MC310 OPF

ONE PART FLEXIBLE, TOTAL NON SLIP FLOOR & WALL TILE ADHESIVE

Date: 26 November 2019

Fact Sheet No.: TDS01634

YOUR SMART ADVANTAGES

- High water resistance – suitable for swimming pools and wetrooms
- Formulated for large format floor tiles, natural stone, porcelain, terrazzo and stone
- Suitable for use with WBP plywood overlay

USES

Bostik MC310 One Part Flexible is a standard setting totally non-slip, fibre reinforced, highly flexible wall and floor tile adhesive which only requires the addition of water for use. Bostik MC310 One Part Flexible is formulated for fixing large format porcelain, ceramic and natural stone tiles, mosaic, quarry and terrazzo to most standard interior and exterior installations. It is also suitable in more demanding installations such as swimming pools, plywood overlay, underfloor heating and areas subject to limited vibration. It will bond to correctly prepared calcium sulphate screeds, concrete, gypsum plaster and plasterboard, sand/cement render and screeds, glazed surfaces, and vinyl tiles.

PRODUCT CHARACTERISTICS

Colours	Grey and white
Composition	Polymer modified cement powder
Product Codes	30812103 Grey 20kg 30811633 White 20kg
Storage/Shelf Life	Store and transport this bag in a secure upright position. Store for up to 12 months from date of manufacture in original, unopened packaging when stored clear of the ground under cool, dry conditions within the temperature range of 5°C to 30°C and out of direct sunlight. Protect from frost.

TYPICAL PERFORMANCE DATA (Approx.)

Application Temperature	5°C to 25°C
Mix Ratio	Approx. 5.6 litres of water to 20kg bag of Bostik MC310 OPF By weight mix 3 parts powder to 1 part water
Coverage	Approx. 1.8kg/m^2 per mm thickness 5m^2 per 20kg bag depending on substrate and tiles used
Pot life	Approx. 3 to 4 hours at 20°C
Open Time	Approx. 20 minutes at 20°C
Set Time	Approx. 24 hours at 20°C
Underfloor Heating	Yes
Classification	C2TE-S1

DIRECTIONS FOR USE

IMPORTANT: Before using Bostik MC310 One Part Flexible refer to the relevant Health and Safety Data Sheet, available at www.bostik.com/uk.

Tiling and grouting should be carried out in accordance with the relevant British Standards Codes of Practice.

PREPARATION

1. Before starting any work ensure that the bases are:
   - Sufficiently flat to permit the specified flatness of finished tiling, bearing in mind the permissible minimum and maximum thickness of the bedding material.
   - Suitable for tiling in the service conditions to which it will be exposed.
   - Sufficiently strong and rigid to support the tile

finish.
- Free from efflorescence, laitance, dirt and other loose material.
- Free from deposits of oil, grease and other de-bonding materials.
- Clean and dry.

For surfaces not covered by this technical sheet or for further technical advice please call the Bostik Professional Technical Helpline on +44 (0) 1785 272625.

MIXING

2. Bostik MC310 One Part Flexible should be added to clean water in a clean container and mixed thoroughly to give a creamy lump-free mortar.

3. The mix proportions are approx. 5.6 litres of water to 20kg bag of cement.

4. The mortar will have a pot life of approx. 3 to 4 hours at 20°C. Do not mix more than can be used within this time. Setting time and strength development will vary with temperature, being retarded at lower, and accelerated at higher temperatures.

5. The performance of Bostik MC310 One Part Flexible will be significantly enhanced when mixed using a mechanical stirrer, otherwise mix for at least 5 minutes using as little water as possible to achieve a workable consistency.

6. Do not add extra water after initial mixing.

APPLICATION

7. Do not apply Bostik MC310 One Part Flexible at temperatures below 5°C.

Thin Bed:

8. For thin bed application, in situations where dry conditions will prevail, Bostik MC310 One Part Flexible should be applied by the notched trowel method.

9. The adhesive should be applied to the surface as a thin floated coat at a uniform thickness of approx. 3 mm and then ribbed with a suitable notched trowel.

10. The tiles should be pressed firmly onto the ribbed adhesive with a slight twisting action within the open time of the adhesive.

Thick Bed/Solid Bed:

11. For thick bed application in the case of surfaces that are subjected to movement or not sufficiently true and flat to permit thin bed fixing, Bostik MC310 One Part Flexible may be applied as a floated 3mm – 6mm thickness not exceeding 12mm. Deep lugs, keys or uneven tiles should be buttered with the adhesive before they are fixed.

GROUTING

12. Leave at least 24 hours before grouting or longer when site temperatures are well below 20°C.

MOVEMENT JOINTS

13. Any movement joints visible in the screed should be followed through the tiling to the surface. Failure to do this may result in excessive movements within the structure being transferred to the tiles with the likelihood of resultant failure of the system. Movement joints should be provided in accordance with BS 5385 Part 1: 20 or BS 5385 Part 2: 20 and their location should be decided at the design stage.

CLEANING

14. Surplus adhesive should be removed immediately from the surface of tiles and grout lines.

15. Clean tools and equipment immediately after use with water.

16. Handle and dispose of empty packaging and waste according to local authority regulations.

SURFACE CONSIDERATIONS

FLOORS

New Concrete:

17. Before covering and after curing, concrete should be left to dry out by exposure to air for at least 6 weeks. Any falls required in the system should be formed in the new concrete and not the tiling layer.

New Sand/Cement Screeds:

18. Before covering and after curing, screeds should be left to dry out by exposure to air for at least 3 weeks. It is recommended that screeds should have a relative humidity level of 75% or below as tested by an air hygrometer.

Existing Concrete/Screed Bases:

19. Existing cementitious substrates should be sound and dry. Any unsound areas should be removed, replaced and treated as a new screed or concrete.

Extruded Polystyrene Tile Backerboards/Waterproof Insulation Boards:

20. This type of tile backerboard is particularly suitable where any exposure to moisture is expected e.g. wetrooms, splashbacks and around showers, baths etc. on walls and floors. All recommendations given by the board manufacturer should be followed. In general, when fixing to timber frames or batons, 12.5mm board should be specified as a minimum thickness and ring nails or screws must be used to positively fix the boards over the complete area. Floors require a minimum thickness of 10mm. Ensure that the boards are rigid and the fixings do not protrude. Where tiling exceeds a height of 2.4m, reference should be made to the board supplier/manufacturer. The weight of the tiling should not exceed 60kg/m^2. Do not seal or prime the surface.

Cement Tile Backerboards/Waterproof Insulation Boards:

Tested in conjunction with: www.jameshardie.co.uk

21. Cement boards are suitable particularly where any exposure to moisture is expected e.g. wetrooms, splashbacks, and around showers, baths etc. on walls and floors. All recommendations given by the board manufacturer should be followed. In general, when fixing to timber frames or batons, 12mm board should be specified as a minimum thickness and ring nails or screws must be used to positively fix the boards over the complete area. Floors require a minimum of 6mm. Ensure that the boards are fixed with a 3mm gap from walls, vanities and baths etc. They must be rigid and the fixings do not protrude. Where tiling exceeds a height of 2.4m, reference should be made to the board supplier/manufacturer. The weight of the tiling should not exceed 50kg/m^2. Do not seal or prime the surface.

Calcium Sulphate/Gypsum Based Screeds:
Tested in conjunction with: www.gyvlon.co.uk

22. If the cement based adhesive is applied directly to this type of screed the cement can react with the gypsum resulting in the formation of a crystal structure called Ettringite. This will result in expansion which will break the bond at this interface resulting in a separation of the two. Therefore it is necessary to apply an isolating barrier between the adhesive and the screed. Where necessary the screeding contractor will usually remove any surface laitance (a shiny, hard crust) prior to any further works being carried out. If laitance is still present this must be resolved first before continuing. The screed should then be vacuumed to remove all dust and friable material so that the surface is clean, dry and sound. This type of screed usually takes approximately 1mm/day up to 40mm thickness, adding 2 days/mm above 40mm thickness (based on a sealed site with controlled environment). The tiling work should only be undertaken on a screed with a moisture content below 0.5% (or an RH of 75% or below when tested with a surface hygrometer). The screed should be sealed with a primer that will provide a barrier to prevent any contact with the cementitious adhesive and the gypsum screed. We recommend a suitable Bostik epoxy primer diluted with water. This is a two part epoxy primer and must be allowed to dry (6 to 12 hours) to a translucent, tacky film before subsequent work is undertaken. Subsequent work should be undertaken within 48 hours and the surface should be protected from dust and other contaminants.
For further technical advice please call the Bostik Professional Technical Helpline on +44 (0)1785 272625.

Plywood Overlay:
23. Plywood should be of WPB external or marine grade. The minimum recommendation thickness is 15 - 18mm. Check suitability of sheets for the intended application with the manufacturer. Plywood sheets must be dry, securely fixed and rigid. They should be screwed to the supporting joists at maximum 300mm centres. It is imperative that the joints between boards are supported by either a joist or a noggin. Extra noggins may need to be inserted for this reason. The faces and edges should be sealed with diluted Bostik AP 250 Flexibond pre-diluted 1 : 2 with water to prevent the ingress of ambient moisture. This type of substrate is sensitive to water; care should be made to prevent water ingress. In this situation we would recommend tanking out the installation with a Watertite Tanking & Wetroom Kit. The method of fixing must be solid bed using the appropriate notched trowel. No voids should exist between the tile and substrate, minimum bed thickness 3 mm.

Uncoupling Membranes:
Tested in conjunction with Schlüter®-Ditra:
www.schluter.co.uk

24. A polyethylene membrane with a grid structure of square cavities, each cut back in a dovetail configuration, and an anchoring fleece laminated to its underside. This type of membrane is bonded to the substrate using Bostik MC310 One Part Flexible as a thin-set mortar. The anchoring fleece on the underside is then fully engaged in the mortar to provide a mechanical bond to the substrate. Tiles are then installed over the matting again using a solid bed of Bostik MC310 One Part Flexible which becomes mechanically anchored in the grid cavities of the matting. Bed must not exceed 12mm. Designed specifically for tiles and stone installations they serve as an uncoupling layer, waterproofing membrane, and vapour management layer that accommodates moisture from beneath the tile covering. They further perform all these functions while still providing adequate support/load distribution for the tile covering.

Existing Floor Tiles
25. All loose tiles should be removed and hollows filled before tiling. Existing tiles should be thoroughly cleaned and degreased before tiling to remove all contaminants. Consideration should be given to mechanically abrading the tile surface, particularly with quarry tiles, to ensure a good bond can be formed.

Vinyl Tile/Sheet
26. Vinyl tiles should only be tiled if they are rigid and firmly fixed to their base. Any loose areas should be removed and the whole area thoroughly degreased before fixing. The surface must be sufficiently regular to receive an even bed thickness of adhesive. Prime with Bostik AP 250 Flexibond pre-diluted 1 : 2 with water. Cushioned, soft types of flooring are not suitable and must be completely removed prior to tiling.

Mastic Asphalt:
27. Asphalt must be rigid and solidly fixed. Only internal, flooring grade asphalt should be tiled. Never tile onto external roofing grade asphalt as this will be too soft to acceptably receive tiles. Prime with Bostik AP 250 Flexibond pre-diluted 1 : 2 with water.

Underfloor Heating Systems:
Tested in conjunction with: www.thermogroupuk.com

Heated Screeds:

28. With any new screed, time must be allowed for curing and drying. Screeds should be kept covered with waterproof sheeting for at least 7 days after laying to prevent drying out. During this period strength is gained and drying shrinkage delayed, enabling the screed to better resist shrinkage stresses. After this period, screeds should be subjected to continuous air drying for at least a further 2 weeks before tiling is started. Where screeds are greater than 50mm thick they should be laid in layers of no more than 50mm thickness. This is in order to facilitate good compaction. Information regarding drying times of screeds greater than 50mm and any other aspects can be obtained in BS 8204. Ensure that the heating is turned off for at least 48 hours before any tiling work is carried out and not turned back on for 28 days after tiling has been completed. Bring the temperature of the system up slowly 5°C per per 24 hours to a temperature of 25°C and maintained at that level for 3 days before being allowed to cool to room temperature. This is to prevent delamination and cracking caused by thermal shock. The method of fixing must be solid bed using the appropriate notched trowel. No voids should exist between the tile and substrate, minimum bed thickness 3mm.
    For further technical advice please call the Bostik Professional Technical Helpline on +44 (0)1785 272625.

Matting and Cable Systems:

29. Underfloor heating systems which consist of heating elements held together with a matting matrix are proving to be an efficient, low cost alternative to the traditional method of heated pipes laid into a screed. They have the benefit of being easily installed in a number of different situations and being only a few millimetres thick, are ideal for installations incorporating floor tiles. It is important that the substrate to be tiled is rigid. Concrete and screeds are, therefore, usually ideal and will provide a good solid background. It is stated in the British Standards BS 5385 Part 3, Section 14.2.3 that new structural concrete should be exposed to air drying after the end of curing for at least 6 weeks before a screed or directly bedded materials are applied. Timber floors should have noggins between the joists at 300mm centres and overlaid with either a tile backerboard (minimum 10mm thickness) or plywood (minimum 15mm thickness) screwed to both joists and noggins at maximum 300mm intervals. A flexible screed such as Bostik Cempolatex Fibreflex can be used to cover the matting or cable before the adhesive is applied. The method of fixing must be solid bed using the appropriate notched trowel. No voids should exist between the tile and substrate, minimum bed thickness 3mm. The system should be set to ensure the temperature on a timber-based floor does not exceed 27°C and 40°C on a concrete base.
    For further technical advice please call the Bostik Professional Technical Helpline on +44 (0)1785 272625.

Impact Sound Deadening Insulation:

30. Due to the complexity of this subject please call the Bostik Professional Technical Helpline on +44 (0)1785 272625.

Chipboard, MDF, OSB, GRP Fibre Glass, Magnesite, Cork, External Asphalt, Wall Paper, Varnish, Plastics, Metals, PVC Melamine, Formica Shuttering Plywood and Hardboard:

31. Not suitable for direct fixing. Due to the complexity of this subject please call the Bostik Professional Technical Helpline on +44 (0)1785 272625.

WALLS

New Concrete/Masonry:

32. Before covering and after curing, concrete and masonry should be left to dry out by exposure to air for at least 6 weeks.

New Sand/Cement Render:

33. Before tiling, allow to dry out by exposure to air for at least 2 weeks.

New and Existing Gypsum Plaster:

34. Before tiling, the plaster must be left for at least 4 weeks and be thoroughly dry. Never tile onto a soft backing plaster. Remove any defective areas, including badly cracked plaster, to straight horizontal and vertical edges. Smooth plaster should be mechanically roughened to supply a suitable key. All plaster must be primed with Bostik AP 250 Flexibond. This type of substrate is sensitive to water; care should be made to prevent water ingress. In this situation we would recommend tanking out the installation with a Watertite Tanking & Wetroom Kit.

Plasterboard:

35. Ensure that boards are dry, securely fixed and rigid and the face intended to receive the decorative finish is exposed. Plasterboard should be screwed into the supporting joists at maximum 300mm centres. This type of substrate is sensitive to water; care should be made to prevent water ingress. In this situation we would recommend tanking out the installation with a Watertite Tanking & Wetroom Kit.

Plywood:

36. Sheets must be dry, securely fixed and rigid. They should be screwed to the supporting joists at maximum 300mm centres vertically and horizontally. Only moisture resistant or exterior grade boards should be used. Check suitability of sheets for the intended application with the manufacturer. The faces and edges should be sealed with Bostik AP 250 Flexibond pre-diluted 1 : 2 with water to prevent the ingress of ambient moisture. This type of substrate is sensitive to water; care should be made to prevent water ingress. In this situation we would recommend tanking out the installation with a Watertite Tanking & Wetroom Kit.

Exiting Glazed Tiles:

37. Existing glazed tiles must be firmly fixed to their bed and the bed and original substrate must be sufficiently strong to support the weight of new tiling. Tiles should be thoroughly cleaned to remove any oils or greases that may hinder good adhesion. Any loose or hollow sounding areas must be removed and made good before tiling.

Painted Walls:

38. Ensure that paint is in a sound condition. Emulsion paints are generally insufficiently strong to hold tiles and adhesive and should be removed mechanically prior to tiling. Firmly fixed gloss paints may be suitable but removal is always recommended. Paint strippers should not be used as they can leave a de-bonding layer that reduces the bond strength of the adhesive.

Tile Backerboards:

39. Please see Surface Considerations - Floors.

PRECAUTIONS IN USE

For any application not covered please contact Technical Services on +44 (0) 1785 272625 or visit www.bostik.com/uk.

Recommendations and suggestions are for guidance only, since conditions of use are completely beyond our control.

For health and safety instruction, first aid measures and spillage and disposal instructions, see separate Health and Safety Data Sheet for Bostik MC310 One Part Flexible, available at www.bostik.com/uk.

CONSTRUCTION PRODUCT REGULATION
DECLARATION OF PERFORMANCE

No: TDS01634

Product Description:	Bostik M310 OPF (Grey, White)
Product Codes:	5010591068865, 5010591068858
Intended Use:	Improved deformable standard setting cementitious adhesive with extended open time and reduced slip for internal & external tiling
Manufacturer:	Bostik Ltd
Contact Address:	Common Road Stafford ST16 3EH
System of Assessment:	System 3
Harmonised Standard:	EN12004:2007+A1:2012
Notified Body:	The notified body No.NB1289 carried out the determination of the product type on the basis of type testing on samples taken by the manufacturer under system 3 and issued the test reports (131338)-5700 and (143966)-18528
Declared Performance:	C2TE-S1

Essential Characteristics	Performance	Harmonised technical specification
Reaction to fire	F	**EN12004:2007+A1:2012**
Initial Shear adhesion strength	≥ 1 N/mm^2	
Tensile adhesion strength after water immersion	≥ 1.0 N/mm^2	
Tensile adhesion strength after heat aging	≥ 1.0 N/mm^2	
Tensile adhesion strength after freeze thaw cycles	≥ 1.0 N/mm^2	
Open time: tensile adhesion strength	≥ 0.5 N/mm^2 after not less than 20 min	
Extended open time: tensile adhesion strength	≥ 0.5 N/mm^2 after not less than 30 min	
Slip	≤ 0.5 mm	
Deformable adhesive: Transverse deformation	≥ 2.5 and <5.0 mm	
Release of dangerous substances	See MSDS	

The performance of the above product is in conformity with the declared performance as defined under EN 12004:2007 +A1:2012.

This declaration of performance is issued under the sole responsibility of Bostik Ltd.

Signed for and on behalf of Bostik Ltd by:

Name: Alison Jamieson **Function:** S.H.E.Q. Manager

Signature:  **Date:** April 2014

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