

THIS METHOD STATEMENT COVERS THE SURFACE PREPARATION, MIXING & APPLICATION OF MasterTop DTZ.

METHOD STATEMENT: MasterTop DTZ Highly Decorative Seamless Epoxy Terrazzo Floor System 8mm Final Finish (Gloss Finish or Matt Finish)

1. **PREPARATION**:

1.1. At the time of installation of the **MasterTop DTZ**, the substrate concrete must have a minimum tensile strength of >1.5 MPa, be more than 7 days old and the surface should be dry.

Prior to application of the **MasterTop DTZ** System, the substrate must be thoroughly surveyed to ensure that it is sound (above 25 N/mm² and with a pull-off value of >1.5 N/mm²), dry and of acceptable level and finish to accept a 10mm high quality resin finish. A structural DPM must have been installed and the Engineer should have made allowance for any structural movement by installing the correct movement joints. (To be continued through the **MasterTop DTZ**).

The **MasterTop DTZ should not** be applied onto any floor substrate when air moisture exceeds 75% RH and the concrete slab shows >5% moisture content when tested with a Trammex or similar surface applied moisture meter.

1.2. Substrate Floor Flatness

The substrate concrete or screed should be installed to the following tolerances as per **BS 8204-Part 6: 2001 – Table 2 Class- SR1** (±3mm maximum deviation from a 3m straightedge laid flat on the substrate) which is required for the flatness of the finished terrazzo floor. Any repairs to the substrate or correction of the required flatness etc. should be carried out in good time prior to the installation of the **MasterTop DTZ**.

The flatness of the floor substrate is very important for the subsequent MasterTop DTZ application.

NB: If the substrate is significantly outside the level tolerance to accept the 10mm **MasterTop DTZ** terrazzo screed, it is recommended to apply a cementitious self smoothing screed prior to the application of the resin topping. For further information contact BASF UAE LLC.

2. SUBSTRATE PREPARATION:

2.1. The preferred methods of substrate preparation are; captive blasting (heavy), scarifying, (using Bartel, Erut, Von Arx or similar machines). Grinding, if followed by captive blasting may be acceptable.

NB: Acid etching is not acceptable.





- 2.2. Light contamination of oil, grease, fats or similar should be removed before starting other forms of preparation using degreasing solutions. If deep contamination is present it may require cutting out and repairing of the surface.
- 2.3. If the substrate has been damaged by physical or chemical attack, it should be cut back until sound, dense, uncontaminated concrete is exposed.

Repairs can be carried out as per **BASF Method Statement for Thin Section Epoxy Repairs.**

- 2.4. If repairs are carried out using BASF **MasterEmaco** Cementitious Repair Products, they should be cured properly in line with manufacturer's instructions before applying the epoxy topping.
- 2.5. As the flatness of the finished floor is important, high spots should be mechanically removed and minor low spots filled out.
- 2.6. When repairs and levelling are complete, the final surface preparation shall be carried out to remove all laitance and weak or friable concrete, leaving aggregate exposed (CSP #6).
- 2.7. Remove all dust and debris from the prepared surface.
- 2.8. Close the prepared areas to vehicular and pedestrian traffic.
- 2.9. **IF possible** cool the area down to below 30°C for the duration of the installation work.

3. DETAILING: Divider / Edge Strips.

Expansion / Isolation / Construction Joints, Free Edges and Adjacent Finishes

- 3.1. Metal Dividing strips should be permanently fixed to the surface of the concrete substrate or screed at all "Free Edges" and any expansion / isolation / construction / saw-cut control joints in the floor substrate, at column bases and perimeter walls etc. wherever movement is expected, including adjacent finishes, metal finishes and at door thresholds.
- 3.2. For expansion joints and any other required sealed joints, the joints should be formed by using two of the edging / divider strips fixed back to back to the required width of the joint and subsequently filled with an appropriate sealant for the end use.
- 3.3. Termination grooves must be cut in the surface of the concrete along any free-edges (against walls / window frames) and around drains, gulley's and any penetrations in the concrete substrate or screed where metal divider strips are not used. Termination grooves are nominally square in section with each side approximately twice the thickness of the floor. (Min. 16mm x 16mm).

4. **PRIOR TO INSTALLATION:**

4.1. Storage

Materials should be stored under cover, out of direct sunlight and must be protected from temperature extremes. Ideal storage temperature 16°C-22°C.





5. FIXING METAL DIVIDER STRIPS (10mm Depth)

- 5.1. Brass, aluminium or zinc alloy divider strips can be used, ensuring that they have a means of mechanical fixing ("L Section").
- 5.2. Metal Divider Strips are to be permanently and firmly fixed to the substrate to the correct levels.

(Using a dumpy level) and to adhere to the design layout drawings as provided by the client and/or consultant.

5.3. Shrinkage and movement joints can be created using the permanent formwork if required, prior to filling with a proprietary joint sealant.

The decorative divider strips (brass, zinc or aluminium should be fixed and leveled to the required design prior to the application works commencing, and masked off on the vertical side of the strips on adjacent panels to prevent contamination of colour from the area being laid.

NB: Care should be taken to ensure the fixing screws are countersunk into the metal divider strips to prevent them being visible after the MasterTop DTZ grinding process. If necessary, the fixing screw heads can be ground down after the application of the MasterTop RM 10 is completed and set.

6. INSTALLATION OF THE MASTERTOP DTZ:

6.1. Ideal application temperatures are 18°C to 30°C. The mixed **MasterTop DTZ** should be within 18°C to 22°C range during installation. Once laid **MasterTop DTZ** will cure very effectively even at low temperatures.

Applications should not proceed if the temperature is expected to be within +3°C of the dew point at any time during the operation.

7. APPLICATION OF MASTERTOP DTZ (Total System Build Up at 8mm)

Primer/Sealer should not be applied on to:

Damp substrates - Concrete and other cementitious substrates **must** be dry with moisture content less than 5%.

Weak substrates - The **MINIMUM** pull-off strength shall be >1.5 N/mm². Application to substrates of lower strength is **NOT** recommended and may affect the long-term performance of the applied flooring. This is particularly relevant in areas subject to heavy use be it thermal or mechanical.

7.1 **Option 1 – MasterTop P 650**

(Low Viscosity Two Component Primer for Dense, Low Porous Substrates)

7.2. Mix the A and B components of **MasterTop P 650** together until it is free of streaks.





- 7.3. Apply the mixed MasterTop P 650 to the substrate, using a medium pile roller at the coverage rate of 0.15 0.30 kg/m² depending on the absorption of the substrate. The surface of the primer must be wet and glossy at the time of applying the aggregate scatter. Dry / matt areas must be re-primed.
- 7.4. Allow to cure for 5 hours at 20°C.

7.5. Option 2 - MasterTop P 651 – PRIMER/SEALER

Mixing MasterTop P 651

7.6. Pour the contents of the **PTA** and the **PTB** into a suitable polyethylene mixing pail and mix using a suitable spiral mixing paddle in an electric drill operated at 300 – 350 rpm for at least 1 minute, and then add **Part C** powder and mix for a further 2 minutes until an even consistency is achieved.

7.7. Application of MasterTop P 651 PRIMER

7.8. Pour the mixed material into an industrial paint tray and apply by roller, taking care to avoid ponding. Apply the material around the edges of areas and into the termination grooves by brush to ensure even spreading at the following coverage rates.

(a) Coverage: 0.3 kg - 0.35 kg/m² depending on porosity of substrate.

NB: Above coverage rate will depend on substrate profile and does not include any wastage.

- 7.9. **MasterTop P 651 PRIMER** should be allowed to cure for a minimum of 8 hours and a maximum of 48 hours before applying **MasterTop DTZ** flooring (assuming 20°C). At low temperatures and low humidity these times may be extended. The surface MUST be dry to the touch before overlaying.
- 7.10. Should the primer coat be left for more than 48 hours, mechanical surface preparation will be required to produce a suitable surface for the application of the **MasterTop M 332** and the **MasterTop RM 10.** This may necessitate re-priming.

8. APPLICATION OF CRACK SUPPRESSANT MEMBRANE AND MAT:

MasterTop M 332 and MasterTop RM 10

8.1. Mixing

Pour the contents of the PTA and the PTB into a polyethylene mixing pail and mix using a spiral mixing paddle in a slow speed electric drill operated at 300 rpm for 3 minutes.

8.2. Application of MasterTop M 332

Pour the mixed material into an industrial paint tray and apply by roller at the following coverage rate taking care to avoid ponding. Apply the material around the edges of the area by brush to ensure even spreading.

(a) Coverage: 0.5 L/m² (Approx. 0.525 kg/m²)

NB: Above coverage rate does not include any wastage.

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Embed the **MasterTop RM 10** into the wet **MasterTop M 332** membrane and firmly press the mat into the wet resin using a flat trowel, metal disc roller or flexible steel coil roller ensuring there is no creasing or air blisters.

NB: Any creases or blisters formed in the MasterTop RM 10 during the application process can be cut with a sharp blade when the MasterTop M 332 membrane is starting to be tacky and then rolled to press the MasterTop RM 10 into the tacky MasterTop M 332 membrane. Spike shoes may be required for this operation.

8.3. **MasterTop M 332** should be allowed to cure for a minimum of 8 hours and a maximum of 48 hours before applying **MasterTop DTZ** flooring (assuming 20°C). At low temperatures and low humidity these times may be extended. The surface MUST be dry to the touch before overlaying.

NB: When dry, any fibres or raised areas should be sanded or ground down.

9. APPLICATION OF MASTERTOP BC 304:

- 9.1. MasterTop BC 304 consists of four components.
- 9.2. Mix the **MasterTop BC 304** liquid components PTA and PTB together for 1 minute with a slow speed drill and paddle (300 350 rpm) to create a uniform dispersion. The colour pack should be mixed thoroughly with the PTA component before mixing with PTB.
- 9.3. The mixed material should then be transferred into a suitable forced action mixer (such as a cretangle or similar) and then gradually add the bag of decorative aggregates whilst mixing continues for typically 3 4 minutes. Only whole units are to be mixed. Nothing is to be added or left out.
- 9.4. **DO NOT** mix more than two units at a time. Transport and discharge the mixed material on to the substrate as quickly as possible.

Spread all of the mixed **MasterTop BC 304** on to the floor immediately after mixing and spread by steel trowel to the correct thickness (minimum 10mm) and strike off flat using the installed divider strips as a guide at the following coverage rates.

- (a) Coverage: Laid at 10mm thickness to give an 8mm final finish: 22 kg/m²
- NB: Material should be laid at 10mm thick using the above given coverage rate (22 kg/m²) which will give an 8 mm finish after grinding and polishing.

NB: Above coverage rate does not include any wastage.

- 9.5. Compact the placed material using a wood or plastic float.
- 9.6. Close and flatten the surface using a steel float.
- 9.7. Allow to cure for a minimum 16 hours.
- 9.8. Do not apply when atmospheric condensation is occurring or likely to occur before full cure is attained, i.e., when the dew point is reached or when the ambient or substrate temperature is within 3°C of the dew point. Normally full cure is reached after 24 hours, but under very cold or very dry conditions this may be extended to 48 hours.



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10. GRINDING, GROUTING AND POLISHING:

Grinding and polishing consists of four specific stages:

- (a) Coarse grinding
- (b) Fine grinding
- (c) Grouting
- (d) Polishing

Each stage should be completed in turn.

Grouting should not commence until all surface irregularities are removed.

10.1. Coarse Grinding -

This requires the use of a **diamond grinder (such as HTC or similar)** and would also require an **edge grinder (such as a HTC 270 EG or similar)** for grinding close to adjacent finishes and around columns, etc. The **MasterTop DTZ** floor must cure for 16 hours minimum and the grinding preferably commence after 3 days. Grinding too early will pull out aggregate necessitating the use of additional grouting to fill the voids created. Grinding too late will mean that additional time will be needed to achieve the ground surface with consequent rapid and excessive wear of the grinding diamonds. Coarse grinding is carried out either wet or dry. The mobile grinding machines should be fitted with suitable dust extractors for the dry grinding and a wet vacuum is required for the wet grinding. The diamond heads need periodic replacement; consult the supplier for advice on their effective working life. This can be either a wet or dry process depending on the equipment used. If wet grinding, remove the fine grounds as a slurry to ensure control of the grinding pattern.

Remove the slurries with a squeegee and wet vacuum the surface to remove all the slurry.

Coarse grinding may remove up to 1 mm from the surface to attain evenness.

10.2. Fine Grinding –

This requires the use of a **diamond grinder (such as HTC or similar)** and would also require an **edge grinder (such as a HTC 270 EG or similar)** for grinding close to walls, doorways, adjacent finishes and around columns etc.

Fine grinding frees the surface from scratches. The mobile grinding machines are fitted with diamond heads, the choice of which depends upon the required final finish; this procedure should be carried out by wet grinding. Areas inaccessible to large grinding machines are ground using either an edge grinder or a hand finisher fitted with carborundum paper; this procedure is normally done dry so proper safety precautions (such as wearing safety goggles and dust masks) must be taken. When grinding is complete, clean the floor with a floor scrubber (150 rpm) and wash down the surface with water 2 or 3 times and wet vacuum the area to leave it clean and dry with all surface irregularities free from dust and debris. It is essential that the surface is as free from scratches as much possible prior to applying the grouting/filler. Care must be taken not to create more voids as a result of over-grinding. By minimising the surface irregularities, easier grouting/filling is achieved with a minimum of polishing.





10.3. Grouting / Filler

MasterTop BC 304 resin + MasterTop 1210 filler powder.

10.4. The grinding stages cause some surface pitting from aggregate pull-out and exposure of pin holes. It is extremely important that loose particles and slurry moisture are removed by a floor scrubbing machine and wet vacuum machine cleaning. MasterTop BC 304 resin + MasterTop 1210 filler powder is applied to in-fill the pin holes and any pitting.

MasterTop BC 304 resin + MasterTop 1210 filler powder is tightly hand trowelled over the whole surface, ensuring that it is firmly pushed into and fills the pin holes, pits and voids and removing as much excess grout filler as possible with the trowel edge or a scraper to avoid build-up of grout/filler on the surface.

This is very important otherwise the subsequent polishing stage will be unnecessarily long as it will have to remove the excess grout / filler as well as polish the floor surface.

Allow the **MasterTop BC 304 resin + MasterTop 1210 filler powder** to dry / cure fully prior to final grinding to remove the excess grout/filler from the surface completely. When the final grinding is complete, clean the floor with a floor scrubber (such as EURODISC E43 Plus or similar) and (150-155 rpm) and wash down the surface with clean potable water 2 or 3 times and wet vacuum the area to leave it clean and dry with all surface irregularities free from dust and debris.

(a) MasterTop BC 304 Resin + MasterTop 1210 filler powder

Mix Ratio:

- (1) Base 3.885 kg
- (2) Hardener 1.665 kg
- (3) Filler powder 3 kg 4 kg
- (4) Colour pack 400 grams

Coverage: Approx. 0.075 kg/m²

NB: (It may require several applications as required depending on the amount of pin holes / blemishes in the matrix).

Sufficient time should be given before each application is grinded to remove any excess grout. (Approx. 12 hours).

NB: It is absolutely necessary to mix a little of the appropriate colour pack into the above mix so that the filler blends into the background colour, otherwise the filler will show as opaque light spots, especially on the darker colours.

NB: The appropriate coloured grinding dust can also be used as the filler powder. Refer to the BASF Technical Department for further details.

10.5. Polishing

The procedure is similar to fine grinding but using the polishing diamond heads. The procedure should be done wet. A final pass with new diamond heads will help to achieve uniformity in appearance. If examination shows evidence of ungrouted blowholes and pits, repeat the grouting/filler procedure.

10.5. Wash the floor down thoroughly and vacuum it until it is clean and dry.



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NB: It is essential that all traces of MasterTop BC 304 resin + MasterTop 1210 filler powder are removed completely prior to the application of the MasterTop TC 425 seal coat (Gloss Finish) or MasterTop TC 424 (Matt Finish).

11. Seal Coat (MasterTop TC 425 - Gloss Finish) or (MasterTop TC 424 - Matt Finish)

11.1. Option 1 - (Gloss Finish) - MasterTop TC 425 Seal Coat

- 11.2. The finished floor may have a dull, dusty appearance when dry, but will improve with additional cleaning and washing.
- 11.3. A seal coat is required to improve aesthetics and ease of cleaning.
- 11.4. MasterTop TC 425 Seal Coat should be applied at the following coverage rate.

(a) Coverage: Approx. 0.015 L/m² per coat (3 coats required)

NB: Each coat should be allowed to dry and subsequent coats applied at right angles to the previous coat.

11.5. Allow the final coat of MasterTop TC 425 Seal Coat to dry for a minimum of 12 hours before polishing / buffing with a high speed polishing/buffer machine. (Min 1500 rpm) using the White Pad and then the fluffy cloth pad for the final buff up.

(Such as FIMAP FM 1500 V or similar) (min 1500 rpm)

12. Option 2 - (Matt Finish) - MasterTop TC 424 Seal Coat

12.1. MasterTop TC 424 Seal Coat should be applied at the following coverage rate.

(a) Coverage: Approx 0.02 L/m² per coat (3 coats required)

NB: Each coat should be allowed to dry and subsequent coats applied at right angles to the previous coat.

12.2. Allow to cure for 24 hours at 20°C prior to foot traffic.

13. Expansion Joints

Expansion / Movement Joints should be formed as per item 3.2 above.

14. POST INSTALLATION:

- 14.1. No Building Trades or traffic to be allowed on to the freshly laid **MasterTop DTZ** for at least 16 hours at 15°C to 20°C, longer at lower temperatures.
- 14.2. During the installation of the required joint sealant no other trades have access until the sealant has cured sufficiently to resist damage (at least 48 hours).
- 14.3. If the floor is to be handed to the client in a pristine condition, then it must be protected from **ALL** other trades. Full protection of the whole floor by temporary covers consisting of polyethylene sheeting overlaid with hardboard, or plywood depending on the trades and traffic to have access, with joints taped and fixed. Ensure the floor is completely tack free at the time of covering, typically after 24 hours at 15°C to 20°C.



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15. Cleaning and Maintenance

Please refer to the BASF Construction Chemicals UAE Aftercare Floor Cleaning Concept 10.

NOTE:

The above guide provides a summary of the installation of a **MasterTop DTZ** floor and should be read in conjunction with our Technical Data Sheets.

The **MasterTop DTZ** Applicator is a specialist in the installation of **MasterTop DTZ** floors and is to install the floor in accordance with **BASF Construction Chemicals LLC** recommendations, Method Statement and best site practice.

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this BASF publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

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