NBS M12 RESIN FLOORING
COMBINED PARAGRAPHS

To be read with Preliminaries/ General Conditions

TYPE(S) OF FLOORING

110A RESIN FLOORING
- Project:
- Location:
- Substrate:
- Preparation:
- Resin flooring system:
- Manufacturer: ALTRO RESIN SYSTEMS, Unit 3, Station Road Industrial Estate, Maiden Newton, Dorchester, Dorset, DT2 OAE
- Primer reference:
- Resin flooring reference: **Altro Screed 5mm slip-resistant Rapicure – FERFA Type 6**
- Application: **5mm** Nominal thickness
- Colour: **TBA**
- Accessories:
- Resin skirting's / upstands:
- Surface finish: In strict accordance with manufacturer's instructions.
- Flatness/Surface regularity:
- Sudden irregularities: Not permitted.
- Classification of surface regularity to BS 8204-6:
  SR1 - High
  SR2 - Normal
- Other requirements: **Please refer to Technical Data sheet in association with this specification.**

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PREPARATION OF SUBSTRATES

210 TESTING MOISTURE CONTENT OF SUBSTRATES
- Drying aids: Remove minimum four days prior to test.
- Test: To BS 8203, Annex A using an accurately calibrated hygrometer.
  Location of readings: Corners, along edges, and at various points over the test area.
- Relative humidity before laying resin flooring (maximum): **75% R.H.**

210A SURFACE APPLIED DAMP PROOF MEMBRANE
- Manufacturer and reference: **Altro Proof standard, epoxy surface damp proof membrane by Altro Floors effective up to 97% R.H.**
  NB: Please note AltroProof Solo fast-track is also available where floor coverings are to be laid same day. Conditions apply.
- Apply in accordance with manufacturer's instructions.
  In the event of underfloor heating please consult Altro Technical for conditions of use.

220 SURFACE HARDNESS OF SUBSTRATES
- General: Substrates must restrain stresses that occur during setting and hardening of resin and in service.
- Test for surface hardness: To BS EN 12504-2 using a rebound hammer to ensure that a minimum strength of **26 N/mm^2** is achieved. Surface tensile strength **>1.5N/mm^2**.
- Areas of non-compliance: Submit remedial proposals for repair or cut out and replacement.

230A PREPARATION OF SUBSTRATES GENERALLY
- Chases/ Saw cuts: Cut/ break out at skirtings, free edges, movement joints, etc. for termination of resin flooring.

- Blow holes, cavities, cracks, etc: Fill with repair product recommended by resin flooring manufacturer.
- Cleanliness: Remove surface contaminants, debris, dirt and dust.
- Texture of surface: Suitable to accept resin flooring, providing a suitable profile as a mechanical key and achieve a full bond over the complete area.
- All live movement / crack induced joints should be brought through the resin and infilled with colour matched **Altro Expand**. (**Altro Prime standard** contact surfaces)

230B SUBSTRATES TYPES AND PREPARATION

- **Concrete:** Prepare the subfloor by lightly encapsulated bead blasting with vacuum dust recovery (grade to be established by installer) alternatively a high speed diamond grinding machine with vacuum recovery may be used.
- **Sand & Cement Modified Screed**: Prepare by means of rotary grinding m/c fitted with silicon carbide pads or tct discs fitted with vacuum recovery system to expose clean aggregate.
- **Timber Surface – RBP – Stable system only:** Remove all contamination and using vacuum controlled recovery sanding machine. (Seek Altro advice for recommended construction detail and specification)
- **Metal Surface – Mild Steel:** Shot blast ensuring full removal of oil, grease, dirt, rust, paint coatings and any other foreign matter / surface contaminant. (Paragraph 260 refers).
- **Metal Surface – Galvanised Mild Steel:** Remove any surface contaminant and thoroughly clean and degrease before applying a proprietary etch primer in accordance with manufacturer's instructions.

  Others include: Terrazzo. Please consult Altro Technical Services for compatibility and preparation requirements.

  NB: In the event of underfloor heating please consult Altro for further guidance.

  After preparation surfaces should be free from laitance, friable materials and contamination. The area should be thoroughly vacuumed to remove any remaining dust or debris.

  Surface texture: Suitable to accept resin flooring and achieve a full bond over the complete area. Please note thinner resin floorings (coatings) will reflect the surface preparation in the finish.

240 EXISTING SUBSTRATES

- Preparation: Remove surface imperfections, ingrained contaminants, coatings and residues.
- Contaminated areas: Submit proposals for removal and repair.

250 EXISTING TILE/ SHEET FLOOR COVERINGS

- Preparation: Remove coverings, residual adhesive, bedding, grouting and pointing.

260 METAL SUBSTRATES

- Cleaning: Shot blast to BS EN ISO 8501-1, grade Sa2.5.
- Treated surfaces: Clean. Free from visible oil, grease and dirt, mill scale, rust, paint coatings and foreign matter.

LAYING FLOORING

310A WORKMANSHIP

- Operatives: Trained/ Experienced in the application of resin floorings.
- Evidence of training/ experience: on request.
- Fillers and incorporated aggregates: Thoroughly mix in to ensure wetting. Avoid over-vigorous mixing resulting in excessive air entrainment.
- Scattered aggregates: (where appropriate) Broadcast onto wet surface of resin.
- Appearance: Consistent.
- Curing: Allow appropriate periods between coats, before surface treatments, and before trafficking/use in accordance to manufacturer's instructions.
- Health & Safety: Refer to MSDS's. FERFA publication: Guide to PPE for use with in Situ Resin Floors and Surface Preparation.

320 CONTROL SAMPLES

- Complete areas of finished work in the following locations:

  _____

320A SAMPLES

- General: Ensure that representative samples are provided (available from Altro) to the nominated sub-contractor in order to avoid any uncertainty over the expected finish.

330A PRIMING: CONCRETE / MODIFIED & POLYMER SCREEDS / RBP

- Apply coat of **Altro Prime fast-track** to the prepared surface to leave an even closed film across the sub-floor using a medium pile roller (ensure that the substrate is fully satisfied and sealed) and whilst still wet lightly seed at a rate of 100g/m^2 with single size Altro Quartz aggregate (0.7 to 1.2mm), Leave to cure for a maximum of 8 hours. **NB** If the primed area will not be over laid until the following day then **Altro Prime standard** should be used.

330B PRIMING: MILD STEEL

- After preparation an acetone wash should firstly be used to thoroughly wipe area. **Altro Proof standard** should then be applied before any oxidation takes place in accordance with manufacturer's instructions to leave an even closed film over floor area using a medium pile synthetic roller (ensure the substrate is fully sealed) and whilst still wet lightly seed with single size **Altro Grip** aggregate at a rate of 100g/m^2 (0.7mm to 1.2mm). Leave to cure for a maximum of 24 hours.

340 REINFORCEMENT

- Fabric: **Promesh Grade 5** glass fibre or similar as local reinforcement.
- Locations: Bay joints.
- Laps: (Minimum) 50mm ether side.
- Bedding: Roll into prime coat.

357A TROWEL APPLIED SCREEDED RESIN FLOORING

- Apply **Altro Screed 5mm standard Rapicure** at a nominal thickness of **5mm** to primed surface using a stainless steel trowel (or approved screed box) taking care to compact and close the surface evenly, ensuring that trowel marks are kept to a minimum. Allow to cure for 6-8 hours @ >20^{o}C hours prior to seal coat application. **NB:** Ensure that the screed is suitably hardened prior to trafficking; wear Tyvek site shoe covers to avoid contamination of the surface. It is also advisable to change buckets and clean the one you're using every three to four mixes to prevent any accumulations in the bucket. Use plastic floats for light colours to avoid metal transfer and to prevent trowel burn, just the final closing should be done with a steel trowel and that should be stainless.

GROUT COATS

NB: Tape line to be applied at the foot of the cove. Cove section to be sealed using Altro Screed standard Rapicure seal coat <u>without</u> slip resistant aggregate.

380A SURFACE SEALER

- After thorough de-nibbing and vacuuming of cured quartz screed apply coat of **Altro Screed slip-resistant Rapicure seal coat** using a grout float ensuring that all porous areas of quartz are grouted and fully satisfied. Excess material <u>must</u> be removed from the surface Pre-wet a short pile polyester or nylon roller, removing excess material using a paint tray or sacrificial surface. Back roller the surface to form an even continuous tight coating, avoiding excessive film build. Leave to cure for no longer than 18 hours at 20oC. Apply a tight second coat as above to leave an even closed film across the floor. (over-coating time 6-8 hours @ >20^{o}C) **NB:** Ensure the surface is tack free prior to access; wear Tyvek site shoes to avoid contamination**.**

CURE/TRAFFICKING:
Light Foot Traffic **(incl. incidental water spillage)** 24 hours @ >20^{o}C
Return to service 3 Days @ >20^{o}C

380B COSMETIC MATT SEAL. **(Optional)**
(To be applied <u>not</u> more than 24 hours at 20^{o}C following the final seal coat) Apply a very **thin** coat of **Altro Seal water-based matt** with a short nap synthetic roller applying the product to the floor from a paint tray and lay off with a dry roller. Heavy application of this seal will result in an opaque appearance of the finished floor; therefore care is required in its application. Ensure adequate temperature, ambient RH & air circulation to allow drying.

390 SLIP RESISTANCE TESTING OF FINISHED RESIN FLOORING

- Standard: To BS 7976-2.
- Timing: Give notice.
- Notice period (minimum):
- Results: Submit pendulum test values (PTV's), for both wet and dry states.

400 BOND STRENGTH OF RESIN FLOORING

- Contact surfaces: Substrate and fully cured resin flooring.
- Bond: In accordance with manufacturer's performance data.
- Test: To BS 8204-6, clause 11.4 and BS EN 1542.

410 RESIN SKIRTINGS/UPSTAND

- Quality: **Altro Screed 5mm standard Rapicure. Surface sealers to match floor finish (without slip resistant aggregate) applied in accordance with manufacturer's instructions.**
- Colour: As flooring.
- Profile: Radius cove.
- Top edge: Retain with a stop bead.
- Transition with resin flooring: _____

410A SUBSTRATE

- To be a sound, stable structure incorporating a satisfactory damp proof membrane in accordance with the Code of Practice BS8000 where applicable. The type of construction suitable to receive Altro resin cove detail being either: flush jointed brickwork / blockwork, cement/polymer rendered brickwork / blockwork, 18mm R.B.P. (Resin Bonded Ply – fixed securely to a stable background) or insulated sandwich partition with stainless Expamet mechanically fixed at cove detail.

410B MOISTURE CONTENT

- Where applicable the moisture content of the substrate construction should not exceed 75% R.H. or 5% moisture content by weight.

410C SURFACE PREPARATION

- Prepare existing wall surface as necessary to remove loose or friable material and leave clean, stable keyed surface.

410D SPECIAL FIXING

- Using a suitable fast cure adhesive in conjunction with mechanical fixings secure **aluminium** angle bead **DURUNDELL DRE 60 SP** to a minimum height of **100mm.** As we do not manufacture this product we recommend you contact Dural UK Ltd Tel: 01924 360110.

SPECIAL FIXING

- Using a suitable fast cure adhesive in conjunction with mechanical fixings secure **stainless steel** angle bead **DURONDELL DRE 60** to a minimum height of **100mm.** As we do not manufacture this product we would recommend you contact Dural UK Ltd Tel: 01924 360110

SPECIAL FIXING

- Using a suitable fast cure adhesive in conjunction with mechanical fixings secure **aluminium** birds beak **BB45 AN** to a minimum height of **100mm.** As we do not manufacture this product we recommend you contact Dural UK Ltd on 01924 360110.

SPECIAL FIXING

- Using a suitable fast cure adhesive in conjunction with mechanical fixings secure **stainless steel** birds beak **BB45 IL** to a minimum height of **100mm.** As we do not manufacture his product we would recommend you contact Dural UK Ltd on 01924 360110.

- SPECIAL FIXING - WHITEROCK

Altro Whiterock hygienic PVCu wall cladding installed to a minimum **100mm** height from floor, finished into Altro Whiterock PVCu resin transition joint strip (G834/25)

- Drawing reference WF6 refers.

410E PRIMING

- Apply a coat of **Altro Prime Standard** to leave an even closed surface and lightly seed with 0.7-1.2mm quartz aggregate and leave to cure. Re-prime area applying **Altro Prime standard** (1kg unit) modified with **Altro TX** (0.5 Litre) to produce a paste consistency, and apply to provide a uniform liberal coating to the pre primed area.

410F COVING INSTALLATION

- Whilst the modified primer is still tacky apply **Altro Screed 4mm standard** to form coved skirting with a 38mm radius and at height set by special fixing. Top edge tucked into the angle bead with the bottom edge finished to match floor thickness detail and leave to cure.

- Drawing reference RF7/RF8 refers.

410G JOINTS

- All vertical joints to be transferred through the cove detail and in-filled with **Altro Expand vertical**. (**Altro Prime standard** contact surfaces)

420 FREE EDGES OF RESIN FLOORING

- Transition to abutting floor finishes: Straight and smooth. Surfaces should be primed using **Altro Prime standard.** Where applicable suitable transition strip may be used between different surfaces. Recommendations available upon request
- Retention of exposed resin edges: Chamfer edges to a depth of 1.5 times the nominal thickness of the system being installed to allow for toeing in. ☐ Drawing reference RF4 refers.

430 SEALANT MOVEMENT JOINTS

- Location: Centre over movement joints in substrate.
  Preparation and application: Method: Cut required chases mechanically and pack out the cut groove with flexible packer (flooring contractor's choice) before applying sealant.
  Joint width and depth to be agreed before installation.
- Sealant: **Altro Expand.** (**Altro Prime standard** contact surfaces)
- Colour: Matched to resin).

- Drawing reference RF1 refers.

440 STRIP MOVEMENT JOINTS

- Location: Centre over movement joints in substrate.
- Retention of resin edges: ____
  Joint width: _____
- Strip:
  - Manufacturer:
  - Product reference: ____
  - Insert type: ____
  - Colour: ____
  - Fixing: To exact finished level of resin flooring.

445 CLEANING & MAINTENANCE

- The frequency and procedure of cleaning and maintenance associated with this flooring system should be established with the Client/End User and carried out in accordance with the Altro Resin Flooring Cleaning and Maintenance Recommendations which are available upon request. The texture of the surface will require mechanised cleaning.

SMALL / LIGHTLY SOILED AREAS
Scrub with a hand held deck scrubber.

LARGE / HEAVILY SOILED AREAS
Mechanical scrubbing machine (using brushes).

450 PROTECTION TO HANDOVER

- Whilst of an extremely durable nature these floor systems must by thoroughly protected from the rigours and abuse that exist during the ongoing contractual works. Sufficient cure must take place before the protection is placed. The use of untreated felt paper or plain cardboard where light access is required should be considered. Where heavier access is required then a more suitable medium to take the loadings should be considered, such as shuttering ply or Correx by Cordek placed on top of the felt paper. All protection medium joints should be taped, and all accidental spillages should be recovered immediately by removal and reinstatement of the protection. Damage will occur to the system if the guidance is not followed.

455 SITE CONDITIONS

- It is imperative that the correct site conditions prevail to ensure that the installing Contractor can maximise the opportunity of installing the Altro resin flooring system to a high standard. The correct lighting and temperature, together with the absence of all other trades for the duration and cure of the product will ensure its specified performance value will meet the Client's expectations.

456 INSTALLATION CONDITIONS

- Apply in well ventilated areas. Both the slab and air temperature should be greater than 10°C and rising, up to 25°C. It is not advisable to mix and lay epoxy resin products outside the range 10°C to 25°C. Ambient conditions should be maintained at least 3°C above dew point or below 75% R.H. during the initial stages of cure. At site temperatures below 10°C cure times will be substantially increased unless some form of external heating is used. (Avoid using heating sources that give rise to high levels of humidity) It must be recognised that the concrete slab temperature will generally be lower than the air temperature, often as much as 10°C, and this will govern the rate of cure. As the resin flooring cures, in condensing conditions moisture vapour may condense onto the surface and cause 'blooming', a permanent clouding of the surface. Cold, wet or humid conditions, and limited air-flow, can result in condensation on the part-cured floor. The workability, open-time, cure development and return to traffic will be significantly affected by ambient conditions.