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Agrément Certificate
12/4891
Product Sheet 1 Issue 4

CPG UK WINDOW AND DOOR PRODUCTS

iLLBRUCK i3 SYSTEM (INCLUDING COMPRIBAND TP600 – EXTERNAL WEATHER SEAL)

This Agrément Certificate Product Sheet(1) relates to illbruck(2) i3 System (including Compriband TP600 — External Weather Seal), for use around windows and doors to provide a weathertight external seal, an internal airtight seal, and thermal and acoustic insulation.

(1) Hereinafter referred to as 'Certificate'.
(2) illbruck is a product brand of Tremco CPG UK Ltd

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

Weathertightness — the system will resist the passage of wind-driven rain, snow, run-off water and dust into the interior of the building (see section 6).

Air barrier continuity — the system will contribute to maintaining air barrier continuity at lintels, jambs and cills according to Accredited Construction Details (England, Wales and Northern Ireland) and Accredited Construction Details (Scotland) (see section 7).

Thermal performance — the system can improve the thermal performance of the building (see section 8).

Risk of condensation — the system will adequately limit the risk of interstitial and surface condensation, but the risk of interstitial condensation will depend on the construction and should be assessed for each project (see section 9).

Durability — the system, when properly specified and installed, will have a life comparable with that of the installed window or door frame (see section 12).

The BBA has awarded this Certificate to the company named above for the system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Hardy Giesler
Chief Executive Officer

Date of Fourth issue: 26 May 2021

Originally certificated on 13 February 2012

Certificate amended on 1 September 2021 to update contact details, product name and section 1.
Certificate amended on 10 February 2023 to update Certificate title and sections 18.1 and 22.1.

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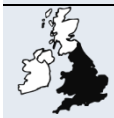
Regulations

In the opinion of the BBA, the illbruck i3 System (including Compriband TP600 — External Weather Seal), if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	**C2(b)**	**Resistance to moisture**
Comment:		The system will contribute to an installation satisfying this Requirement. See section 6.1 of this Certificate.
Requirement:	**C2(c)**	**Resistance to moisture**
Comment:		The system will contribute to an installation satisfying this Requirement with respect to interstitial condensation. See section 9 of this Certificate.
Requirement:	**L1(a)(i)**	**Conservation of fuel and power**
Comment:		The system can contribute to minimising heat loss at lintels, jambs and cills. See sections 7 and 8 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The materials are acceptable. See section 12 and the *Installation* part of this Certificate.
Regulation:	**26**	**CO_2 emission rates for new buildings**
Comment:		The system can contribute to minimising heat loss at jambs and cills. See section 7 and 8 of this Certificate.
Regulation:	**26A**	**Fabric energy efficiency rates for new dwellings (applicable to England only)**
Comment:		The system can contribute to satisfying this Regulation. See sections 7 and 8 of the Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)**	**Durability, workmanship and fitness of materials**
Comment:		The use of the system satisfies the requirements of this Regulation. See section 12 and the *Installation* part of this Certificate.
Regulation:	**9**	**Building standards applicable to construction**
Standard:	3.10	Precipitation
Comment:		The system will resist the effects of driving rain and enable an installation to satisfy the requirements of this Standard, with reference to clause 3.10.1[(1)(2)]. See section 6.1 of this Certificate.
Standard:	3.15	Condensation
Comment:		The system can contribute to minimising the risk of interstitial and surface condensation, with reference to clauses 3.15.1[(1)], 3.15.4[(1)] and 3.15.5[(1)] of this Standard. See section 9 of this Certificate.
Standard:	6.1b	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The system can contribute to minimising heat loss at lintels, jambs and cills. See sections 7 and 8 of this Certificate.

Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The system can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	**12**	**Building standards applicable to conversions**
Comment:		Comments in relation to the system under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1[(1)(2)] and Schedule 6[(1)(2)]. (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	**23(a)(i) (iii)(b)(i)**	**Fitness of materials and workmanship**
Comment:		The system is acceptable. See section 12 and the *Installation* part of this Certificate.
Regulation:	**28**	**Resistance to moisture and weather**
Comment:		The system has adequate resistance to the ingress of rain and wind driven spray and so can contribute towards the wall satisfying this Regulation. See section 6.1 of this Certificate.
Regulation:	**29**	**Condensation**
Comment:		The system will contribute to minimising the risk of interstitial and surface condensation. See section 9 of this Certificate.
Regulation:	**39(a)(i)**	**Conservation measures**
Regulation:	**40(2)**	**Target carbon dioxide emission rate**
Comment:		The system can contribute to minimising heat loss at lintels, jambs and cills. See sections 7 and 8 of this Certificate.

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 3 *Delivery and site handling* and 14 *Precautions* of this Certificate.

Additional Information

NHBC Standards 2021

In the opinion of the BBA, the illbruck i3 System (including Compriband TP600 — External Weather Seal), if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapters 6.1 *External masonry walls*, 6.7 *Doors, windows and glazing* and 6.9 *Curtain walling and cladding*.

Technical Specification

1 Description

1.1 The illbruck i3 System (including Compriband TP600 — External Weather Seal) comprises:

- Compriband TP600 (BBA Certificate 96/3309) — a compressed polyurethane foam sealing tape impregnated with a flame-retardant synthetic resin and an adhesive layer applied to one side, protected by a silicone release paper to

aid installation. To provide a weathertight seal, the optimum final compression is 20% of the fully expanded thickness

- illbruck ME508 Duo Membrane EW/F – a black non-woven fleece laminate which includes self-adhesive and is suitable for use as an internal airtight, or external weathertight seal. ME508 Duo Membrane EW/F can be applied in dual formats:
  - ME508 Duo Membrane 'W' – This format is used for application before fixing of the window (or door)
  - ME508 Duo Membrane 'E' – This format is used for application after fixing of the window (or door)
- illbruck FM330 Pro Foam Air Seal — a white, one-component, polyurethane foam, dispensed in situ from a CFC/HCFC-free aerosol canister, which expands to fill and seal gaps. The foam cures through the absorption of atmospheric moisture and is designed to provide sound and thermal insulation
- illbruck ME501 Duo Window Membrane HD — a black polyethylene copolymer film with non-woven fleece fabric, with gasket options, used to provide an external weathertight or internal airtight seal with greater strength and extended UV stability. The membrane is attached to the window with SP525 adhesive, or gasket and to the construction reveal material with SP525 adhesive
- illbruck ME501VV Duo Window Membrane HD – a black polyethylene copolymer film with non-woven fabric and self-adhesive films, used to provide an external weathertight or internal airtight seal
- ME901 Butyl & Bitumen Primer — a brush-applied polymer solution for use with illbruck butyl and bitumen tapes and membranes
- SP525 Adhesive — a low modulus sealant formulated using advanced SP polymer technology. A range of colours is available, details of which are available from the Certificate holder.

1.2 When combined in the system, the components can provide an external weathertight seal, an internal airtight seal and intermediate insulation.

1.3 Compriband TP600 is available in anthracite or grey in colour, and in the dimensions given in Table 2. The densities are 85 – 150 kg m^{-3} depending on dimension and colour.

1.4 illbruck ME501 Duo Window Membrane HD is also available with enhanced self-adhesive+ strip. This variation is outside the scope of this Certificate. Further advice on use and application should be sought from the Certificate holder.

1.5 AT140 and AT150 Primers (for porous/non-porous substrates respectively) are also available. These products are outside the scope of this Certificate. Further advice on use and application should be sought from the Certificate holder.

Table 2 Compriband TP600 — dimensions

Code No	Suitable joint depth (mm)[1]	Suitable joint width (mm)[2]
10/2	10	2
10/3	10	3
20/3	20	3
10/3 – 7	10	3 – 7
15/3 – 7	15	3 – 7
20/3 – 7	20	3 – 7
10/5 – 10	10	5 – 10
15/5 – 10	15	5 – 10
20/5 – 10	20	5 – 10
25/5 – 10	25	5 – 10
15/7 – 12	15	7 – 12
20/7 – 12	20	7 – 12
25/7 – 12	25	7 – 12
15/8 – 15	15	8 – 15
20/8 – 15	20	8 – 15
30/8 – 15	30	8 – 15
20/10 – 18	20	10 – 18
25/10 – 18	25	10 – 18
30/10 – 18	30	10 – 18
20/13 – 24	20	13 – 24
25/13 – 24	25	13 – 24
30/13 – 24	30	13 – 24
30/17 – 32	30	17 – 32
35/17 – 32	35	17 – 32
40/22 – 40	40	22 – 40
55/39 – 54	55	39 – 54
70/52 – 67	70	52 – 67

(1) Joint depth defines tape width. Joint depth should be min. 2 mm deeper to allow tape set-back
(2) Joint width defines tape height.

1.6 illbruck FM330 Pro Foam Air Seal is supplied in 750 ml canisters. An approximate guide to the number of linear metres each canister should yield is given in Table 3.

Table 3 Approximate yield[1] (m) of a 750 ml canister with gap width and depth

Gap depth (mm)	Gap width (mm)				
	10	20	30	40	50
10	280	140	93	70	56
20	140	70	46	35	28
30	93	46	31	23	18
40	70	35	23	17	14
50[2]	56	28	18	14	11

(1) Yields can vary according to prevailing temperatures and humidity conditions, and can be increased by wetting of the joint prior to application, and when applying between multiple layers.
(2) For gaps deeper than 50 mm the material should be applied in layers. Each layer must be fully cured before further applications are made.

1.7 illbruck ME501 Duo Window Membrane HD, ME508 Duo Membrane EW/F and ME501VV Duo Window Membrane HD are supplied in roll form to the dimensions given in Table 4.

Table 4 ME501, ME508 and ME501VV *Duo Window Membranes — dimensions*

Membrane	Width[(1)] (mm)	Length (m)
ME508 Duo Membrane EW/F	70, 100, 140 200, 250	25
illbruck ME501 Duo Window Membrane HD	Slit to width 60 to 1500	25
ME501VV Duo Window Membrane HD	70, 100, 140 200, 250, 300, 350, 400, 500, 600	25

(1) Alternative roll widths are available on special order from the Certificate holder.

1.8 ME501 VV Duo Window Membrane HD and ME508 Duo Membrane EW/F can be used in situations where a wet render system is to be applied. This variation is outside the scope of this Certificate. Further advice on use and application should be sought from the Certificate holder.

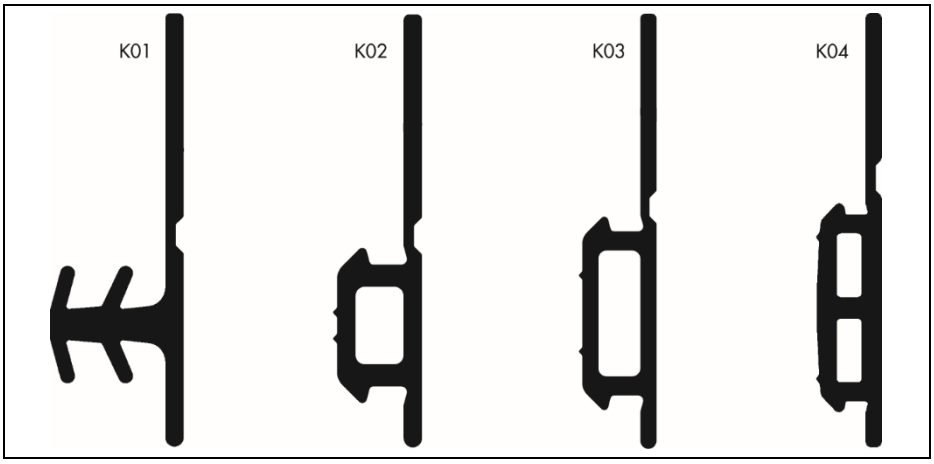
Gaskets

1.9 Four gasket options are available, the use of which is dependent on a suitable groove on the frame profile (see Table 5 and Figure 1). The gasket option of illbruck ME501 Duo Window Membrane HD is fixed to the construction material using SP525 Adhesive as in the previous application details above.

Table 5 Gasket type

Gasket type	Minimum groove depth (approx.) (mm)	Groove width (approx.) (mm)
K01	6.5	3 – 5
K02	4.0	5 – 7
K03	4.0	7 – 10
K04	4.0	13 – 15

Figure 1 Gasket options



Adhesive

1.10 Typical coverage rates for SP525 Adhesive are shown in Table 6.

Table 6 Adhesive coverage rate

circular bead for bonding membranes	Linear metres per 600 ml foil
8 mm diameter	11.9
10 mm diameter	7.6

1.11 Ancillary items for use with the system include:

- illbruck AA290 PU Foam Cleaner — used to clean the application gun for illbruck FM330 Pro Foam Air Seal
- application gun — for use in applying illbruck FM330 Pro Foam Air Seal. For apertures less than 10 mm a special adaptor is available from the Certificate holder.

2 Manufacture

2.1 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.2 The management system of CPG Europe has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by TÜV Rheinland Industrie Service GmbH (Certificate 01 100 4301) for the Bodenwöhr, Germany location, by DNV (Certificate 193449-2016-AQ-NLD-RvA) Arkel, for the Netherlands location, and by TÜV Rheinland Cert GmbH (Certificate 01 100 4301) for the Poland location.

3 Delivery and site handling

3.1 Compriband TP600 is supplied in pre-compressed rolls, interleaved between silicone release paper. Tapes are delivered in cartons (the contents of which vary according to the tape size) bearing the Certificate holder's name and a detailed description of the contents. Tapes must be stored horizontally in cool, dry conditions in the original packaging; excessive weight must not be placed on the cartons.

3.2 illbruck FM330 Pro Foam Air Seal is supplied in 750 ml canisters (12 per package). The application guns are packed separately and individually. The foam must be stored vertically (nozzle up) in temperatures between 10° and 25°C in well-ventilated areas, and has a shelf life of nine months. The foam canisters must not be exposed to temperatures in excess of 50°C, direct sunlight or be in danger of impact.

3.3 The Certificate holder has taken responsibility of classifying and labelling illbruck FM330 Pro Foam Air Seal and ME901 Primer under the *CLP Regulation (EC) No 1272 / 2008 on the classification, labelling and packaging of substances and mixtures.* Users must refer to the relevant Safety Data Sheet(s).

3.4 illbruck ME508 Duo Membrane EW/F is supplied in cartons, containing 1 – 4 rolls depending upon the roll width, bearing the Certificate holder's name and width of membrane. The membrane should be stored in its original container in a cool, dry place and must not be exposed to sources of heat or high temperatures.

3.5 illbruck ME501 Duo Window Membrane HD is supplied in cartons, containing 1 – 4 rolls depending upon the roll width, bearing the Certificate holder's name and width of membrane. The membrane should be stored in its original container in a cool, dry place and must not be exposed to sources of heat or high temperatures.

3.6 illbruck ME501VV Duo Window Membrane HD is supplied in cartons, containing 1 - 4 rolls depending upon the roll width, bearing the Certificate holder's name and width of membrane. The membrane should be stored in its original container in a cool, dry place and must not be exposed to sources of heat or high temperatures.

3.7 illbruck ME901 Butyl & Bitumen Primer is supplied in 1 (12 per carton) and 5 litre tins.

3.8 SP525 Adhesive is supplied in 600 ml foils (20 per carton).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the illbruck i3 System (including Compriband TP600 — External Weather Seal).

Design Considerations

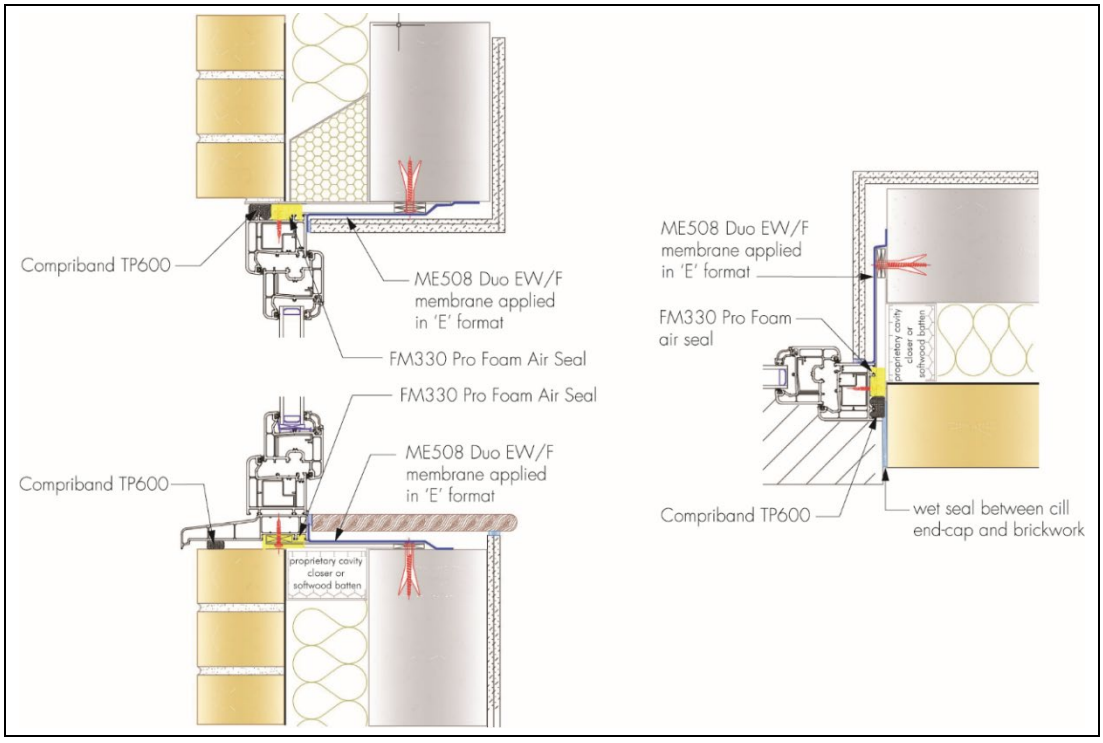
4 Use

4.1 The illbruck i3 System (including Compriband TP600 — External Weather Seal) is satisfactory for use in providing a weathertight and airtight seal and thermal and acoustic insulation around newly installed window and door frames including assemblies within structural units of timber, plastics, masonry, metal or concrete, in new build or renovation situations.

4.2 When used and installed in accordance with this Certificate and the Certificate holder's instructions, the system can contribute towards an exterior building envelope meeting a minimum air leakage of less than 1 $m^3 \cdot hr^{-1} \cdot m^{-2}$ at 50 Pa, see below (see also Figure 2 and section 7):

- wall structure — double-shell wall construction consisting of a sand-lime brickwork with approximately 4 cm core insulation and a brick front wall with external rebate
- window — wooden window (IV 68) with Uniphon 38/51 (13GH/16/96H) from the Uniglas group
- joint filler — illbruck FM330 Pro Foam Air Seal
- external seal side and top, below window cill — Compriband TP600 20/10-18 grey
- internal seal side and top, below window cill — illbruck ME508 EW/F.

Figure 2 Typical installation detail



5 Practicability of installation

The system is designed to be installed by a competent general builder, or a contractor, experienced with this type of system.

6 Weathertightness

6.1 To achieve optimal resistance to water penetration, Compriband TP600 should be used under 80% compression. See BBA Certificate 96/3309.

6.2 Compriband TP600 is not designed to withstand a head of water; in these situations the advice of the Certificate holder must be sought.

7 Air barrier continuity

When correctly installed, the system acts as an air barrier and can contribute to elements and junctions minimising heat loss by unplanned air infiltration. The system described in section 4.2 has been tested and classified according to BS EN 1026 : 2000 and BS EN 12207 : 2000 respectively, and achieves a typical air infiltration, Q_{100} of 0.1 $m^3 \cdot hr^{-1} \cdot m^{-1}$, Class 4. Guidance documents in this respect are referenced in section 8 of this Certificate.

8 Thermal performance

When used in conjunction with a suitable cavity closer, with a minimum resistance path of at least 0.45 $m^2 \cdot K \cdot W^{-1}$, the system can contribute to a lintel, jamb or cill satisfying the requirements of the Accredited Construction Details. Detailed guidance on limiting heat loss and air infiltration can be found in:

England and Wales — Approved Documents to Part L and, for new thermal elements to existing buildings, Accredited Construction Details (Version 1.0). See also SAP 2009 and SAP 2012, *The Government's Standard Assessment Procedure for Energy Rating of Dwellings*, Appendix K and the *iSBEM User Manual* for new-build.
Scotland — Accredited Construction Details (Scotland) (2015)
Northern Ireland — Accredited Construction Details (2015).

9 Risk of condensation

Under normal domestic conditions, the level of interstitial condensation associated with the system will be low, and the risk of any resultant damage is minimal.

10 Acoustic performance

The system will reduce flanking sound but the effect will be dependent upon the construction.

11 Maintenance

As the system is confined within the final construction and has suitable durability (see section 12), maintenance is not required. However, any damage must be repaired (see section 22).

12 Durability

The system will be virtually unaffected by the normal conditions found during installation, and when properly specified and installed will have a life comparable with that of the installed window or door frame.

Installation

13 General

13.1 Installation of the illbruck i3 System (including Compriband TP600 — External Weather Seal) must be carried out in accordance with the Certificate holder's instructions.

13.2 The choice of illbruck ME508 Duo Membrane EW/F 'W' or 'E' format depends on whether the frame is already fitted, or is to be fitted into a reveal or a projecting window detail. Any illbruck ME508 Duo Membrane EW/F 'W' and 'E' format, or illbruck ME501 Duo Window Membrane HD, or illbruck ME501VV Duo Window Membrane HD may be used in conjunction when installing a frame. In case of doubt, advice should be sought from the Certificate holder.

13.3 Normally illbruck ME508 EW/F is used as the internal airtight seal in an illbruck i3 System detail per Figure 2 above. However where the membrane needs to be in excess of 250mm, ME501 Duo Window Membrane HD can be used.

13.4 Compriband TP600 may be installed in all conditions likely to occur in practice; however, care should be taken when used at lower ambient temperature (see section 15.4).

14 Precautions

14.1 illbruck FM330 Pro Foam Air Seal contains diphenylmethane-4-4' diisocyanate, which may cause sensitisation and irritation to the respiratory system, eyes and skin. Vapours from the foam are heavier than air and will tend to move to the lowest point. The foam must only be used in well-ventilated areas to prevent the build-up of vapours. Where sufficient ventilation is unavailable, suitable respiratory equipment must be used.

14.2 The propellant is flammable (see section 3.3), and care must therefore be taken to ensure that the vapour does not come into contact with sparks or naked flames during installation.

14.3 Surrounding decorated areas must be protected from accidental spills as the cured foam can only be removed mechanically.

14.4 During application and other procedures before the foam has cured, appropriate personal protective equipment must be worn (eg eye and hand protection).

15 Application of Compriband TP600

15.1 The dimensions of the joint to be filled govern the size of tape used. However, the depth of the joint must not be less than the width of the tape, and the expanded tape thickness must not be greater than the tape width, unless the thickness dimension is supported on at least one side. Consult the manufacturer for further advice.

15.2 Joints must be clean and free from debris likely to obstruct adhesion, eg dirt or mortar residue. The inner surfaces of the joints to be filled should be as smooth as possible. To achieve a perfect seal in masonry, the changes in level at mortar joints must be as small as possible.

15.3 The length of the joint to be sealed must be measured and an additional 20 mm per metre run allowed when the tape is cut to the required length. The silicone release paper must be removed and the tape positioned in the joint, starting at the bottom wherever possible on vertical joints and set back 2 – 3 mm from the front face of the joint.

15.4 The tape will start to re-expand as soon as it is unwound from the roll. When fitted in a joint the tape re-expands to fill and seal the joint. The rate of expansion is temperature-dependent, and at low ambient temperatures the rate can be increased by gentle application of heat (see Table 7). Conversely, the re-expansion can be retarded by cooling the rolls prior to application. Always store the rolls away from direct sunlight.

Table 7 Approximate times to expand to fill a joint using 20/3–7 tape

Temperature (°C)	Re-expansion times[1][2]
5	24 hours
23	10 — 120 mins

(1) At temperatures below 0°C re-expansion will be slow.

(2) Dependent on age of tape at the time of use.

15.5 Compriband TP600 must be fully re-expanded and have sealed the joint before illbruck FM330 Pro Foam Air Seal is applied.

16 Application of illbruck FM330 Pro Foam Air Seal

16.1 The canister must be shaken thoroughly for approximately two minutes to mix the contents before use, and shaken occasionally during use. The canister must always be inverted during use.

16.2 The application gun is screwed onto the canister in accordance with the separate gun instructions. The gun is directed into a suitable waste container (eg carton or plastic bag) and the trigger pulled to charge the gun and dispense the foam.

16.3 The flow of foam is regulated using the trigger and can be controlled using the flow adjustment screw.

16.4 As the foam is applied from the bottom of vertical joints working upwards, the gap must be filled to approximately 75 to 80% of its depth to accommodate post expansion of the foam. Deep gaps should be filled in two or more applications. Curing may be accelerated by wetting the contact surface immediately prior to application. When applying several layers, each cured layer must be moistened before application of the next.

16.5 Once illbruck FM330 Pro Foam Air Seal has cured (typically 60 to 120 minutes depending on temperature and relative humidity) no excess cured foam should protrude from the gap. Any excess material must be trimmed off flush with the internal window frame face.

16.6 Uncured foam can be removed from the gun using illbruck AA290 PU Foam Cleaner sprayed onto a cloth.

16.7 Empty canisters are removed by holding them upright and unscrewing.

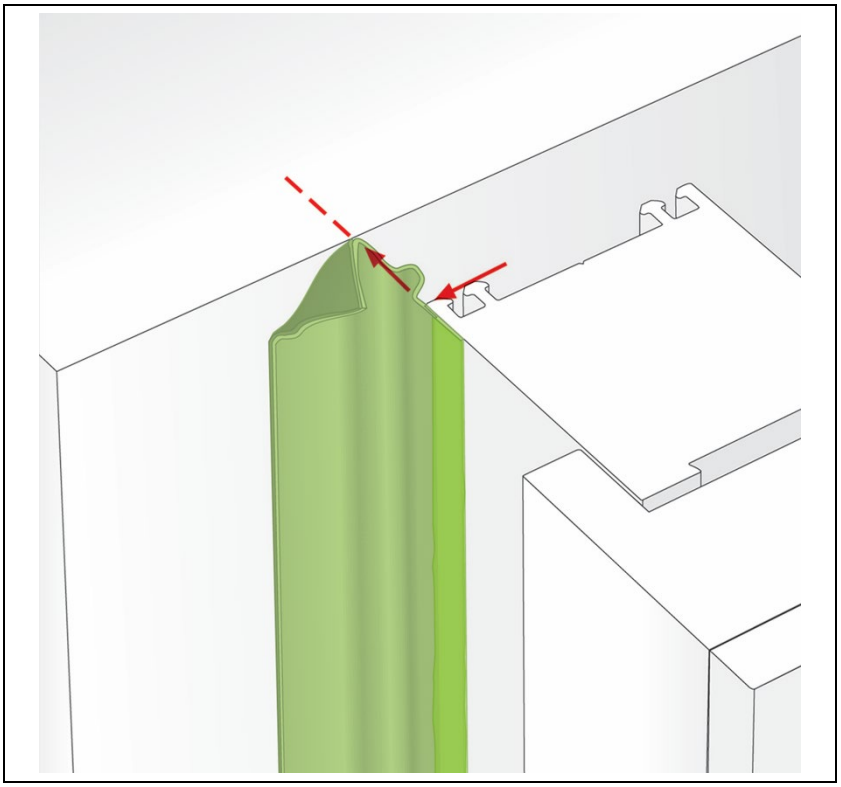
16.8 Uncured foam is removed from the threaded collar using illbruck AA290 PU Foam Cleaner. The inside of the gun can also be cleaned at this stage, by screwing the gun to the dual solvent cleaner canister and following the instructions printed on it. A new foam canister should be fitted immediately and the gun charged as described in section 16.2.

16.9 The flow adjustment screw must be turned fully clockwise when the gun is not in use. The gun must always be stored fully charged with foam and attached to a full or partially full canister of foam.

17 Application of illbruck ME508 Duo Membrane EW/F – ‘E’ format

17.1 Before applying ME508 EW/F Membrane, ensure that the FM330 Pro Foam Airseal has fully cured, trimming off any excess foam which may impair the membrane application. illbruck ME508 Duo Membrane EW/F in ‘E’ format is bonded to the installed frame’s internal face using the acrylic self-adhesive strip, with a minimum 10 to 15 mm contact area (see Figure 3), ensuring that this will be subsequently covered by finishes, eg dry lining, plaster, render, etc.

Figure 3 Application of illbruck ME508 Duo *Membrane EW/F – 'E' format*



17.2 Application is continued around corners, carefully folding to ensure continuity of the membrane, ensuring that no radii are present at the corner interface with the internal blockwork or other construction material.

17.3 The membrane may also be applied as individual strips to each side of the frame allowing a 50 mm overlap of the membrane at the corners or by forming separate corner sections first, followed by linear strips to connect, again allowing a 50mm overlap to all joints.

17.4 Use of illbruck ME901 Butyl & Bitumen Primer is required where the self-adhesive strip is to be located to the substrate of the reveal, blockwork or eg sheathing board, depending on the condition and ambient temperature.

17.5 Alternatively AT140 or AT150 may be more suitable. Further details are available from the Certificate holder.

17.5 The membrane is bonded to the substrate of the reveal, blockwork or eg sheathing board using the self-adhesive strip and a seam roller is used to consolidate the bond.

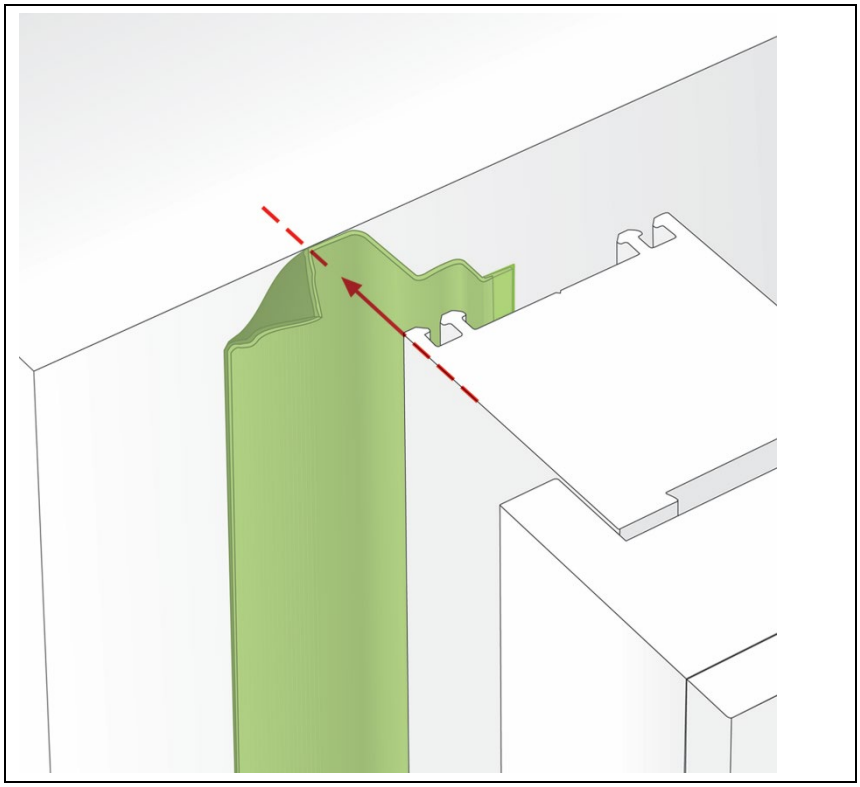
17.6 All lap joints and areas of potential water ingress or air leakage (corners, around fixing brackets, etc) must be sealed with SP525 adhesive.

17.7 illbruck ME501 Duo Window Membrane HD VV and ME508 EW/F can be used in situations where a wet render system is to be applied. Further details are available from the Certificate holder.

18 Application of illbruck ME508 Duo Membrane EW/F – 'W' format

18.1 illbruck ME508 Duo Membrane EW/F in 'W' format is installed before fitting the frame into the reveal. The membrane is bonded using the acrylic self-adhesive strip on the fleece face of the membrane, starting from the bottom centre of the frame, ensuring that the membrane is located against a suitable flat surface on the frame and protruding towards the inside of the frame (see Figure 4).

Figure 4 Application of illbruck ME508 Duo Membrane EW/F – 'W' format



18.2 At each corner, the membrane is bent and folded to ensure that the acrylic self-adhesive strip is back-to-back, leaving an extra 20 mm length (40 mm of membrane) at all corners.

18.3 Application is continued around the frame, with the acrylic self-adhesive strip applied to all sides and with an overlap of 50 mm at the bottom centre of the frame, before attaching the fixing brackets to the edge of the frame over the membrane.

18.4 The frame is fitted into the reveal with the membrane protruding across the internal reveal.

18.5 The correct size of Compriband TP600 is installed as described in section 15, before application of illbruck FM330 Pro Foam Air Seal, as described in section 16.

18.6 illbruck ME901 Butyl & Bitumen Primer is applied if required where the self-adhesive strip is to be located to the substrate of the reveal, blockwork or eg sheathing board.

18.7 Alternatively AT140 or AT150 may be more suitable. Further details are available from the Certificate holder.

18.8 The membrane is bonded to the substrate of the reveal, blockwork or eg sheathing board with the self-adhesive strip and a seam roller is used to consolidate the bond.

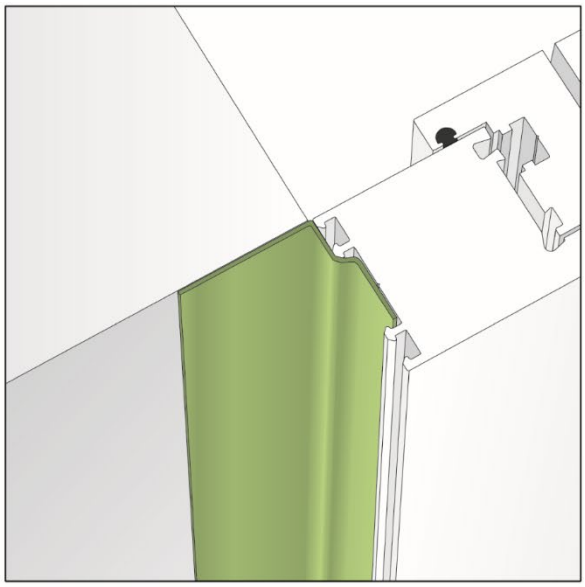
18.9 All membrane lap joints and areas of potential water ingress or air leakage (corners, around fixing brackets, etc) must be further sealed with SP525 adhesive.

19 Application of illbruck ME501 Duo Window Membrane HD

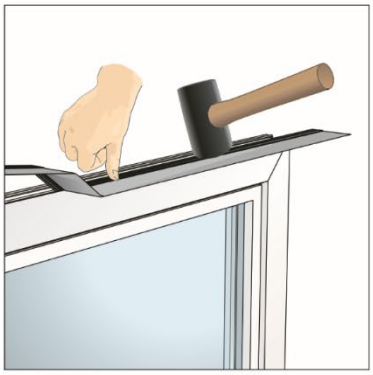
19.1 illbruck ME501 Duo Window Membrane HD is attached to the window with SP525 Adhesive, enhanced self-adhesive+ strip or gasket, and to the construction reveal material with SP525 Adhesive (see Figure 5).

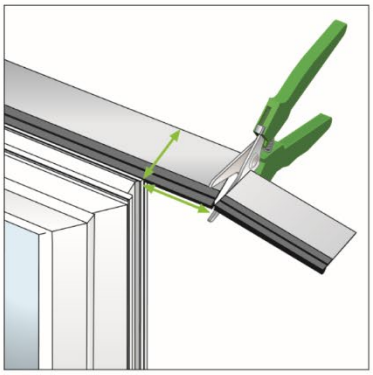
Figure 5 Installation of illbruck ME501 Duo Window Membrane HD with SP525 Adhesive or gasket

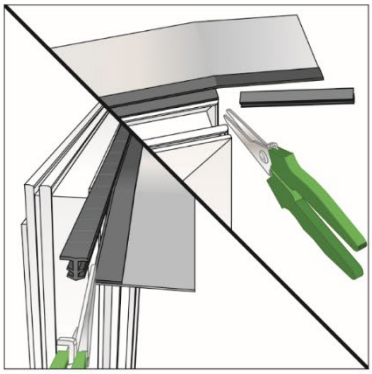
illbruck ME501 bonded to face of window frame and wall with SP525 adhesive



illbruck ME501 bonded to edge of window frame and wall with SP525 adhesive







illbruck ME501 attached to window frame with gasket, locate gasket into groove using mallet

Bonding with SP525 Adhesive after frame installation (suitable for single windows and curtain walling/multiple coupled windows/assemblies) (see Figure 5).

19.2 A 10 mm diameter bead of SP525 adhesive is applied approximately 15 mm from one edge of the back (shiny) face of the membrane, and bonded to the window frame face or edge by compressing with a seam roller to consolidate the bond. If alternately using the enhanced acrylic self-adhesive+, bond to the frame in the same way after removing the adhesive release liner.

19.3 A similar bead of adhesive is applied to the opposite edge of the membrane and bonded to the substrate by compressing with a seam roller to consolidate the bond.

Gasket option

19.4 The membrane with gasket is fixed to the substrate using SP525 Adhesive, as in the applications above.

19.5 When using the gasket fixing option, if the frame is being installed into a reveal the membrane must be applied prior to installation. If installing where the frame projects forward of the opening, the membrane can be applied after installation.

19.6 illbruck ME501 Duo Window Membrane HD and ME508 EW/F can be used in situations where a wet render system is to be applied. Further details are available from the Certificate holder.

20 Application of illbruck ME501VV Duo Window Membrane HD

illbruck ME501VV Duo Window Membrane HD is attached to the window with the self-adhesive, and also to the construction reveal material with the self-adhesive (see Figure 6).

Figure 6 Installation of window and construction reveal material with the self-adhesive

21 Application of illbruck ME901 Butyl & Bitumen Primer

21.1 When required, the primer must be used at no lower than -5C.

21.2 The primer must be brush applied evenly, carefully and in thin coats (two may be required) onto dry, dust-free and grease-free surfaces. Adjoining surfaces must be masked if not to be primed.

21.3 Coverage will depend on the porosity of the substrate.

22 Application of SP525 Adhesive

22.1 The sealant must be applied between +5 and +40°C using a conventional applicator gun.

22.2 Joint faces must be clean, dry and free from dust, oil, grease, old sealant and any traces of contaminant which may affect adhesion. Any previously applied sealant must be mechanically removed.

22.3 All beads must be consolidated by applying pressure along the length of the membrane using a seam roller to ensure firm, full contact with the joint faces.

23 Repair

Any damage to the membranes must be repaired as soon as possible and before the application of the finishing layer(s) of the construction detail. The membranes may be repaired by applying a patch of the membrane over the damaged area and sealing it with SP525 Adhesive or by using ME501 VV or ME508 EW/F with self-adhesive. In case of doubt, advice on a suitable repair method should be sought from the Certificate holder.

24 Tests

24.1 Tests were conducted on Compriband TP600 for water leakage on the tape and compression deflection of the foam and the results assessed.

24.2 Tests were conducted on ME508 Duo Membrane EW/F. The results assessed to determine:

- peel strength
- tear strength
- water vapour permeability
- dimensional stability
- foldability.

24.3 Tests were conducted on ME501VV Duo Window Membrane. The results assessed to determine:

- peel strength.

24.4 Tests were conducted on illbruck FM330 Pro Foam Air Seal and the results assessed to determine:

- water vapour permeability
- density
- bond strength to various substrates
- cohesive tensile strength
- thermal conductivity
- cure rates.

25 Investigations

25.1 An evaluation was made of independent test data to determine:

- tensile strength
- elongation at break
- compatibility with building materials (concrete, wood, aluminium and structural steel)
- resistance to driving rain(1)
- cold bend
- resistance to root penetration
- resistance to oil- and water-based wood preservatives
- resistance to fungal attack
- resistance to alkali
- resistance to heat ageing
- resistance to artificial weathering
- resistance to freeze/thaw cycling
- resistance to fatigue cycling.

(1) Test carried out with spray rate of 2 litres per minute per m^2 up to a pressure of 600 Pa.

25.2 An evaluation was made of independent test data investigating the performance in use of the Compriband TP600 in terms of UK practice.

25.3 An evaluation was made of independent test data carried out on Compriband TP600 relating to a number of installations where this product had been used.

25.4 An evaluation was made of independent test data carried out on ME508 Duo Membrane EW/F and ME501VV Duo Window Membrane relating to:

- air permeability and watertightness.

25.5 An evaluation was made of independent test data carried out on the i3 System (Compriband TP600 — External Weather Seal, a similar specification foam to FM330 — Middle Insulation Seal, a similar specification membrane to illbruck ME508 Duo Membrane EW/F — Internal Airtight Seal) relating to:

- air permeability
- resistance to driving rain
- simulated short-term loading
- sound reduction.

25.6 An evaluation was made of independent test data carried out on a similar specification foam to illbruck FM330 Pro Foam Window relating to:

- sound reduction in the joints on a similar specification foam
- air permeability and water tightness
- flexibility at 0 and 23°C.

25.7 An evaluation was made of independent test data carried out on illbruck ME501 Duo Window Membrane HD relating to:

- air permeability
- adhesive tensile strength
- resistance to fire.

25.8 An evaluation was made of independent test data carried out on SP525 Adhesive relating to adhesive tensile strength.

25.9 Using computer modelling, window and door frame jambs were analysed for risk of condensation.

25.10 Visits were made to a site in progress to assess the practicability of installation.

25.11 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

Bibliography

BS EN 1026 : 2000 *Windows and doors — Air permeability — Test method*

BS EN 12207 : 2000 *Windows and doors — Air permeability — Classification*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

Conditions

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- are reviewed by the BBA as and when it considers appropriate.

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- any claims by the manufacturer relating to UKCA, UKNI or CE marking.

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