



MC250 Vitri-Flex

RAPID SET FLEXIBLE WALL & FLOOR TILE ADHESIVE

Date: 25 November 2019

Fact Sheet No.: TDS01593

YOUR SMART ADVANTAGES

- Excellent adhesion to fully vitrified, porcelain and stone tiles
- Needs no flexible additives – just mix with water
- Suitable for use with WBP 15mm plywood overlay

USES

Bostik MC250 Vitri-Flex is a fast setting, thin or thick bed adhesive. It is suitable for bonding ceramic tiles, quarry tiles, porcelain, vitrified tiles, natural stone and mosaics to walls and floors.

Bostik MC250 Vitri-Flex is formulated for fast track installation and enables tiles to be grouted approx. 2 to 3 hours after fixing depending on conditions. Bostik MC250 Vitri-Flex provides excellent grip and adhesion.

Bostik MC250 Vitri-Flex is suitable for most interior and exterior installations including more demanding installations, such as use with underfloor heating and areas subject to limited vibration. When fully cured the adhesive is suitable for permanently wet areas such as showers and swimming pools. It will bond to concrete, plaster, sand/cement render and screeds, blockwork, brickwork, glazed surfaces, vinyl tiles and plywood overlay.

PRODUCT CHARACTERISTICS

Colours	Grey & White		
Form	Polylined paper sack		
Specific Gravity			
Composition	Polymer modified cement powder		
Product Codes	30811607	Grey	20kg
	30811622	Grey	10kg
	30607175	White	20kg

Storage/Shelf Life

Store and transport this bag in a secure upright position. Store for up to 6 months from date of manufacture when stored in original, unopened packaging 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
Service Temperature	
Mix Ratio	Approx. 4.4 litres of water to 20kg bag of Bostik MC250 Vitri-Flex By weight mix 5.5 parts powder to 1 part water
Coverage	Approx. 1.8kg/m ² per mm thickness
Pot Life	Approx. 30 minutes at 20°C
Open Time	Approx. 20 minutes at 20°C
Set Time	Approx. 2 to 3 hours at 20°C
Groutable	After approx. 2 to 3 hours at 20°C
Underfloor Heating	Yes

DIRECTIONS FOR USE

IMPORTANT: Before using Bostik MC250 Vitri-Flex refer to the relevant Health & 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.

MIXING

2. Bostik MC250 Vitri-Flex 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. 4.4 litres of water to 20kg bag of powder.
4. The mortar will have a pot life of approx. 30 minutes 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 MC250 Vitri-Flex 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 MC250 Vitri-Flex at temperatures below 5°C.

Thin Bed:

8. For thin bed application, in situations where dry conditions will prevail, Bostik MC250 Vitri-Flex 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. 3mm 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 (approx. 20 minutes at 20°C).

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 MC250 Vitri-Flex 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 2 to 3 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 the tiles and grout lines.
15. Clean tools and equipment immediately after use with water.
16. Handle and dispose of empty packaging and waste in accordance with 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:

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

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, 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 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 60 kg/m². 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 50 kg/m². 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 Bostik Screedmaster 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 3mm.

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 MC250 Vitri-Flex 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 MC250 Vitri-Flex 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 Screedmaster Flex 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

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 Rendering:

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 pre-diluted 1 : 2 with water. 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 Bostik 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.

Existing Glazed Tiles:

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:

37. 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:

38. 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 for advice.

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 & Safety Data Sheet for Bostik MC250 Vitri-Flex, available at www.bostik.com/uk.

BOSTIK HOTLINE

Smart help +44 (0) 1785 272625



**CONSTRUCTION PRODUCT REGULATION
DECLARATION OF PERFORMANCE
No: TDS01593**

Product Description: **BOSTIK MC250 VITRI-FLEX GREY**

Product Code: **5010591068612**

Intended Use: **Improved deformable fast setting cementitious adhesive with reduced slip for internal and external use**

Manufacturer: **Bostik Ltd**

Contact Address: **Common Road
Stafford
ST16 3EH**

System of Assessment: **System 3**

Harmonised Standard: **EN 12004:2007+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 report (131338)-5705**

Declared Performance: **C2FT S1**

Essential Characteristics	Performance	Harmonised technical specification
Reaction to Fire	F	EN12004:2007+A1:2012
Initial tensile adhesion strength	≥ 1.0 N/mm²	
Tensile adhesion strength after water immersion	≥ 1.0 N/mm²	
Tensile adhesion strength after heat aging	≥ 1.0 N/mm²	
Tensile adhesion strength after freeze thaw cycles	≥ 1.0 N/mm²	
Open time: tensile adhesion strength	≥ 0.5 N/mm² after not less than 20 min	
Early tensile adhesion strength	≥ 0.5 N/mm²	
Open time: tensile adhesion strength	≥ 0.5 N/mm² after not less than 10 min	
Slip	≤ 0.5 mm	
Deformable adhesive: Transverse deformation	≥ 2.5 mm and < 5.0 mm	
Release of dangerous substances	See MSDS	

The performance of the Bostik MC250 Vitri-Flex Grey5010591068612 is in conformity with the declared performance shown in the table above.

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: May 2014

**CONSTRUCTION PRODUCT REGULATION
DECLARATION OF PERFORMANCE
No: TDS01593**

Product Description: **BOSTIK VITRI-FLEX WHITE**

Product Code: **5010591068612**

Intended Use: **Improved deformable fast setting cementitious adhesive with reduced slip for internal and external use**

Manufacturer:
Contact Address: **Bostik Ltd
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 report (151125)-6820**

Declared Performance: **C2FT S1**

Essential Characteristics	Performance	Harmonised technical specification
Reaction to Fire	F	EN12004:2007+A1:2012
Initial tensile adhesion strength	≥ 1.0 N/mm²	
Tensile adhesion strength after water immersion	≥ 1.0 N/mm²	
Tensile adhesion strength after heat aging	≥ 1.0 N/mm²	
Tensile adhesion strength after freeze thaw cycles	≥ 1.0 N/mm²	
Open time: tensile adhesion strength	≥ 0.5 N/mm² after not less than 20 min	
Early tensile adhesion strength	≥ 0.5 N/mm²	
Open time: tensile adhesion strength	≥ 0.5 N/mm² after not less than 10 min	
Slip	≤ 0.5 mm	
Deformable adhesive: Transverse deformation	≥ 2.5 mm and < 5.0 mm	
Release of dangerous substances	See MSDS	

The performance of the Bostik MC250 Vitri-Flex White 5010591068612 is in conformity with the declared performance shown in the table above.

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: May 2014

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Full information on these products and advice on application is freely available from our fully trained staff throughout the country. In addition, specialist technical advice is available from our Technical Services Department. This TDS supersedes all previous TDSs relating to the Products, and users of it must ensure that it is the current issue. Destroy all previous TDS, and if in any doubt, contact the Company, quoting the code number in the top right hand corner on the front of this document.

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