mechanically prepared concrete surface MUST be fully saturated with potable water for a period of at least 6 hours and preferably overnight.

3.2. Just prior to installation ALL excess surface water should be removed leaving a fully saturated surface damp substrate with NO free-standing water.

3.3. Mix **MasterTop 500** into a thick creamy slurry consistency as directed on the technical data sheet and scrub this bonding slurry into the damp concrete surface using a stiff bristled sweeping brush. Apply to relatively small areas at a time as **the slurry MUST still be wet when the MasterTop 135PG is placed.**

3.4. Application should be even across the surface and to a thickness of 1-2mm.

## 4. MIXING & APPLICATION: MasterTop 135 PG

4.1. A forced action Mixal or Creteangle mixer is recommended for mixing **MasterTop 135PG.**

4.2. Pour contents of the bag into the mixer and blend for approximately 30 seconds. Thereafter slowly add 3.0 - 3.5 litres of water per 25kg bag and allow to mix for 3 minutes.

4.3. In hot weather keep bags of **MasterTop 135PG** in a cool shaded area prior to use. Cool or chilled water should be used for mixing.

4.4. The mixed mortar should exhibit a semi flowable consistency. Evenly spread and compact the material out over the primed surface (primer MUST still be wet / tacky).

4.5. A straightedge should be used to systematically tamp and level the **MasterTop 135PG.** Using a wooden float, press firmly down and float material onto the primed surface ensuring that the material is evenly spread and compacted.

4.6. Immediately cover the levelled surface with thin plastic sheeting (150 micron) to prevent any rapid moisture loss and allow the material to stiffen considerably. Protect from direct sunlight by providing shade.

4.7. Pull back the plastic sheeting and re check / cut back the surface again with an Aluminium straight edge. Add / remove material as required to ensure the surface is to the correct profile.

4.8. Lightly float the surface with a plastic / wood float to consolidate and close up any surface tears etc. Replace the plastic sheeting ensuring it is tight against the surface of the **MasterTop 135PG.**

**Under no circumstances leave the wet surface of the Mastertop 135PG exposed to drying wind / direct sunlight etc. keep it completely covered when NOT being worked upon irrespective of the repair being indoors or outdoors.**

4.9. Allow the **MasterTop 135PG** to stiffen further until it is hard enough to bear the weight of a small lightweight powerfloat fitted with a float pan (non-slip swirl finish) or finishing blades.

4.10. Carefully float the surface to a smooth dense finish ensuring all edges are perfectly level and flat.

4.11. Do NOT add water to the surface during the finishing process as this will change the colour of the finished surface and can cause excessive shrinkage and severe surface crazing.

## 5. CURING:

5.1. Curing should be carried out immediately after the final trowelling operation has been completed. This can be done by either covering with wet Hessian and polythene sheets (preferred method for first 24 hours) or by the application of **MasterKure 181 / MasterKurer101** applied at a rate of 1 litre per 5m$^2$.

5.2. Protect all surfaces from traffic until the surface has completely hardened (light foot traffic 48 hours; vehicular / heavy traffic 7 days).

**NOTES**:

Proper mixing equipment is essential as material requires at least 3 minutes of thorough mixing enabling active ingredients to be properly dispersed. Curing is essential and should be carried out immediately following final floating.

**MasterTop 135 PG** is not shrinkage compensated and it therefore would be advisable / necessary to create stress relief joints in some of the larger repair sections. These should ideally be at ± 2m centres (4m$^2$ panels) and consist of a 3mm saw cut to a depth of ±15mm (Hence the need to try and achieve regular shapes for the various areas) Any saw cut joints should be completed within 24 hours of placement and all saw cutting residue removed from the surface.

These “joints” as such can after a period of ± 4 weeks be filled with a suitable epoxy paste **(MasterBrace ADH 2200)** and ground flush if required. Alternatively, they can be filled with a suitable semi rigid joint sealant – **MasterFlex 490.**
**MasterTop 135PG** should not be applied over concretes with aggregates containing calcium chloride or salt.

The reaction and workability times of cementitious based systems depend on the ambient and substrate temperatures as well as the relative humidity. Under low temperatures, the chemical reaction times are prolonged, and this increases pot life, coating interval and working time. In addition to this the consumption is increased as the viscosity increases. High temperatures ignite stronger chemical reactions and curing times decrease accordingly.