

Note for commenters

The proposed amendment to this document is presented here in the form of a list of changes to the relevant sections of the text, drawings etc. We are only inviting comments on these changes. Any comments on the rest of the document are likely to be reserved for the next revision.

BS 8485, proposed amendment

1 Clause 7.1, Table 4

Row CS5, column "Type B building" – Change 6.5^{A)} to 6^{A)}

Row CS6, column "Type C building" – Change 7.5 to 6

Row CS6, column "Type D building" – Change 6.5 to 6

2 Clause 7.2.2, Table 5 – Footnote C

Change table footnote C from:

^{C)} The score is conditional on the waterproofing not being based on the use of a geosynthetic clay liner waterproofing product (see **C.3**, Note 4).

To:

^{C)} The score is conditional on the waterproofing being provided by a suitable structural barrier with the design and detailing of the walls and floor meeting the requirements for Type B protection. The score cannot be assigned for Type A (waterproof membrane) or Type C (drained cavity wall).

Add in new footnote D:

^{D)} If a membrane is installed beneath and around the basement to provide Type A waterproofing (BS 8102:2009), it can be assigned a gas protection score in accordance with Table 7, if it meets all the criteria for a gas resistant membrane in that table. A geosynthetic clay liner used for waterproofing is unsuitable as a ground gas barrier (see **C.3**, Note 4).

Add ^{D)} to the same rows in Table 5 as Note ^{C)} (rows five and six).

3 Clause 7.2.4, Membrane

Delete Note 1 (and renumber all of the subsequent notes in this clause).

4 Clause 7.2.4, Table 7

In column one, change the first bullet point text from:

- sufficiently impervious to the gases with a methane gas transmission rate $<40.0 \text{ ml/day/m}^2/\text{atm}$ (average) for sheet and joints (tested in accordance with BS ISO 15105-1 manometric method);

To:

- sufficiently impervious, both in the sheet material ^{A)} and in the sealing of sheets and sealing around sheet penetrations, to prevent any significant passage of methane and/or carbon dioxide through the membrane;

Combine the third and fourth bullet points in column one:

- sufficiently strong ^{B)} to withstand the installation process and following trades until covered (e.g. penetration from steel fibres in fibre reinforced concrete, penetration by reinforcing ties, tearing due to working above it, dropping tools, etc.) and to withstand in-service stresses (e.g. settlement if placed below a floor slab);

Delete second paragraph in “Comments” column:

For example, a minimum 0.4mm thickness (equivalent to 370 g/m² for polythethylene) reinforced membrane (virgin polymer) meets the performance criteria in Table 7 (see **C.3**).

Add new footnotes A and B onto Table 7:

A) A membrane with a methane gas transmission rate <40.0 ml/day/m²/atm (average) for sheets and joints (tested in accordance with BS ISO 15105-1 manometric method) is regarded as sufficiently impervious. Membranes with higher transmission rates can only be considered sufficiently impervious if supported by a quantitative assessment of the particular membrane’s application on a particular project, using the membrane’s measured transmissivity (BS ISO 15105-1 manometric method).

B) Reinforced LDPE (virgin polymer) membranes with an aluminium core having a minimum mass per unit area of 370 g/m² and not significantly less than 0.4 mm thickness between the reinforcement scrim installed above floor slabs are considered sufficiently strong to meet the performance criteria (see also **C.3**). Thicker and more robust membranes or an additional membrane protection layer should be installed directly beneath cast-in-situ floor slabs.

5 Annex A, Clause A.4

In the paragraph starting with “Forms of construction with the potential for large numbers of joints...”, make 2nd and 3^d sentences into a new paragraph. Update text to include “water proofing” after “Type C”:

Basements using Type C waterproofing protection (i.e. drained cavities) might pose an unacceptably high risk on sites affected by ground gas. Infiltrating water might contain dissolved gas and/or contain organic compounds that can degrade to form methane and/or carbon dioxide.

6 Annex A, Clause A.4, final paragraph

Change final bullet point into a new paragraph.

7 Annex A, Clause A.6, Table A.2

In the first column, final row, change:

Grad 3

To:

Grade 3

8 Annex C, Clause C.2, Note

Change reference in the note from [11] to [10].

9 Annex C, Clause C.3

Change the third sentence of the third paragraph from:

It is commonly used as a damp proof membrane (DPM) and is available in a number of gauges from...

To:

It is commonly used as a damp proof membrane (DPM) and is available in a number of thicknesses from...

10 Annex C, Clause C.3, Note 1

Change final part of final sentence of note 1 from:

...variable, so these materials are not to be used as gas resistant membranes.

To:

...variable, so these materials are unsuitable as gas resistant membranes.

11 Annex C, Clause C.3, Note 2

Move Note 2 to the end of C.3 normative text.

Update text from:

NOTE 2 A protection layer is generally required when placed directly under a reinforced concrete slab with any membranes, unless it can be robustly demonstrated this is not needed.

To:

NOTE 2 A protection layer is generally required above any membrane when it is placed directly under a reinforced concrete slab, unless it can be robustly demonstrated this is not needed to protect the integrity of the membrane after it is laid.

12 Annex C, Clause C.3, Note 3

Move Note 3 to the end of C.3 normative text.

Update text from:

NOTE 3 Many of these membranes are manufactured with a centre fold for packaging which in many cases leads to large creases across the full width of the sheet. Rolls delivered to site with creasing are unacceptable as it is not possible to adequately seal joints where creasing is present.

To:

NOTE 3 Many membranes have a centre fold for packing which, in many cases, leads to large creases across the full width of the sheet. It is not possible to adequately seal joints where creasing is present and consequently creased membranes are only suitable for installation as a gas resistant membrane if the membrane is pulled sufficiently tight to ensure that any folds or ripples are removed and the membrane lies smooth and flat over the prepared receiving surface and provided that previous folds are kept away from all joints.

13 Annex C, Clause C.3, Note 4

Change the first sentence of Note 4 from:

WARNING. THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD. THIS DRAFT IS NOT CURRENT BEYOND **19 AUGUST 2018.**

Geosynthetic clay liners (a thin layer of dry clay powder sandwiched between two geotextiles) are not suitable as barriers to gas migration into buildings.

To:

Geosynthetic clay liners comprising a thin layer of dry clay powder sandwiched between two geotextiles, sometimes used as waterproofing barriers, are not suitable as barriers to gas migration into buildings.

DRAFT