

Project No. 150457

Client: Council of the Isles of Scilly

Tender Issue 10/11/2017

STRIDE TREGLOWN
ARCHITECTURE

Carn Gwavel School

10 November 2017

This document includes:

Code	Section	Revision	Dated
M10	Cement based levelling/ wearing screeds		

M10 Cement based levelling/ wearing screeds

TYPES OF SCREED

131 PROPRIETARY QUICK DRYING LEVELLING SCREEDS TO GROUND FLOOR AREAS - FOR USE WITH UNDERFLOOR HEATING

- Substrate: Insulation over in-situ concrete slab. Insulation must be tightly butted and laid flat. Provide protection boards if insulation is to be temporarily left exposed prior to screed laying.
- Screed manufacturer: Ardex.
 - Product reference: A35.
- Screed construction: Floating as M10/290.
 - Reinforcement for crack control: As required by manufacturer..
- Thickness:
 - Nominal: 95mm.
 - Minimum: 75mm.
- Mix:
 - Cement: Proprietary rapid setting and drying cement.
 - Proportions: To manufacturer's recommendations. (n.b. where screed over 50mm thick a fine concrete mix can be used by partially replacing some of the screeding sand with the suitable amount of 8 - 10mm single sized aggregate - consult manufacturer for guidance)
- In situ crushing resistance (ISCR) category: A (3 mm maximum indentation).
 - Mass of test weight: 2 kg.
- Flatness/ Surface regularity class: SR2.
- Finish: Trowelled, as clause 540.
 - To receive: Varies, Refer to finishes drawing / schedule.
- Other requirements: Day joints to be positioned centrally under sole tracks of plasterboard partitions

The soundness of all screeds shall be tested by the contractor using a BRE Screed Tester.

- Testing

to commence 6-24 hrs after applying the screed AND BEFORE ANY PARTITIONS ARE LAID

All tests to be witnessed by the CA and the floor screed manufacturer.

A record of all tests to be kept and the positions of tests and results indicated accurately on a plan

by the contractor and forwarded to the CA

Any area of the screed failing the above test is to be taken up to limits of faulty screed and re-laid.

Repair products for failed screeds will not be considered.

Contractor to fill indentation caused by screed testing with latex levelling and smoothing compound -

type Arditex NA.

GENERALLY/ PREPARATION

210 SUITABILITY OF SUBSTRATES

- General:
 - Suitable for specified levels and flatness/ regularity of finished surfaces. Consider permissible minimum and maximum thicknesses of screeds.
 - Sound and free from significant cracks and gaps.
- Concrete strength: In accordance with BS 8204-1, Table 2.
- Cleanliness: Remove plaster, debris and dirt.
- Moisture content: To suit screed type. New concrete slabs to receive fully or partially bonded construction must be dried out by exposure to the air for minimum six weeks.

250 CONDUITS UNDER FLOATING SCREEDS

- Haunching: Before laying insulation for floating screeds, haunch up in 1:4 cement:sand on both sides of conduits.

255 PIPE DUCTS/ TRUNKING

- Preformed access ducts: Before laying screed, fix securely to substrates and level accurately in relation to finished floor surface.

290 FLOATING CONSTRUCTION

- Insulation:
 - Type: As spec P10/169A .
 - Installation: Lay with tight butt joints. Continue up at perimeter abutments for full depth of screed.
- Separating layer:
 - Type: As spec P10/316.
 - Installation: Lay over insulation and turn up at perimeter abutments. Lap 100 mm at joints.

BATCHING/ MIXING

302 CEMENTS

- Cement types: In accordance with BS 8204-1, clause 5.1.3.

305 AGGREGATES

- Sand: To BS EN 13139.
 - Grading limits: In accordance with BS 8204-1, Table B.1.
- Coarse aggregates for fine concrete levelling screeds:
 - Standard: To BS EN 12620.
 - Designation: 4/10.
- Lightweight aggregates: In accordance with BS 8204-1, Annex A.

306 PROPRIETARY POLYMER MODIFIED SCREEDS

- Cement types: In accordance with BS 8204-3.
- Sand: To BS EN 13139:
 - Grading limits: 0/2 mm (MP) category 1.
- Aggregates: In accordance with BS 8204-3.

307 ADMIXTURES

- Standard: In accordance with BS 8204-1, Table 1.
- Calcium chloride: Do not use in admixtures.

310 BATCHING WITH DENSE AGGREGATES

- Mix proportions: Specified by weight.
- Batching: Select from:
 - Batch by weight.
 - Batch by volume: Permitted on the basis of previously established weight:volume relationships of the particular materials. Use accurate gauge boxes. Allow for bulking of damp sand.

330 MIXING

- Water content: Minimum necessary to achieve full compaction, low enough to prevent excessive water being brought to surface during compaction.
- Mixing: Mix materials thoroughly to uniform consistency. Mixes other than no-fines must be mixed in a suitable forced action mechanical mixer. Do not use a free fall drum type mixer.
- Consistency: Use while sufficiently plastic for full compaction.
- Ready-mixed retarded screed mortar: Use within working time and site temperatures recommended by manufacturer. Do not retemper.

335 IN SITU CRUSHING RESISTANCE (ISCR)

- Standards and category: In accordance with BS 8204-1, table 4.
 - Testing of bonded and unbonded screeds: To Annex D.
 - Testing of floating levelling screeds: To Annex E.

340 ADVERSE WEATHER

- Screeds surface temperature: Maintain above 5°C for a minimum of four days after laying.
- Hot weather: Prevent premature setting or drying out.

LAYING

345 LEVEL OF SCREED SURFACES

- Permissible deviation: (allowing for thickness of coverings) ± 5 mm from datum.

355 FLATNESS/ SURFACE REGULARITY OF FLOOR SCREEDS

- Standard: In accordance with BS 8204-1, Table 5.
- Test: In accordance with BS 8204-1, Annex C.
- Sudden irregularities: Not permitted.

365 FLATNESS/SURFACE REGULARITY OF ROOF SCREEDS

- Sudden irregularities: Not permitted.
- Deviation of surface: Measure from underside of a 2 m straightedge (between points of contact), placed anywhere on surface.
 - Permissible deviation (maximum): 6 mm.

375 COMPACTION OF SCREEDS

- General: Compact thoroughly over entire area.
- Screeds over 50 mm thick: Lay in two layers of approximately equal thickness. Roughen surface of compacted lower layer then immediately lay upper layer.

382 STAIR SCREEDS

- Construction: Fully bonded to treads, risers and landings.
- Risers: Form using fine finish formwork.
- Wearing screed surfaces: Make good with compatible cement:sand mix. Wood float. When hardened remove laitance.

405 JOINTS IN LEVELLING SCREEDS GENERALLY

- Laying screeds: Lay continuously using 'wet screeds' between strips or bays. Minimize defined joints.
- Daywork joints: Form with vertical edge.

428 HEATED SCREEDS

- Substrate slab: Irregularities not permitted.
- Screed bays, movement joints and other joints: Coordinate with heating circuits.
- Heating elements: Secure properly. Prevent displacement.
- Screed laying: Compact thoroughly around heating elements. Do not damage them.

435 FORMED JOINTS IN WEARING SCREEDS

- Temporary forms: Square edged with a steel top surface and in good condition.
- Placing screed: Compact thoroughly at edges to give level, closely abutted joints with no lipping.

445 CRACK INDUCING GROOVES IN WEARING SCREEDS

- Groove dimensions:
 - Depth: At least half the depth of wearing screed.
 - Width: 6 mm.
- Cutting grooves: Straight, vertical and accurately positioned. Saw cut sufficiently early after laying to prevent random cracking.

FINISHING/CURING

510 FINISHING GENERALLY

- Timing: Carry out all finishing operations at optimum times in relation to setting and hardening of screed material.
- Prohibited treatments to screed surfaces:
 - Wetting to assist surface working.
 - Sprinkling cement.

530 SMOOTH FLOATED FINISH

- Finish: Even texture with no ridges or steps.

- 540 TROWELLED FINISH TO LEVELLING SCREEDS
- Floating: To an even texture with no ridges or steps.
 - Trowelling: To a uniform, smooth but not polished surface, free from trowel marks and other blemishes, and suitable to receive specified flooring material.
- 550 TROWELLED FINISH TO WEARING SCREEDS
- Floating: To an even texture with no ridges or steps.
 - Trowelling: Successively trowel at intervals, applying sufficient pressure to close surface and give a uniform smooth finish free from trowel marks and other blemishes.
- 650 CURING
- General: Prevent premature drying. Immediately after laying, protect surface from wind, draughts and strong sunlight. As soon as screed has set sufficiently, closely cover with polyethylene sheeting.
 - Curing period (minimum): Keep polyethylene sheeting in position for: seven days.
 - Drying after curing: Allow screeds to dry gradually. Do not subject screeds to artificial drying conditions that will cause cracking or other shrinkage related problems.
- 670 ROOF SCREEDS
- Protection: Cover screeds during wet weather. When weathertight coverings are laid, screeds must be as dry as practicable.
- 680 SURFACE SEALER TO WEARING SCREEDS
- Manufacturer: Ardex UK Ltd.
 - Product reference: Ardex P51 Primer.
 - Preparation: Clean cured screed surface to remove dirt, grease, oil and other surface contaminants.
 - Moisture content of screed: As recommended by sealer manufacturer. Test relative humidity in accordance with BS 8203, Annex A if required to verify suitability to receive sealer.
 - Application: Evenly to dry surfaces using sufficient coats to form an effective seal but without a glossy finish.
- 700 ABRASION TESTING OF WEARING SCREEDS
- Test method: To BS EN 13892-4.