TILING SPECIFICATION

SPECIFICATION NUMBER: NR170-17
PREPARED BY: Mike Cubley
PREPARED FOR: Tiling to Anhydrite Screeds using Norcros Pro Gyp Base Generic Specification.

ATTENTION: INSTALLATION:

M40 STONE/ CONCRETE/ QUARRY/ CERAMIC TILING/ MOSAIC
To be read with Preliminaries/ General Conditions.

TYPES OF TILING/ MOSAIC

110 TILING TO HEATED SCREEDS
Tiles: Ceramic / Porcelain
Manufacturer/ Supplier: TBA
Product reference: TBA
Colour: TBA
Finish: TBA
Size: TBA
Thickness: TBA
Background/ Base (To be confirmed by contractor): New anhydrite screed incorporating a piped underfloor heating system.
Preparation: as clauses 240a, 310 and 322B.
Prime and seal the screed using Norcros Pro Gyp Base as manufacturers recommendations.
Screed must be a maximum of 95% R.H (Minimum 7 days old). Lightly sand the surface and remove laitance and dust.
Mix parts 1A and 1B of the clear primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed using the roller or a brush. Allow to dry (approximately 2 hours). Wash roller after application.
Mix parts 2A and 2B of the black primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed at a 90° angle to the first coat using the roller or a brush. Allow to dry for 24 hours. Wash roller after application.
Using the roller, apply the 2 coats of the moisture suppressant, allowing it to dry between coats (approximately 1 hour). Apply the second coat at a 90° angle to the first to ensure that 100% coverage is achieved. Allow to dry (approximately 1 hour). Wash the roller after each application.
Apply one coat of the gritted primer and allow to dry for approximately 1 hour.
Bedding: As clause 710 – ensuring solid bed fixing is achieved.
Adhesive: Norcros Pro Gyp Base Tile Adhesive. (NBS Create clauses 45-65-50-325)
Joint width: Minimum 3mm.
Grout: Norcros 4 into 1 Flexible Wall and Floor Tile Grout. (NBS Create clauses 45-55-50-425)
Type/ classification: BS EN 13888 CG2.

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Movement Joints – Heated Anhydrite/Calcium Sulphate Screeds

In heated calcium sulphate floor screeds, movement joints should be detailed:
- Over structural joints in the underlying construction. These movement joints through the screed and tile bed should coincide with and be designed to accommodate the same movement of the underlying structural joints.
- At perimeters of floors where the screed abuts walls and upstands and at door thresholds.
- As a movement joint through both the screed and tile bed dividing the tiling into areas not greater than 40m², or in accordance with the screed suppliers or screed manufacturers instructions. The areas bounded by movement joints should be square to rectangular with the width to length ratio not exceeding 5 to 8.
- As movement joints at significant changes of width of the screed surface and in doorways (ground plan length over 5m) with several rooms arranged one after another within a floor plan.
- As a boundary joint isolating areas of screed with separately controlled heating circuits.
- At doorway thresholds between separate areas of use.
- At junctions between heated and unheated sections of the screed.

The width and spacing of movement joints should be sufficient to accommodate anticipated thermal movement of the screed between the maximum operating temperature and expected lowest temperature of the screed. The coefficient of thermal expansion of the pumped calcium sulphate screed should be taken to be 0.012mm/m²°C.

If the detail provided by the screed manufacturer states that there might be changes in length during installation (expansion), these must also be taken into account when calculating the necessary width of movement joints.

Note that, though pumped calcium sulphate based screeds can be laid in large areas without joints, where joints are required in heated screed they will have to be formed during the application of the calcium sulphate screed. This will require the use of formwork or the use of proprietary pre-formed movement joint profiles designed for this purpose.

Accessories: Fill perimeter movement joints with Norcros 4 into 1 Sealant (NBS Create clauses 45-55-75-345), colour to match clause 815.

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111 TILING TO UNHEATED SCREEDS

Tiles: Ceramic/Porcelain
Manufacturer/Supplier: TBA
Product reference: TBA
Colour: TBA
Finish: TBA
Size: TBA
Thickness: TBA
Background/Base (To be confirmed by contractor): New anhydrite screed.
Preparation: as clauses 310 and 322B.
Prime and seal the screed using Norcros Pro Gyp Base as manufacturers recommendations.

Screed must be a maximum of 95% R.H (Minimum 7 days old). Lightly sand the surface and remove laittance and dust.
Mix parts 1A and 1B of the clear primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed using the roller or a brush.
Allow to dry (approximately 2 hours). Wash roller after application.
Mix parts 2A and 2B of the black primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed at a 90° angle to the first coat using the roller or a brush. Allow to dry for 24 hours. Wash roller after application.
Using the roller, apply the 2 coats of the moisture suppressant, allowing it to dry between coats (approximately 1 hour). Apply the second coat at a 90° angle to the first to ensure that 100% coverage is achieved. Allow to dry (approximately 1 hour). Wash the roller after each application.
Apply one coat of the gritted primer and allow to dry for approximately 1 hour.
Bedding: As clause 710 – ensuring solid bed fixing is achieved.
Adhesive: Norcros Pro Gyp Base Tile Adhesive. (NBS Create clauses 45-65-50-325)
Joint width: Minimum 3mm.
Grout: Norcros 4 into 1 Flexible Wall and Floor Tile Grout. (NBS Create clauses 45-55-50-425)
Type/classification: BS EN 13888 CG2.

Movement Joints – Floors

Movement joints should extend through the tiling and its bed and coincide with any structural movement joints. British Standard BS 5385: Part 3: 2015 recommends that movement joints should be provided around the perimeter of the tiled installation (including door thresholds) with intermediate movement joints being provided in larger areas at 8m to 10m intervals, at junctions between different substrates, door thresholds and between existing substrates and new heated screeds. On suspended floors stress relieving joints should be provided over supporting walls or beams where there is a risk of flexing.
Accessories: Fill perimeter movement joints with Norcros 4 into 1 Sealant (NBS Create clauses 45-55-75-345), colour to match clause 815.

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LEVELLING TO HEATED SCREEDS

Background/ Base (To be confirmed by contractor): New anhydrite screed incorporating a piped underfloor heating system.

Preparation: as clauses 240a, 310 and 322B.

Prime and seal the screed using Norcros Pro Gyp Base as manufacturers recommendations.

Screed must be a maximum of 95% R.H (Minimum 7 days old). Lightly sand the surface and remove laitance and dust.

Mix parts 1A and 1B of the clear primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed using the roller or a brush. Allow to dry (approximately 2 hours). Wash roller after application.

Mix parts 2A and 2B of the black primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed at a 90° angle to the first coat using the roller or a brush. Allow to dry for 24 hours. Wash roller after application.

Using the roller, apply the 2 coats of the moisture suppressant, allowing it to dry between coats (approximately 1 hour). Apply the second coat at a 90° angle to the first to ensure that 100% coverage is achieved. Allow to dry (approximately 1 hour). Wash the roller after each application.

Apply one coat of the gritted primer and allow to dry for approximately 1 hour. Level with Norcros Pro 30 Levelling Compound and allow to dry ready to receive a finishing layer.

Movement Joints – Heated Anhydrite/Calcium Sulphate Screeds

In heated calcium sulphate floor screeds, movement joints should be detailed:

- Over structural joints in the underlying construction. These movement joints through the screed and tile bed should coincide with and be designed to accommodate the same movement of the underlying structural joints.
- At perimeters of floors where the screed abuts walls and upstands and at door thresholds.
- As a movement joint through both the screed and tile bed dividing the tiling into areas not greater than 40m², or in accordance with the screed suppliers or screed manufacturers instructions. The areas bounded by movement joints should be square to rectangular with the width to length ratio not exceeding 5 to 8.
- As movement joints at significant changes of width of the screed surface and in doorways (ground plan length over 5m) with several rooms arranged one after another within a floor plan.
- As a boundary joint isolating areas of screed with separately controlled heating circuits.
- At doorway thresholds between separate areas of use.
- At junctions between heated and unheated sections of the screed.

The width and spacing of movement joints should be sufficient to accommodate anticipated thermal movement of the screed between the maximum operating temperature and expected lowest temperature of the screed. The coefficient of thermal expansion of the pumped calcium sulphate screed should be taken to be 0.012mm/m²°C.
If the detail provided by the screed manufacturer states that there might be changes in length during installation (expansion), these must also be taken into account when calculating the necessary width of movement joints.

Note that, though pumped calcium sulphate based screeds can be laid in large areas without joints, where joints are required in heated screed they will have to be formed during the application of the calcium sulphate screed. This will require the use of formwork or the use of proprietary pre-formed movement joint profiles designed for this purpose.

113 **LEVELLING TO UNHEATED SCREEDS**

**Background/ Base (To be confirmed by contractor):** New anhydrite screed.

**Preparation:** as clauses 310 and 322B.

Prime and seal the screed using Norcros Pro Gyp Base as manufacturers recommendations.

Screed must be a maximum of 95% R.H (Minimum 7 days old). Lightly sand the surface and remove laitance and dust.

Mix parts 1A and 1B of the clear primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed using the roller or a brush.

Allow to dry (approximately 2 hours). Wash roller after application.

Mix parts 2A and 2B of the black primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed at a 90° angle to the first coat using the roller or a brush. Allow to dry for 24 hours. Wash roller after application.

Using the roller, apply the 2 coats of the moisture suppressant, allowing it to dry between coats (approximately 1 hour). Apply the second coat at a 90° angle to the first to ensure that 100% coverage is achieved. Allow to dry (approximately 1 hour). Wash the roller after each application.

Apply one coat of the gritted primer and allow to dry for approximately 1 hour.

Level with Norcros Pro 30 Levelling Compound and allow to dry ready to receive a finishing layer.

**Movement Joints – Floors**

Movement joints should extend through the tiling and its bed and coincide with any structural movement joints. British Standard BS 5385: Part 3: 2015 recommends that movement joints should be provided around the perimeter of the tiled installation (including door thresholds) with intermediate movement joints being provided in larger areas at 8m to 10m intervals, at junctions between different substrates, door thresholds and between existing substrates and new heated screeds. On suspended floors stress relieving joints should be provided over supporting walls or beams where there is a risk of flexing.

**Accessories:** Fill perimeter movement joints with Norcros 4 into 1 Sealant (NBS Create clauses 45-55-75-345), colour to match clause 815.
GENERALLY

200 NORCROS ADHESIVES PRODUCTS will be applied in accordance with the site work instructions on the manufacturer’s product data sheets. All Norcros products are covered with a Lifetime guarantee when used in accordance with the manufacturer’s instructions.

210 SUITABILITY OF BACKGROUND/ BASES

- Background/ base tolerances: To permit specified flatness/ regularity of finished surfaces given the permissible minimum and maximum thickness of bedding.
- Suitable and sufficiently strong to receive and support a tiled finish.
- Suitable for the conditions to which it will be exposed.
- Fully dry and free from contamination, laitance etc.
- New background drying times (minimum):
  - Concrete walls: 6 weeks.
  - Brick/ block walls: 6 weeks.
  - Rendering: 2 weeks.
  - Gypsum plaster: 4 weeks.
  - New base drying times (minimum):
    - Concrete slabs: 6 weeks *.
    - Cement: sand screeds: 3 weeks *.
  * Drying time will be reduced to 48 hours if Norcros Permalayer Anti-Fracture membrane is used.

215 FALLS IN BASES

- General: Give notice if falls are inadequate.

240A UNDERFLOOR HEATING

- Anhydrite screeds must be dry in accordance with the screed manufacturers recommendations before the heating is brought to its intended operating temperature and maintained at that temperature for a minimum of 3 days. It should then be allowed to cool to room temperature prior to the commencement of tiling.
- The heating may be switched on 14 days after completion of tiling, raising the temperature gradually at a rate of 5°C per day.

250 SAMPLES

- General: Submit representative samples of the following: ______

260 CONTROL SAMPLES

- General: Complete sample areas, being part of finished work, in locations as follows: ______ .
- Approval of appearance: Obtain before proceeding

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PREPARATION

310 EXISTING BACKGROUNDS/ BASES GENERALLY
- Efflorescence, laitance, dirt and other loose material: Remove.
- Deposits of oil, grease and other materials incompatible with the bedding: Remove.
- Tile, paint and other nonporous surfaces: Clean.
- Wet backgrounds: Dry before tiling.

322B ANHYDRITE SCREEDS
USING NORCROS PRO GYP BASE
The screed must be:
- Minimum 7 days old (Maximum 95% RH) and prepared as per the screed manufacturers recommendations.
- Free from all surface contamination, dust and laitance (the surface should be lightly sanded and vacuumed).
Mix parts 1A and 1B of the clear primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed using the roller or a brush. Allow to dry (approximately 2 hours). Wash roller after application.
Mix parts 2A and 2B of the black primer together ensuring that a smooth, lump-free consistency is achieved and apply to the screed at a 90° angle to the first coat using the roller or a brush. Allow to dry for 24 hours. Wash roller after application.
Using the roller, apply the 2 coats of the moisture suppressant, allowing it to dry between coats (approximately 1 hour). Apply the second coat at a 90° angle to the first to ensure that 100% coverage is achieved. Allow to dry (approximately 1 hour). Wash the roller after each application.
Apply one coat of the gritted primer and allow to dry for approximately 1 hour.

FIXING

510 FIXING GENERALLY
- Colour/ shade: Unintended variations within tiles for use in each area/ room are not permitted.
- Variegated tiles: Mix thoroughly.
- Adhesive: Compatible with background/ base. Prime if recommended by adhesive manufacturer.
- Use of admixtures with cementitious adhesives: Only admixtures approved by adhesive manufacturer.
- Cut tiles: Neat and accurate.
- Fixing: Provide adhesion over entire background/ base and tile backs.
- Final appearance: Before bedding material sets, make adjustments necessary to give true, regular appearance to tiles and joints when viewed under final lighting conditions.
- Surplus bedding material: Clean from joints and face of tiles without disturbing tiles.

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530 SETTING OUT
- Joints: True to line, continuous and without steps.
- Joints on walls: Horizontal, vertical and aligned round corners.
- Joints in floors: Parallel to the main axis of the space or specified features.
- Cut tiles: Minimize number, maximize size and locate unobtrusively.
- Joints in adjoining floors and walls: Align.
- Joints in adjoining floors and skirtings: Align.
- Movement joints: If locations are not indicated, submit proposals.
- Setting out of ______: Drawing references: ______.
- Setting out of ______: Submit proposals

540 LEVEL OF FLOOR TILING
- Permissible deviation in level from datum for ______.

550 FLATNESS/REGULARITY OF TILING
- Sudden irregularities: Not permitted.
- Deviation of surface: Measure from underside of a 2 m straightedge with 3mm thick feet placed anywhere on surface. The straightedge should not be obstructed by the tiles and no gap should be greater than 6 mm, i.e. a tolerance of ± 3mm.

560 LEVEL OF TILING ACROSS JOINTS
- Deviation (maximum) between tile surfaces either side of any type of joint:
  - 1 mm for joints less than 6 mm wide.
  - 2 mm for joints 6 mm or greater in width.

710 THICK BED ADHESIVE - SOLID (FLOORS)
- Application: By floated coat of adhesive to dry base and comb surface.
- Tiling: Apply coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles. Press tiles firmly onto position.
- Finished adhesive thickness: Within range recommended by manufacturer.

MOVEMENT JOINTS/GROUTING/COMPLETION

815 SEALANT MOVEMENT JOINTS ______
- Joints: Extend through tiles and bedding to base/ background. Centre over joints in base/ background.
- Width: 6mm.
- Sealant: 4 into 1 Silicone Sealant.
- Colour: TBA.
- Preparation and application: As section Z22.

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875 GROUTING
- Sequence: Grout when bed/ adhesive has set sufficiently to prevent disturbance of tiles.
- Joints: 6 mm deep (or depth of tile if less). Free from dust and debris.
- Grouting: Fill joints completely, tool to profile, clean off surface. Leave free from blemishes.
- Profile: ______.
- Polishing: When grout is hard, polish tiling with a dry cloth.

885 COLOURED GROUT
- Staining of tiles: Not permitted.
- Evaluating risk of staining: Apply grout to a few tiles in a small trial area. If discoloration occurs apply a suitable impregnating sealer to tiles and repeat.