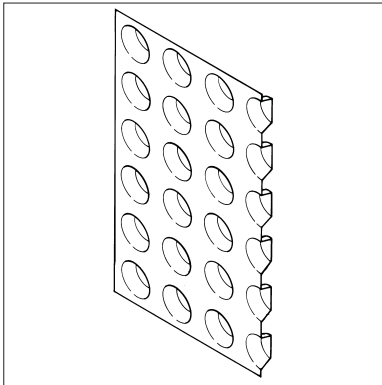


Product



• THIS DETAIL SHEET REPLACES AND EXTENDS DETAIL SHEET 3 OF CERTIFICATE No 92/2835 AND RELATES TO PLATON P20, A MOULDED HDPE MEMBRANE AND FIXING/SEALING MATERIALS.

• The membrane is used on walls and floors above and below ground that require a large air gap for a high drainage volume to support dry lining or flooring.

• The membrane may also be used in conjunction with Platon Multi and Platon Plaster Base in sealed systems.

• The system should be installed by competent contractors.

This Detail Sheet must be read in conjunction with the Front Sheets, which give the system's position regarding the Building Regulations, general information relating to the product, and the Conditions of Certification.

Technical Specification

1 Description

1.1 Platon P20 is a black, high-density polyethylene (HDPE) membrane, moulded to form raised domes at 50 mm centres (see Figure 1).

1.2 Platon P20 is available in roll form, and has characteristics of:

| | |
|---|--|
| thickness (mm) | 1.0 |
| dome height (mm) | 20.0 |
| weight per unit area (kgm ⁻²) | 0.95 |
| roll size (m) | 2.07 x 20 (with flange) 2.0 x 20 (without flange) |
| weight of roll (kg) | 38 approx |
| air gap volume (lm ⁻²) | 14 |

1.3 Ancillary items used with the membranes are:

- Platon Brick Plug — plastic, pre-drilled plug for fixing membrane to brick and stone (see Figure 2)
- Platon Sealing Tape — butyl rubber tape for sealing joints in the membrane and for use with Platon Wall/Floor Junction
- Platon Sealing Rope — butyl rubber beading for sealing joints in the membrane, sealing the membrane around pipes and openings and to form a gasket between the brick plug and membrane
- Platon Sealer — butyl rubber sealant for sealing the membrane around pipes and membrane
- Platon Wall/Floor Junction — right-angled membrane strip for sealing junctions between walls and floors, and for sealing joints at corners
- Platon Overtape — butyl rubber tape, at least 100 mm wide, backed with non-woven polypropylene for sealing joints in the membrane.

Figure 1 Platon P20

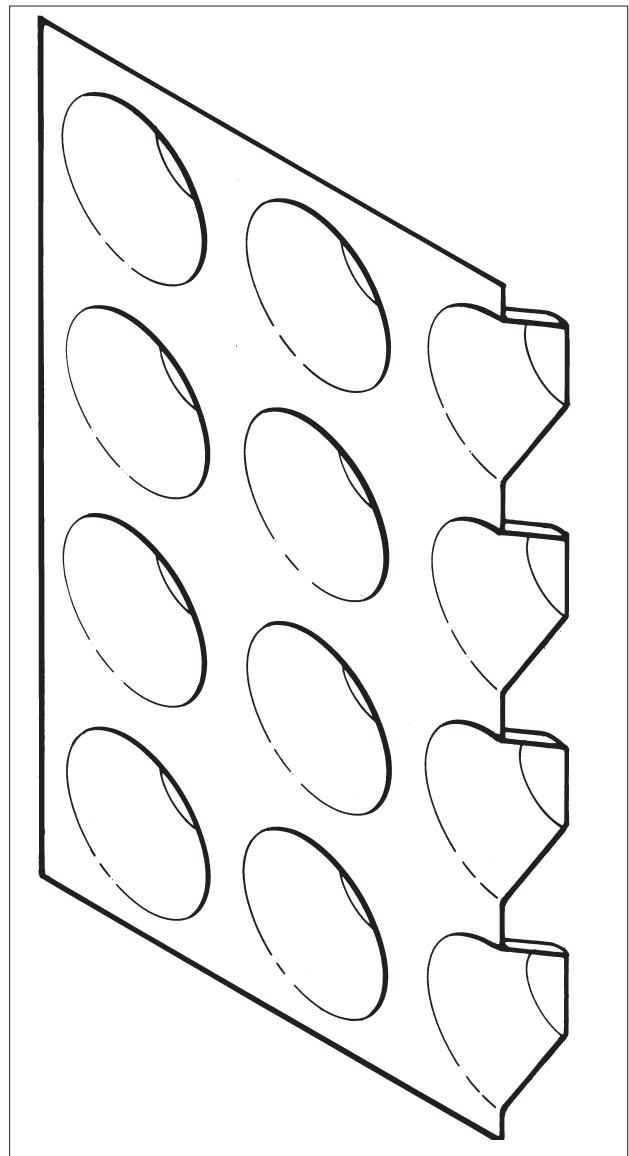
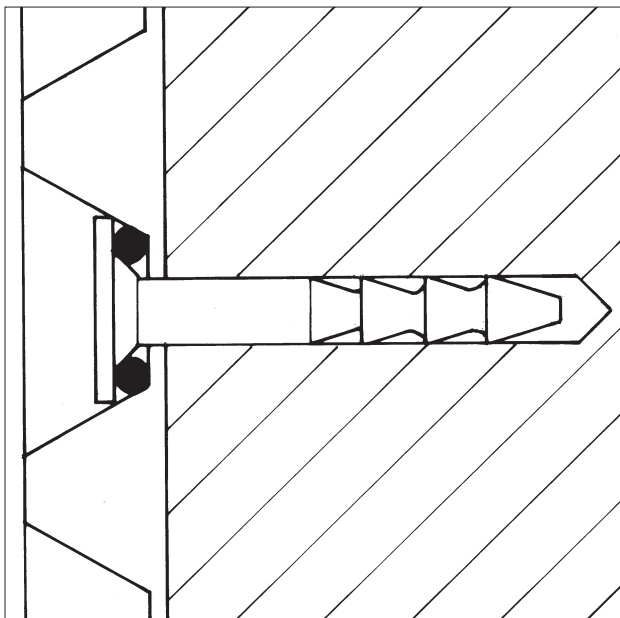


Figure 2 Platon Brick Plug



Design Data

2 General

2.1 Platon P20 is satisfactory as a support for a dry lining, screed or flooring, over internal faces of walls and floors of all types of existing construction, in the following situations:

- damp walls and floors in underground situations subject to high groundwater levels, and perennial moisture
- with a remedial dpc system where the walls and floors have a high salt content, and/or it is necessary to complete the installation immediately without allowing a period for initial drying
- over walls and floors which have a friable or painted surface, are contaminated with oil or mould, or have a high salt content
- as a waterproofing or 'tanking' in areas subject to vibration.


2.2 Depending on the application required and the site conditions, the membrane may be used as:

- an underfloor damp-proof membrane
- a dry-lining for walls, ventilated into the room via aeration slots at the top and bottom of the wall
- a completely sealed system covering floor and/or wall used in conjunction with Platon Multi on the ceiling and/or wall, with provision made for disposing of water build-up behind the membrane via a sump and pump.

2.3 The system is satisfactory for use in Type C (drained protection) structural concrete constructions in accordance with BS 8102 : 1990, Clause 3.2.4.

2.4 Under normal operating conditions the membrane is not affected by underfloor heating.

3 Resistance to water and water vapour

 3.1 The membrane is water resistant and has a high resistance to water vapour. Consequently the measures described in the *Installation* part of this Detail Sheet must be followed to ensure that the membrane acts as a drainage layer and that there is no excessive build-up of water behind the system.

3.2 All joints and fixings must be sealed with Platon sealing products, and drainage channels and gullies, or sumps and pumps should be installed as necessary to disperse excess or standing water.

3.3 Floors should have a drainage outlet point. There should be a fall towards the outlet point or a drainage channel made around the perimeter of the floor, to ensure water can flow to the outlet.

3.4 Where insulation is laid over the membrane, a vapour control layer should be used unless a condensation risk assessment in accordance with BS 5250 : 2002 shows it not to be necessary. However, due to the high vapour resistance of the membrane, it is essential to ensure that the vapour control layer is continuous and joints are carefully and fully sealed.

3.5 Care should be taken to ensure that adequate room ventilation is provided to limit the risk of interstitial and surface condensation.

4 Resistance to salt transfer

The system provides an effective barrier to the transmission of salts or other contaminants from the substrate.

5 Resistance to puncture, impact and loading


5.1 The membrane has a high resistance to puncture and will not be damaged by normal foot traffic during installation or while laying concrete or screeding to BS 8204-1 : 2003.

5.2 The membrane can support the long-term imposed loadings defined in BS 6399-1 : 1996, Table 1, categories A, C1 and C2, and situations with similar loadings in category B, without undue deformation.

6 Wall-mounted fittings

Wall-mounted fittings (apart from lightweight items such as framed pictures) should be fixed where possible into battens, whose position and number of support fixings into the loadbearing structure are predetermined. Only in exceptional circumstances should fittings be fixed through the membrane and lining board to the loadbearing structure behind, using proprietary fixings. Holes made in the membrane must be filled with a flexible sealant, such as Platon Sealer or Platon Sealing Rope or Tape.

7 Durability

 7.1 Under normal conditions of use the system will provide an effective barrier to the transmission of salts, liquid water and water vapour for the life of the structure in which it is incorporated.

7.2 Regular maintenance of all gullies, sumps and pumps must be conducted to ensure that a build-up of water does not occur behind the membrane.

Installation

8 Survey in damp conditions

8.1 Where conditions are damp, a full survey is necessary by a specialist surveyor to diagnose the cause and to establish if treatment is required.

8.2 If rising damp is found, a remedial treatment is conducted in accordance with the relevant Agrément Certificate, BS 6576 : 1985 and the BWPDA Code of Practice COP3 : 1997.

8.3 Appropriate remedial measures are taken to rectify major causes of damp conditions or water ingress, and to repair structural defects.

9 Surface preparation

9.1 When used in new constructions the concrete base must be laid in accordance with BS 8204-1 : 2003. If a board covering is to be laid directly on the membrane, the concrete base must have a surface regularity of at least SR 2⁽¹⁾, described in BS 8204-1 : 2003.

(1) Maximum permissible departure of 5 mm from the underside of a 2 m straight edge, resting in contact with the floor.

9.2 Any unsound plaster, render or screed should be removed to expose the substrate which is then cleaned with a stiff brush to remove loose material, laitance, salt residue, mould or adhesive. If mould is present the substrate should be treated with a fungicidal wash.

9.3 Uneven substrates should be dubbed out with a cement-sand (1:4) render or screed, to the tolerance described in section 9.1. They should be allowed to set before the membrane is fixed.

10 Walls

10.1 Power cables, points and light switches should preferably be remounted in front of the membrane.

10.2 Installation of the membrane is commenced at the top of the construction. Sheets are overlapped by 100 mm, ie two domes, or by the flanged edge. For horizontal joints, the lower sheet is always positioned in front of the upper sheet. Overlaps should be sealed using a run of Platon Sealing Rope placed along the flat area of the P20 membrane between the two rows of domes or by the flanged edge using Platon Sealing Tape.

10.3 Alternatively, for vertical joints only, the sheets can be fixed flush and the joints overlapped with Platon Wall/Floor Junction, and Platon Sealing Tape or Platon Overtape.

10.4 The membrane is installed over windows and then cut away to expose them. For doors and other obstructions, the membrane is installed up to the perimeter. In both cases the gaps are sealed with Platon Wall/Floor Junction and Platon Sealing Tape.

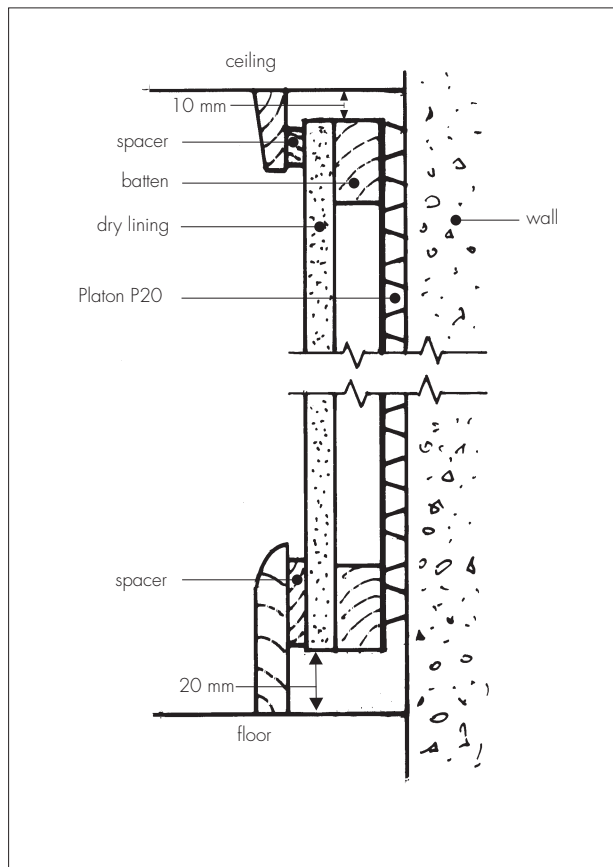
10.5 Fixings are made through the domes into holes drilled through the membrane. Platon Brick Plugs, to which Platon Sealing Rope has been applied around the rim, are inserted into the holes and tapped flush with the membrane. The Platon Sealing Rope forms a sealing gasket between the plug and membrane.

10.6 Spacing between fixings will depend on the application and the nature of the substrate, but, where it is intended to install plasterboard lining on timber battens, the spacing should be kept to a maximum of 600 mm.

10.7 Where timber battens are used they should be preservative treated, of minimum dimensions 25 mm by 38 mm, fixed into the plug's fixing hole using suitable screws with a maximum screwing-in depth of 40 mm plus the batten depth. If required, Platon Sealer is injected into the fixing holes to reduce the risk of water penetration.

10.8 In cases where a 'sealed' system is not being installed, the build-up of water vapour behind the membrane is controlled by venting into the room. To facilitate this, the membrane is installed with a 10 mm gap at the top, and a 20 mm gap at the bottom of the wall. Spacers measuring 3 mm by 200 mm are then fixed at 600 mm centres behind the skirting board and ceiling coving to ensure a ventilation gap (see Figure 3). Alternatively, a proprietary ventilated skirting board or ceiling coving may be used.

Figure 3 Wall detail with dry lining



11 Floors

11.1 The membrane is laid out 'domes down' over the floor, and consecutive membrane widths are laid so an overlap of two interlocking domes is achieved. The overlapped joints should be sealed using Platon Sealing Rope in the flat section between domes, or where necessary sheets are laid flush and overlapped with Platon Wall/Floor Junction and sealed with Platon Sealing Tape, or overlapped and sealed with Platon Overtape. If sheets with a flanged edge are used, these are rolled out ensuring the flanged edge on consecutive widths overlap the previous sheet. Joints are sealed using Platon Sealing Tape.

11.2 The membrane is cut within 5 mm to 10 mm of any pipes and services in the floor, and the gap filled with sealing rope. A patch of membrane or Platon Wall/Floor Junction is overlaid and sealed to the service with rope, and its circumference sealed with Platon Sealing Tape or Platon Overtape.

11.3 Fixings must not be applied through the floor membrane.

11.4 Where appropriate at wall/floor junctions and corners of the installation the membrane should be cut flush and the gap between the wall and floor membranes overlaid with Platon Wall/Floor Junction and sealed with Platon Sealing Tape.

11.5 Alternatively, where a wall membrane is not being installed the floor membrane may be turned up by 100 mm at the walls. At corners, a cut is made and the membrane folded to form an edge-to-edge joint, then overlaid with Platon Wall/Floor Junction and sealed with Platon Sealing Tape.

12 Dry lining

12.1 Where timber battens have been fixed to the wall, gypsum plasterboard to BS 1230-1 : 1985, or similar dry lining boards covered by a current Agrément Certificate, are fixed to the battens with galvanized screws or nails, positioned a minimum of 12 mm from the edge of the board. Care should be taken to ensure that penetration of the plasterboard screws or nails is less than batten depth to avoid puncturing the membrane.

12.2 Alternatively, linings can be free-standing framework, blockwork or similar. Where necessary these should be tied back by fixing into the Platon Brick Plug's fixing hole. Platon Sealer may be injected into the fixing hole to reduce the risk of water penetration.

13 Floor membrane coverings

13.1 The membrane is covered by reinforced concrete or screed at least 65 mm thick, in accordance with BS 8204-1 : 2003. Care should be taken to ensure the membrane is not displaced when placing the concrete or screed over the membrane.

13.2 Alternatively, the studs should be filled with dried sand, and then suitable tongue-and-groove panels should be selected in accordance with BS EN 12871 : 2001 and loose-laid over the membrane to within 10 mm of the walls. The panels are staggered and the joints sealed with either a thermoplastic wood adhesive to BS EN 204 : 2001, or a PVA adhesive to BS 4071 : 1966.

Technical Investigations

The following is a summary of the technical investigations carried out on Platon P20.

14 Tests

Tests were carried out to determine:

- thickness
- short-term compression resistance
- resistance to long-term loading
- nail tear resistance
- puncture resistance.

15 Investigations

15.1 A reassessment was made of the data on which previous Certificate No 92/2835 was based.

15.2 Regular routine surveillance visits have been made to the manufacturing site under Certificate No 92/2835 and the current Certificate.

15.3 An assessment was made of the scope of use and durability of the system in relation to the generic properties of the membrane.

Bibliography

BS 4071 : 1966 *Specification for polyvinyl acetate (PVA) emulsion adhesives for wood*

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

BS 6399-1 : 1996 *Loading for buildings — Code of practice for dead and imposed loads*

BS 6576 : 1985 *Code of practice for installation of chemical damp-proof courses*

BS 8102 : 1990 *Code of practice for protection of structures against water from the ground*

BS 8204-1 : 2003 *Screeds, bases and in-situ floorings — Concrete bases and cement sand levelling screeds to receive floorings — Code of practice*

BS EN 204 : 2001 *Classification of thermoplastic wood adhesives for non-structural applications*

BS EN 12871 : 2001 *Wood-based panels — Performance specifications and requirements for load bearing boards for use in floors, walls and roofs*

BWPDA Code of Practice COP3 : 1997 *Code of Practice for Installation of Chemical Damp-proof Courses*



On behalf of the British Board of Agrément

A handwritten signature in black ink, appearing to read 'G. H. Cooper'.

Date of Second issue: 13th December 2005

Chief Executive

*Original Detail Sheet issued 9th October 2001. This amended version includes changes to product specification, addition to the Installation section, inclusion of Technical Investigations and reference to revised British Standards.

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