

**IKO PLC****Ruberoid Building Systems**

Appley Lane North

Appley Bridge

Wigan

Lancashire WN6 9AB

Tel: 0800 0285573 Fax: 0800 0135574

e-mail: sales@ruberoid.co.uk

website: www.ruberoid.co.uk



Agrément Certificate

**No 88/1966**

## PRODUCT SHEET 1 — HYLOAD PERMABIT DAMP-PROOF COURSE, HYLOAD PREFORMED CAVITY TRAY UNITS AND HYLOAD DPC JOINTING SYSTEM FOR WALLS

### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate replaces and extends Certificate No 86/1791 and relates to the Hyload Permabit Damp-proof Course, Hyload Preformed Cavity Tray Units and Hyload DPC Jointing System for Walls.

#### AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

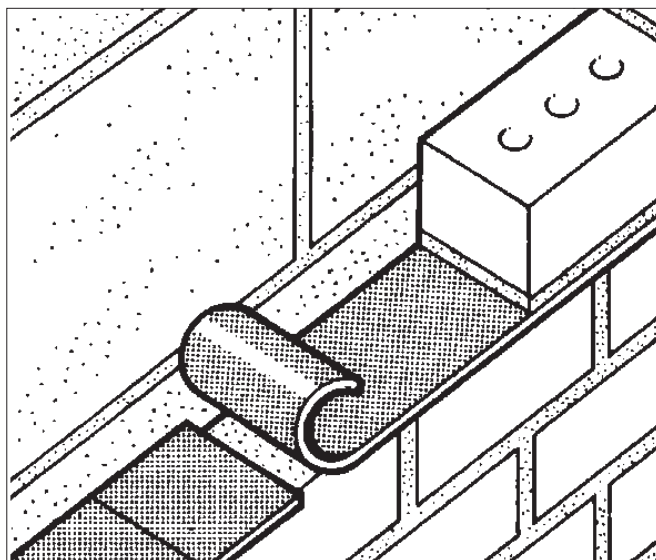
#### KEY FACTORS ASSESSED

**Behaviour under load** — the products will not extrude under load, up to the point of compressive failure of the wall (see section 4).

**Resistance to water and water vapour** — the products will provide an effective barrier against liquid water and water vapour (see section 5).

**Compatibility with other materials** — within normal construction, the products is compatible with all materials with which it will be in contact, with the exception of timber preservatives based on creosote or tar oils (see section 6).

**Durability** — when properly specified and installed, the products in normal circumstances, will remain effective during the lifetime of the building (see section 7).



The BBA has awarded this Agrément Certificate to Hyload Permabit Damp-proof Course, Hyload Preformed Cavity Tray Units and Hyload DPC Jointing System for Walls to IKO PLC as fit for their intended use provided they are installed, used and maintained as set out in this Agrément Certificate.

On behalf of the British Board of Agrément

Date of First issue: 5 January 1988

Date of Fifth issue: 2 April 2008

Head of Approvals  
— Materials

Chief Executive

*The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at [www.bbacerts.co.uk](http://www.bbacerts.co.uk)*

*Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.*

#### British Board of Agrément

Bucknalls Lane

Garston, Watford

Herts WD25 9BA

©2008

tel: 01923 665300

fax: 01923 665301

e-mail: [mail@bba.star.co.uk](mailto:mail@bba.star.co.uk)website: [www.bbacerts.co.uk](http://www.bbacerts.co.uk)

# Regulations

In the opinion of the BBA, Hyload Permabit Damp-proof Course, Hyload Preformed Cavity Tray Units and Hyload DPC Jointing System for Walls, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



## The Building Regulations 2000 (as amended) (England and Wales)

Requirement:	A1	Loading
Comment:		The dpc will not extrude under load, up to the point of failure of the wall, and will not adversely affect the ability of a properly designed and built wall to sustain and transmit compression loads. The presence of a dpc can reduce the shear and tensile strength of a wall at that point, and design may need to take account of this. See section 4.1 of this Certificate.
Requirement:	C2(a)(b)	Resistance to weather and ground moisture
Comment:		Properly installed in a correctly designed structure, the products forms an effective barrier to the movement of water within the wall, enabling compliance with this Requirement. See section 8 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The products are acceptable materials. See section 7 of this Certificate.



## The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8	Fitness and durability of materials and workmanship
Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The products can contribute to a construction satisfying this Regulation. See section 7 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards — construction
Standard:	1.1(a)(b)	Structure
Comment:		The dpc will not extrude up to the point of failure of the wall, and will not adversely affect the ability of the properly designed and build wall to sustain and transmit compression loads, with reference to clauses 1.1.1 <sup>(1)(2)</sup> and 1.1.3 <sup>(1)(2)</sup> . See section 4.1 of this Certificate.
Standard:	3.4	Moisture from the ground
Standard:	3.10	Precipitation
Comment:		Properly installed in a correctly designed structure, the products forms and effective barrier to the movement of water within the wall, enabling compliance with these Standards, with reference to clauses 3.4.1 <sup>(1)(2)</sup> and 3.10.1 <sup>(1)(2)</sup> . See section 5 of this Certificate.
Regulation:	12	Building standards — conversions
Comment:		All comments given for these products under Regulation 9, also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



## The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The products are acceptable materials. See section 7 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		Properly installed in a correctly designed structure, the products forms an effective barrier to the movement of water within the wall, enabling compliance with this Regulation. See section 5 of this Certificate.
Regulation:	D1	Stability
Comment:		The dpc will not extrude, up to the point of failure of the wall, and will not adversely affect the ability of a properly designed and built wall to sustain and transmit compression loads. See section 4.1 of this Certificate.

## Construction (Design and Management) Regulations 2007

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See sections: 1 *Description* (1.2) and 2 *Delivery and site handling* (2.5).

# Non-regulatory Information

## NHBC Standards 2007

NHBC accepts the use of Hyload Permabit Damp-proof Course, Hyload Preformed Cavity Tray Units and Hyload DPC Jointing System for Walls, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls*.

## Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, Hyload Permabit Damp-proof Course, Hyload Preformed Cavity Tray Units and Hyload DPC Jointing System for Walls, when installed and used in accordance with this Certificate, satisfy the requirements of the *Zurich Building Guarantee Technical Manual*, Section 3 *Substructure*, Sub-section *dpc and dpm* (page 107).

### General

This Certificate relates to Hyload Permabit Damp-proof Course, Hyload Preformed Cavity Tray Units and Hyload DPC Jointing System for Walls. The products provide horizontal, vertical, or stepped dpc's including cavity trays, in either solid or cavity walls of brick, block, stone or concrete.

The products comprise sheet material for runs of dpc, prefabricated trays and cloaks for angles, steps, and stop ends and a jointing/support system for on-site formation of laps.

The components are suitable for use either separately or with each other to form an effective barrier to the movement of water.

The products must be installed in accordance with the manufacturer's instructions, relevant British Standards, Codes of Practice and this Certificate.

### Technical Specification

#### 1 Description

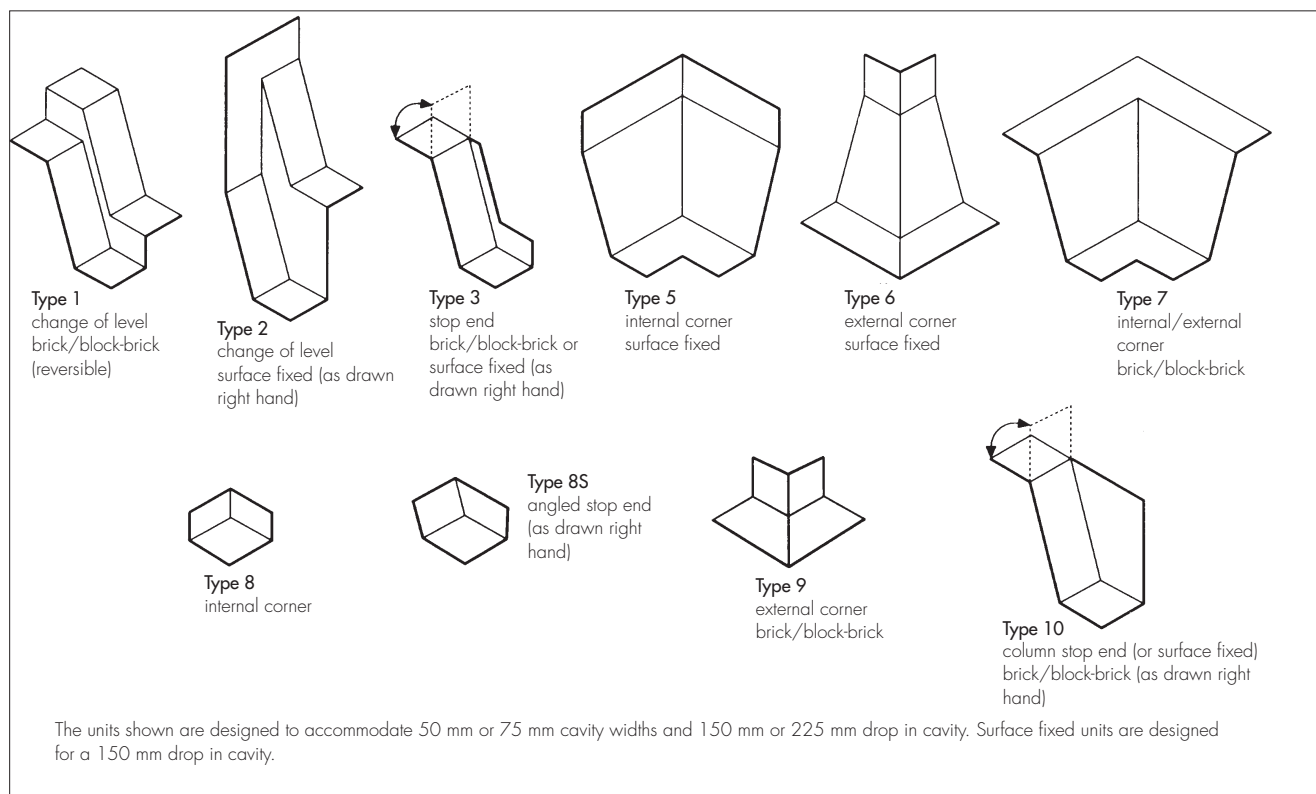
1.1 Hyload Permabit Damp-Proof Course for Walls is a black sheet material with grained surfaces. It is a mixture of bitumen, ethylene and propylene-based polymers, synthetic fibres and other additives.

1.2 The sheet is manufactured to dimensions of:

nominal thickness (mm)	1.25
minimum thickness (mm)	1.10
nominal weight (kgm <sup>-2</sup> )	1.6
minimum weight (kgm <sup>-2</sup> )	1.5
roll length (m)	20.0
roll widths (mm)	standard wall widths or up to 1 m

1.3 Hyload Preformed Cavity Tray Units are made from 1.5 mm thick polymer sheet and are preformed, flexible units for angles in stepped or horizontal damp-proof coursing. Typical examples are shown in Figure 1. Cloaks to other designs can be fabricated to order.

Figure 1 Standard Hyload preformed cavity tray units (special sizes and shapes to order)



1.4 Hyload DPC Jointing System consists of 350 mm by 200 mm reinforced supports of twin walled polypropylene with a 120 mm self-adhesive strip protected by silicone release paper bonded to its upper surface. Joints are formed by means of a 100 mm wide self-adhesive tape protected on both sides by silicone release paper.

1.5 IKOpro SA Primer is used where required on concrete, brickwork, blockwork and steel.

1.6 Hyload DPC Fixing Strip is a semi-rigid plastic strip, 25 mm by 3 mm by 2 m, pre-drilled at 150 mm centres.

1.7 Quality control checks on the final product include checks on dimensions, and by sampling, on tensile strength and elongation, tear resistance, and low temperature flexibility.

## 2 Delivery and site handling

2.1 Hyload Permabit DPC is delivered to site in rolls secured with a paper wrapper bearing the manufacturer's name and the BBA identification mark incorporating the number of this Certificate.

2.2 Rolls must be stored on end and under cover. Contact with organic solvents must be avoided.

2.3 Hyload Preformed Cavity Tray Units are delivered to site in cardboard boxes. To each box is affixed a label bearing a description of the contents and the BBA identification mark incorporating the number of this Certificate.

2.4 Hyload DPC Jointing System is supplied in cardboard cartons, each containing 15 support units, a 10 m roll of self-adhesive tape and full fixing instructions.

2.5 IKOpro SA Primer is classified as 'flammable' and 'harmful' under *The Chemicals (Hazard Information and Packaging for supply) Regulations 2002* (CHIP3) and should be stored appropriately. The container bears the appropriate hazard warnings.

## Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Hyload Permabit Damp-proof Course, Hyload Preformed Cavity Tray Units and Hyload DPC Jointing System for Walls

## Design Considerations

### 3 General

3.1 Hyload Permabit DPC and Hyload Cavity Tray Units, when correctly specified and installed in accordance with this Certificate, provide satisfactory horizontal, vertical, or stepped damp-proof coursing (including cavity trays) in either solid or cavity walls of brick, block, stone or concrete. General standards of good design practice are given in BS 5628-3 : 2005.

3.2 Cavity trays, steps, angles and stop ends are preformed in the factory (see Figure 1).

3.3 The Hyload DPC Jointing System provides an effective method of joining Hyload Permabit DPC to itself or to Hyload cavity Tray Units.

3.4 The components may be used separately or with each other.

### 4 Behaviour under load



4.1 Hyload Permabit DPC will not extrude under load, up to the point of compressive failure of the wall, and will not adversely affect the ability of a properly designed and built wall to sustain and transmit compression. The presence of Hyload Permabit can, however, reduce the shear and tensile (and therefore, bending) strengths of a wall at that point, and designs may need to take account of this. Allowable stresses on the dpc are detailed in the product literature and further guidelines are available from the Certificate holder.

4.2 Hyload Permabit DPC will withstand considerable movement of the wall, and is unlikely to be impaired by normally occurring movements up to the point where the wall itself is deemed to have failed.

### 5 Resistance to water and water vapour



When correctly specified and installed the products will provide an effective barrier against liquid water and water vapour either from a source external to the structure, or from one part of the structure to another.

### 6 Compatibility with other materials

The products are compatible with all materials with which they will be in contact within normal construction. They are unaffected by timber preservatives which are water based solutions of salts. Where there is doubt about the compatibility with materials in contact, the advice of the Certificate holder's Technical Department should be sought.

### 7 Durability



Forecasts of the products' durability rest mainly on background knowledge of the constituent materials, and measurements of its physical properties when new and after artificial ageing. The conclusion from this evidence is that, when properly specified and installed, the system will in normal circumstances remain effective during the lifetime of the building.

## 8 General

8.1 Installation must follow normal good practice for the detailing of damp-proof courses, as set out in BS 5628-3 : 2005, and must be in accordance with the relevant clauses of BS 8000-3 : 2001, BS 8215 : 1991, BRE Digest 380 *Damp-proof courses*, and the manufacturer's instructions.

8.2 As with all flexible dpc's, care must be taken to avoid impact damage from sharp objects (eg chisel) during installation.

## 9 Handling

9.1 Hyload Permabit DPC is handled and cut as conventional flexible damp-proof courses. It retains sufficient flexibility to be used at the lowest temperature at which walls are normally built and does not become tacky in warm, ambient weather conditions.

9.2 With Hyload Permabit DPC it is difficult to form certain details, particularly when bending the material through two angles at the same time. In such cases, care must be taken to achieve a satisfactory seal, and where necessary preformed cloaks should be used. Joints should be formed on site by means of the Hyload DPC Jointing System. Care should be taken at temperatures below 5°C to avoid the risk of condensation on jointed surfaces which may affect the efficiency of the self-adhesive tape.

## 10 Installation practice

10.1 The following installation practices are essential:

- the dpc must extend through the full thickness of the wall or wall-leaf, including pointing, applied rendering or other facing material
- the dpc must be laid on an even bed of mortar, and perforations in adjacent courses of brickwork must be closed with mortar, and project 5 mm beyond the finished face
- the dpc must always be sandwiched between wet mortar and not laid dry
- all lap joints in the dpc must have 100 mm overlap and be completely sealed, (see appropriate sub-sections of section 11)
- Hyload Preformed Cavity Tray Units must be used at stop-ends, and at all corners or changes in levels of cavity trays
- where used as a cavity tray, the dpc laps must be sealed.

10.2 When using Permabit with boot lintels or similar constructions, it is recommended that the material is installed to follow the lintel profile, where appropriate.

## 11 Jointing procedures

11.1 All surfaces to be jointed should be clean and dry. Release paper protecting the self-adhesive strips should not be removed until the joint is ready to be formed. The support unit and tape should not be left exposed overnight or during periods of low temperatures.

11.2 When forming a lap joint using the support unit and self-adhesive tape the manufacturer's instructions should be followed.

11.3 The support unit should be fitted in such a way as to span the cavity, the ends of the support unit being bent so as to bear upon the inner and outer leaves of the wall for a distance of between 25 and 40 mm. If necessary the support unit may be temporarily fixed in place [see Figure 2, (1) to (2)].

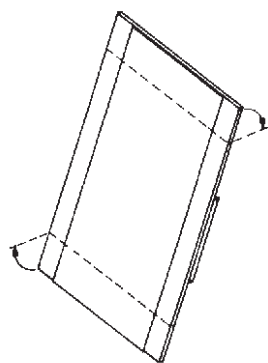
11.4 The first layer of dpc or the cavity tray unit to be joined should be offered up to the support unit. The release paper should be removed from the adhesive strip and, by application of uniform pressure, the dpc or cavity tray unit bonded to it [see Figure 2 (3)].

11.5 A strip of self-adhesive tape should then be applied to the upper surface of the dpc or cavity tray unit over the area supported by the support unit [see Figure 2 (4)].

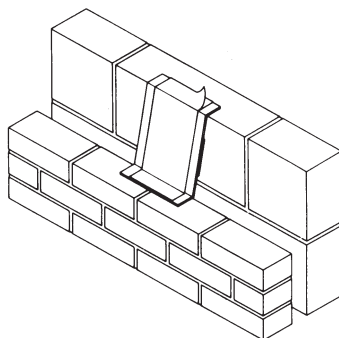
11.6 The layer of dpc to be lapped to the first should be placed in the usual way, the upper silicone release paper removed and the joint formed, ensuring that a full seal is achieved [see Figure 2 (5) and (6)].

11.7 Where the dpc or cavity tray unit is required to be bonded to a brick, block or concrete substrate it can be held in place, temporarily, by means of the self-adhesive tape bonded to the substrate, which must be primed with IKOpro SA Primer. A permanent mechanical fixing should then be installed using Hyload DPC Fixing Strip [see Figure 2, (7) to (8)].

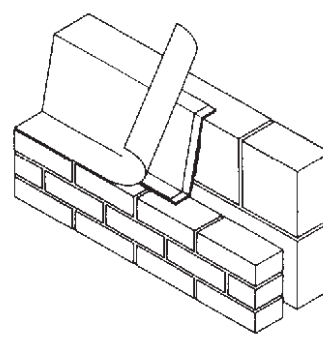
Figure 2 Application of Hyload DPC Jointing System



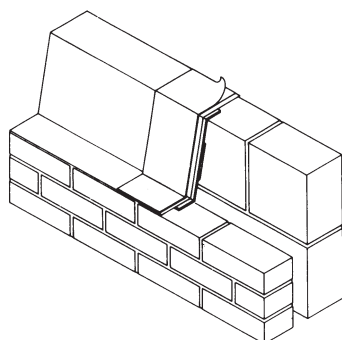
1 system joint support, bend ends to bear on inner and outer leaves by 25–40 mm



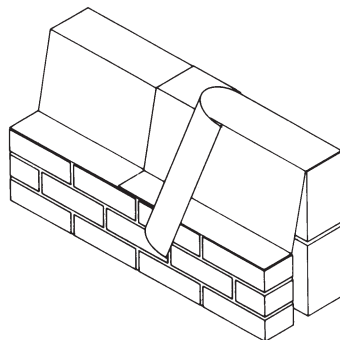
2 joint support prior to dpc application, only remove silicone release paper immediately prior to making joint



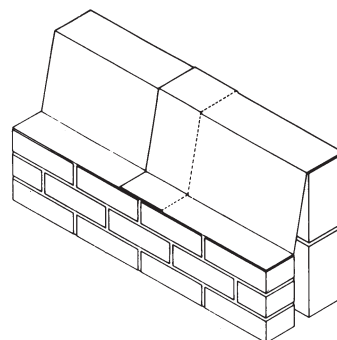
3 apply uniform pressure when positioning dpc on joint support



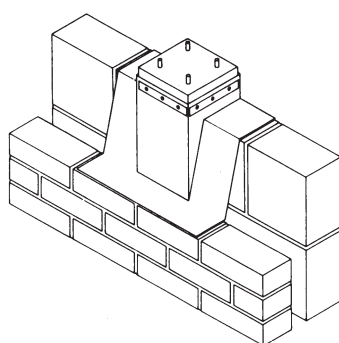
4 jointing tape bonded to dpc



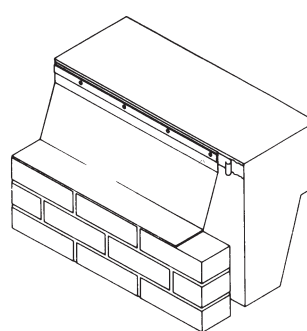
5 remove top silicone release paper and immediately lap and bond dpc



6 supported and watertight 100 mm wide joint



preformed cavity tray unit bonded to primed face of concrete column using Hyload DPC Jointing Tape and mechanically fixed



Hyload Permabit DPC bonded to primed face of edge beam using Hyload DPC Jointing Tape and mechanically fixed using Hyload DPC Fixing Strip

- All surfaces to be joined must be clean and dry.
- Only remove silicone release paper from adhesive at time of making joint.
- The support system must rest on each brick/block by between 25 mm and 40 mm.
- Apply uniform pressure when making joint.
- For ease of use, avoid exposure to low temperatures.
- If applying tape to brick/block or concrete, surfaces must be primed using IKOpro SA Primer.

## 12 Cleaning cavities

As with most other damp-proof course materials, damage can occur during cleaning of mortar droppings from the damp-proof course unless care is taken. The following recommendations should prevent damage occurring:

- cavity battens should be used to prevent excessive amounts of mortar droppings reaching the damp-proof course
- mortar droppings should be removed before they have had time to harden
- implements such as steel rods should never be used for cleaning
- damp-proof courses should be examined for damage as work proceeds.

## Technical Investigations

### 13 Tests

As part of the assessment resulting in the issue of previous Certificates, measurements and tests were carried out to determine:

#### Hyload Permabit DPC

- |   |   |   |
|---|---|---|
| • thickness                                       | • weight per unit area                  | • tensile strength and elongation at break          |
| • handling characteristics                        | • flexibility at low temperatures       | • water vapour permeability                         |
| • resistance to water transmission under pressure | • effect of ageing at high temperatures | • impact resistance at normal and low temperatures. |

#### Hyload Preformed Cavity Tray Units

- |   |                  |                                    |
|---|------------------|------------------------------------|
| • tensile strength/elongation of sheet and welds  | • joint strength | • tear strength of sheet and welds |
| • low temperature flexibility of sheet and welds. |                  |                                    |

#### Hyload DPC Jointing System

- |                                    |                         |                                  |
|------------------------------------|-------------------------|----------------------------------|
| • width/thickness                  | • weight per unit area  | • peel strength of adhesive tape |
| • tensile shear strength of joints | • effect of heat ageing | • effect of water                |
| • ease of joint formation.         |                         |                                  |

### 14 Investigations

14.1 A re-examination was made of the data and investigations on which the previous Certificates were based. The conclusions drawn from the original data remain valid.

14.2 Regular factory inspections have been carried out to ensure that quality is being maintained.

14.3 A user survey was conducted to assess performance in use.

14.4 The behaviour of the product in use continues to be satisfactory and no failure has been reported to the BBA.

## Bibliography

BS 5628-3 : 2005 *Code of practice for the use of masonry — Materials and components, design and workmanship*

BS 8000-3 : 2001 *Workmanship on building sites — Code of practice for masonry*

BS 8215 : 1991 *Code of practice for design and installation of damp-proof courses in masonry construction*



## 15 Conditions

15.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English law.

15.2 References in this Certificate to any Act of Parliament, Statutory Instrument, Directive or Regulation of the European Union, British, European or International Standard, Code of Practice, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

15.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

15.4 In granting this Certificate, the BBA is not responsible for:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

15.5 Any information relating to the manufacture, supply, installation, use and maintenance of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used and maintained. It does not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the manufacture, supply, installation, use and maintenance of this product/system.