INTELLO®

Application Guide

Intelligent Air Barrier System

Intelligent moisture management for healthy, durable and energy efficient buildings

pro clima®

1

Prepare site
Clean / sweep the area. Check interior surface for staples, nails and protrusions that might damage the membrane.

2

Tools required
- Ruler; marker, pencil; sharp knife; caulking gun
- PRESSFIX
- Staple gun (pneumatic if preferred)
- Staples 8-10 mm crown width, 8 mm leg length

3a

Measure install height to 1470 mm
Set a mark at 1470 mm above the floor, which will result in a 30 mm overlap onto the floor. The flap at the bottom is required.

3b

Mark height at several locations
Measure and mark the 1470 mm height at the same level in several locations along the wall to ensure a level application.

1

4a

Unroll INTELLO® membrane
Align the top edge of INTELLO® membrane to 1470 mm marks. Keeping alignment with the marks, fix one end with a few staples (1).

4b

Staple perpendicular to direction of tension
Orient staples so crown is perpendicular to the direction of tension. Use 5-6 staples at the initial fixing point.

IMPORTANT

INTELLO® and INTELLO® PLUS are for internal use only. Keep it away from water, moisture and direct UV.

Having a clean worksite and surfaces is key to achieving durable adhesion.

Plan ahead before fixing membranes. This will anticipate challenges and reduce re-work.

IMPORTANT

Ensuring the membrane is properly taut to enable effective application and adhesion of TESCON® tapes.

If you use too much tension, you risk having seals pull away over time.

If you allow too much slack, you may have a hard time ensuring durable adhesion.

You may also create small folds in the membrane that are troublesome to seal.
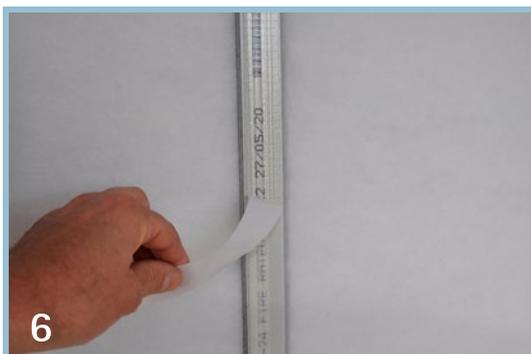
DUPLEX

All-purpose double-sided tape, ideal for permanent bonding of INTELLO® to steel framing. DUPLEX is reinforced with a scrim allowing it to remain thin, avoiding thick layered material build ups while still providing easy application.

Position INTELLO® bottom layer
Staple at corner (1), pull the membrane taut and staple at (2). At the middle, stretch the bottom down to create a tight "V" and staple (3).

Tension & fix INTELLO®
Pull up and staple (4). Pull the corners down and staple (5, 6). Along the bottom plate, staple at every 100 mm & along the top edge, staple at every stud.

Note: For fixing INTELLO® on metal frames
Use pro clima DUPLEX double-sided tape to adhere the membrane on metal framing with the same "V" pattern as above.

Correctly overlap INTELLO®
Position upper courses of INTELLO® to make a 100 mm lap over the lower course. Staple in the 30 mm space between the dotted line and the edge.

Apply successive courses of INTELLO®
Staple lower edge of new course at one lower corner, pull membrane across keeping it taut, then staple at the lower edge of the other end.

Pull INTELLO® taut & staple fix
After fixing the lower corners (1, 2), pull the membrane firmly up. When taut, staple once in the middle at the top edge (3).

7d

Pull INTELLO® taut & staple
Pull down in centre and staple (4). Pull taut and staple at each top corner (5, 6). Staple every 100 mm along top plate & every stud along bottom.
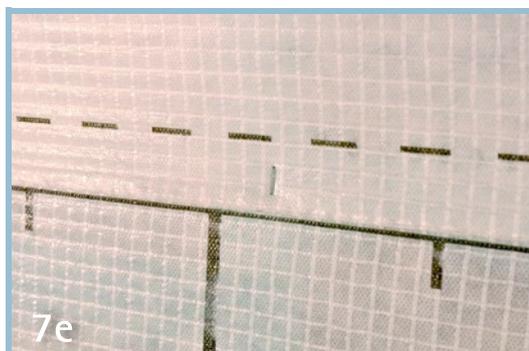
7e

Fix staples within 30 mm dashed line
Where one course overlaps another, a dashed line 30 mm from the edge indicates where to staple. When taped, the staples will be sealed.

8a

Seal overlaps & joints with TESCON® VANA
Apply TESCON® VANA along the 30 mm mark (dotted line). Remove the backing from short sections while working from one end to the other.

8b

Activate the adhesive using PRESSFIX
Firmly run the PRESSFIX tool along TESCON® VANA to activate the adhesive. Ensure that this is done with firm pressure.
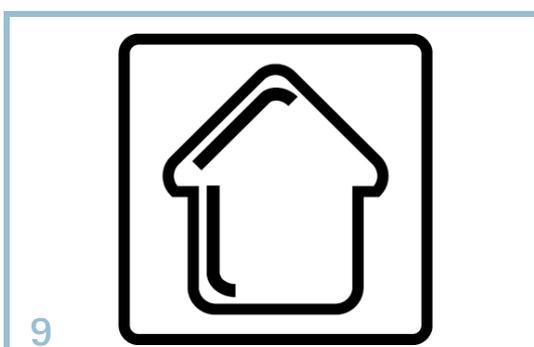
9

Create a continuous airtight INTELLO® layer
- Connect to floor
- Connect to window
- Connect to penetrations

10

Floor connection preparation
Surface must be dry and dust free. Vacuum if necessary. Surface must be grease and silicone free and also free of contaminants.

IMPORTANT

Membrane should be pulled taut to ensure TESCON® VANA tape can be easily installed and adequate pressure applied using the PRESSFIX tool.

When applying TESCON® VANA ensure there are no creases or excessive tension.

TESCON® VANA
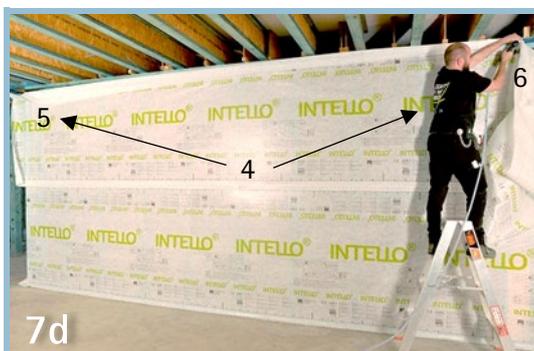Pressure sensitive adhesive tape for airtight connections.

100 YEARS ADHESION
✔ successfully tested
✔ unique worldwide
TESCON VANA I TESCON No.1 I UNI TAPE
www.proclima.com/100years

PRESSFIX
A malleable plastic tool for applying pressure to pro clima adhesive tapes to ensure long term durable bonding.

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IMPORTANT

Adhesion test
Use a small strip of TESCON® VANA tape to test adhesion on the substrate.

If TESCON® VANA fails to stick properly because the surface is:
- dirty -> clean the surface
- uneven -> use TESCON® PRIMER RP & ORCON® CLASSIC sealant

If TESCON® VANA fails to stick to a clean surface then TESCON® PRIMER RP *must* be used.

TESCON® PRIMER RP
Applied to substrates to prepare for optimum adhesion to surfaces such as concrete, masonry, timber, fibre cement, plywood, oriented strand board (OSB), and other porous or friable surfaces prior to application of TESCON® tapes or ORCON® CLASSIC adhesive.

11a

Apply ORCON® CLASSIC bead along floor
Hold the INTELLO® overlap up & apply a bead of ORCON® CLASSIC adhesive that is at least 5 mm thick along the floor (concrete, fc sheet or timber).

11b

Attach INTELLO® to ORCON® CLASSIC bead
Lay the INTELLO® overlap onto the ORCON® CLASSIC bead in full contact. Do not press the bead completely flat, allowing a lasting, flexible connection.

12a

Apply TESCON® PRIMER RP
Do an **adhesion test**. If additional adhesion is necessary, prepare the surface by applying a spread of TESCON® PRIMER RP.

12b

Evenly spread TESCON® PRIMER RP
Smooth the application of TESCON® PRIMER RP with a brush.

12c

Apply ORCON® CLASSIC to TESCON® PRIMER RP
When TESCON® PRIMER RP has dried (approx. 15 - 20 min), a bead of ORCON® CLASSIC may be applied.

12d

Attach INTELLO® to ORCON® CLASSIC bead
Lay the INTELLO® overlap onto the ORCON® CLASSIC bead in full contact. Do not press the bead completely flat, allowing a lasting, flexible connection.
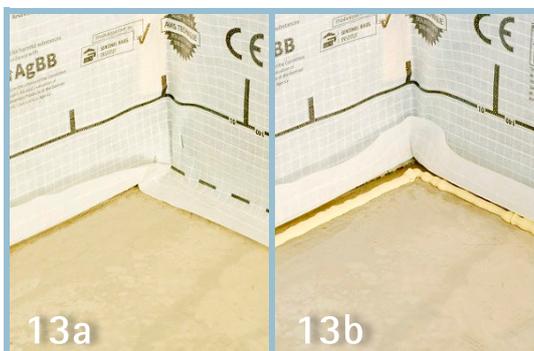
13a / **13b**

Seal internal corner using ORCON® CLASSIC
Hold the INTELLO® overlap up & apply a bead of ORCON® CLASSIC adhesive that is at least 5 mm thick along the floor (concrete, fc sheet or timber).
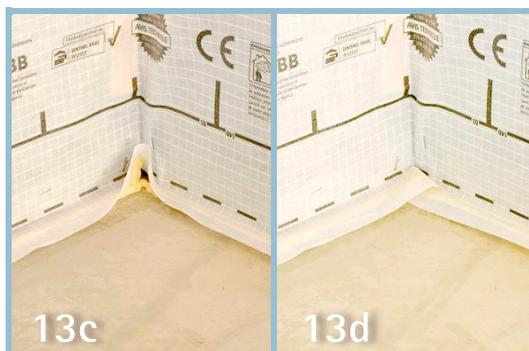
13c / **13d**

Fill the corner fold with ORCON® CLASSIC
Pinch any extra INTELLO® material and lift it up. Fill the fold with ORCON® CLASSIC. Lay the folded and filled material down, completing a continuous seal.

14a

Cut INTELLO® at exterior corner
Where INTELLO® meets an exterior corner, cut the material at a right angle to remove all tension.

14b

Apply ORCON® CLASSIC bead around corner
Apply a bead of ORCON® CLASSIC underneath INTELLO® where it is lifted.

14c

Attach INTELLO® to ORCON® CLASSIC bead
Lightly press both folds of INTELLO® onto the bead of ORCON® CLASSIC, taking care not to press it flat but maintain a continuous connection.

14d

Tape exterior corner with TESCON® VANA
At the corner, a short strip of TESCON® VANA tape may be used. Make a small slice halfway through the length, and apply it in the corner as shown.

IMPORTANT

When creating a seal with ORCON® CLASSIC adhesive, take care not to press too hard or squish the bead of sealant.

The bead thickness provides elasticity of the connection once dry to allow for building movement.

ORCON® CLASSIC
A durable airtight sealing glue suitable for bonding all pro clima products to any building material, smooth or rough, masonry or timber. It is fast drying and performs even in extreme humidity or damp conditions.

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IMPORTANT

INTELLO® connection strips must run between the junction of the internal wall and external wall, and along the top plate of the internal wall.

Any overlaps or change of direction of the connection strip needs to be taped with TESCON® VANA or TESCON EXTORA®.

15a

Prepare interior to exterior wall junction
Where an interior partition abuts an exterior wall, continuity of the INTELLO® system is required. Pre-planning is critical.
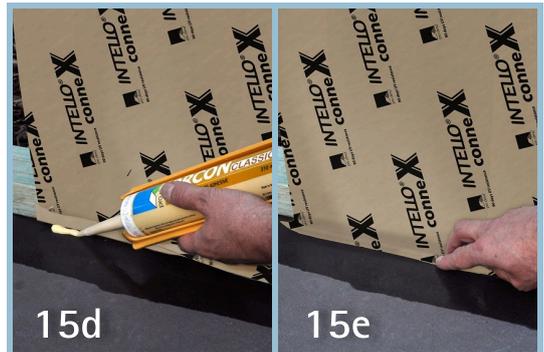

15b

Install INTELLO® conneX strips
Cut a short section of INTELLO® conneX (approx. 400 mm). Fix this to the stud junction.

15c

Apply TESCON® PRIMER RP
Do an **adhesion test**. If additional adhesion is necessary, prepare the surface by applying a spread of TESCON® PRIMER RP.

15d

15e

Connect INTELLO® conneX with ORCON® CLASSIC
For uneven subsurfaces; when TESCON® PRIMER RP has dried, apply a bead of ORCON® CLASSIC adhesive and lay the INTELLO® conneX overlap onto it.

15f

Secure lap using TESCON® VANA
Apply a length of TESCON® VANA to secure the connection between INTELLO® conneX and the floor.

15g

Ready for internal partition install
Once the seal is complete, the interior wall frame may be placed. This ensures continuity of the INTELLO® conneX Intelligent Air Barrier system.

16a

Connect wall/ceiling INTELLO® away from corner
INTELLO® must be connected away from the corner. This avoids difficult corner taping. Ensure INTELLO® is taut along the top plate of the wall.

16b

Overlap INTELLO® by 100 mm
INTELLO® in the ceiling must finish flush with the wall top-plate, behind the 100 mm overlap. Ensure it is taut & staple INTELLO® onto ceiling joists or rafters.

IMPORTANT

Pulling the membrane taut is important for a good connection of TESCON® VANA by using the PRESSFIX tool, especially where an overlap between courses does not lie on a rigid substrate like framing.

16c

Tape junction with TESCON® VANA
Apply TESCON® VANA tape at the resulting joint, relying on the tautness of the membrane & apply moderate pressure using PRESSFIX.


16d

Wall/ceiling intersection finishing check
TESCON® VANA should be free of creases and folds. Check all imperfections for air pathways & tape with TESCON® VANA patches if necessary.


TESCON® PROFIL
Specially designed for a secure and permanent airtight seal of junctions between INTELLO® Intelligent Air Barrier and window and door joinery. It is flexible, easy to cut, and has a simple-to-remove triple release paper, ensuring maximum productivity during installation.
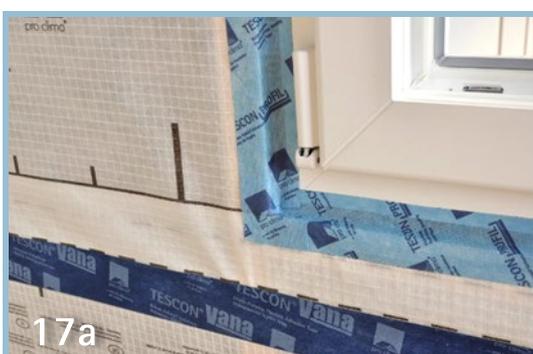
17a

Window connection using TESCON® PROFIL
After windows are fixed in place, use TESCON® PROFIL to bridge the gap between INTELLO® and the window frame.
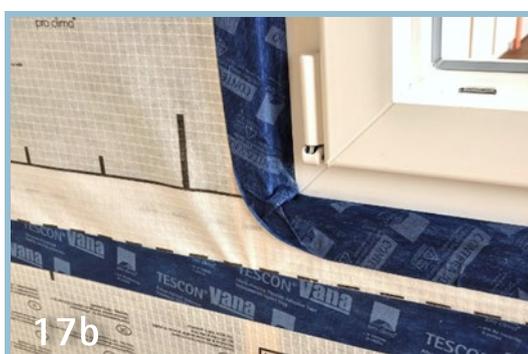
17b

Window connection using CONTEGA® IQ
CONTEGA® IQ must be connected to the window before placement. Once fixed in pace, complete the connection of CONTEGA® IQ to INTELLO®.

CONTEGA® IQ
Makes airtight seal of junctions between INTELLO® Intelligent Air Barrier and window and door joinery. Multiple adhesive strips allow flexible installation options for masonry or timber frame.

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IMPORTANT

Many of these applications rely on the membrane being taut so pressure can be applied effectively with the PRESSFIX tool.

Many pipe penetrations and details can be fixed manually with TESCON® VANA tape but ROFLEX makes quick and effective work of many repeated details.
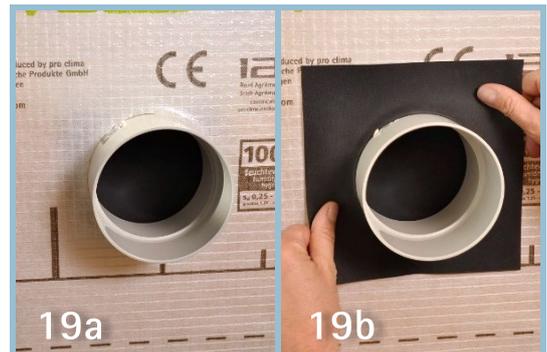
ROFLEX 20
Sealing grommet made of strong and highly flexible EPDM with integrated adhesive flange for rapid sealing of pipes up to 30 mm in diameter.

ROFLEX
Sealing grommet made of strong and highly flexible EPDM for rapid and permanent airtight feedthroughs for pipes.

For small pipes use ROFLEX 20 grommet
Use ROFLEX to seal pipes & conduit. Use the appropriate diameter ROFLEX for the penetration. ROFLEX should fit snuggly around the penetration.

Adhere the ROFLEX 20 flange
Remove ½ of the backing from ROFLEX and adhere it to INTELLO®. Remove the remaining ½ of the backing and adhere. Apply pressure with the PRESSFIX tool.
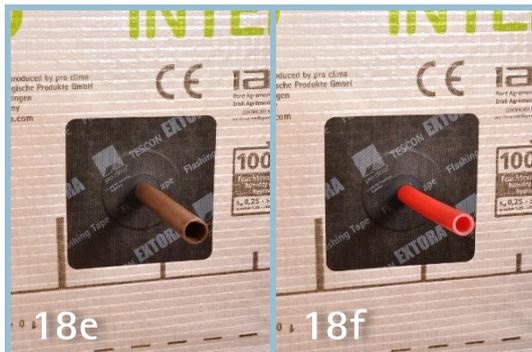
For cold and hot pipes up to 150°C
ROFLEX 20 can seal cold and hot pipes and penetrations within the range of 15 - 30 mm in diameter.

Sealing large pipes using ROFLEX
ROFLEX can seal large diameter pipes up to 320 mm. Choose the ROFLEX of the correct diameter range & fit the grommet over the pipe.

Fix ROFLEX with TESCON® tape
Cut four lengths of TESCON® VANA or TESCON EXTORA® tape 60 mm longer than each side of the grommet.

Complete perimeter with TESCON® tape
Continue fixing the sides, then the top. Ensure to apply pressure using the PRESSFIX tool.

20a

Seal "round" cables using KAFLEX

Pull the cable penetration through the KAFLEX grommet. Where the cable penetrates INTELLO®, align it with the grommet opening on the KAFLEX.

20b

Adhering KAFLEX

Remove ½ of the backing from KAFLEX and adhere it to INTELLO®. Remove the remaining ½ of the backing and adhere. Try to avoid folds or creases.

20c

PRESSFIX the flange

Make sure to use the PRESSFIX tool to press KAFLEX into place and ensure durable adhesion.

21a

Sealing flat cables (TPS Red/Black/Earth)

KAFLEX post is used when cables are already connected, if pulling through a grommet is not practical, or when cables are not round.

21b

Adhere KAFLEX post flange to INTELLO®

Remove ½ of the backing from KAFLEX post and adhere it to INTELLO®. Remove the remaining ½ of the backing and adhere. Ensure pressure is applied with the PRESSFIX tool.
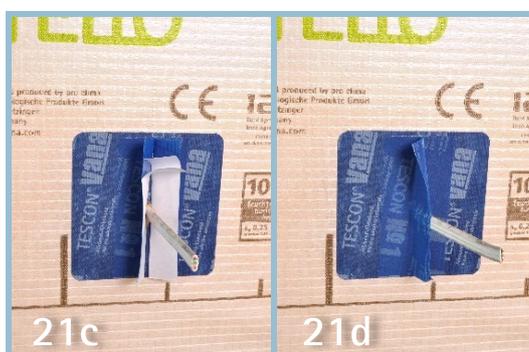
21c   **21d**

Seal KAFLEX around the flat cable

Pull backing in short sections evenly from both sides of the standing section and stick them together firmly. Continue around the cable.

IMPORTANT

Many cable penetrations and details can be fixed manually with TESCON® VANA tape but KAFLEX makes quick and effective work of many repeated details.

KAFLEX mono/duo for round cables.

KAFLEX post for flat or already installed cables.

KAFLEX mono/duo
Airtight sealing grommets made of strong and flexible EPDM with adhesive flange for ease of installation.

KAFLEX post
Flexible and stretchable adhesive patch. Used when cables are already connected or for flat cables.

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IMPORTANT

When using KALFLEX multi, use the included hole punch on a piece of scrap timber to ensure no damage to finished surfaces.

KAFLEX multi
Sealing grommet made of strong and highly flexible EPDM for rapid and permanent air seals for up to 16 round cables.

22a
Sealing multiple round cables
When many cables penetrate INTELLO®, use KAFLEX multi. Use the included hole punch to stamp holes to match the number of cable penetrations.

22b
Place KAFLEX multi and pull through cables
Work the cables through the holes in KAFLEX multi and manoeuvre into place onto INTELLO®.

22c
Tape bottom edge using TESCON® tape
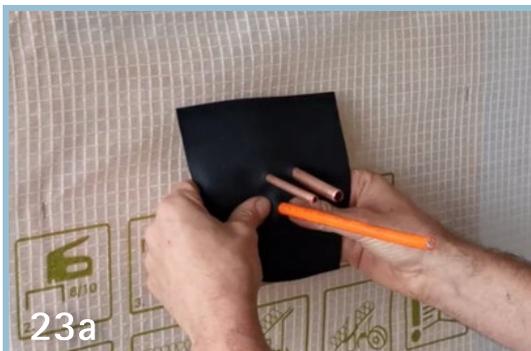Tape bottom edge of KAFLEX multi with TESCON® VANA or TESCON EXTORA®.

22d
Tape perimeter using TESCON® tape
Continue with small sections of TESCON® VANA or TESCON EXTORA® tape for all sides and apply pressure with the PRESSFIX tool.

23a
Use KAFLEX multi to seal refrigerant lines
Use KAFLEX multi & hole punch for refrigerant lines. Cut and pull lagging insulation away from the pipe so that KAFLEX seals around the pipe.

23b
Seal with TESCON® & replace lagging
After placing the KAFLEX grommet, seal it to INTELLO® with TESCON® VANA or TESCON EXTORA® tape. Re-apply pipe lagging if it was removed.

Use service cavity to avoid INTELLO® penetration
Cavity battens used to create a service cavity for electrical and plumbing avoiding penetrations or the need for an INSTAABOX.

Use INSTAABOX when directly fixing plasterboard
When cavity battens are not used, use of INSTAABOX is required for continuity of INTELLO® airtightness layer and to accommodate GPOs, sockets & switches.

Cut rectangle to fit INSTAABOX
Mark the spot on INTELLO® to fit the INSTAABOX (260 mm x 130 mm) & cut. Poke small holes in INSTAABOX and feed the cables through.

Seal bottom edge of INSTAABOX to INTELLO®
Use a length of TESCON® VANA tape to seal the bottom edge of INSTAABOX to INTELLO®. Apply pressure using the PRESSFIX tool.

Fully seal INSTAABOX to INTELLO® & cables
Seal the perimeter. Using short lengths of TESCON® VANA tape, seal the cable penetrations into INSTAABOX. Start with the rear side of the cables.

Ensure cables are fully sealed
Use further short lengths of TESCON® VANA tape on the forward side of the cables to create a seal of the cable into INSTAABOX.

IMPORTANT

INSTAABOX makes penetrations through INTELLO® more manageable where room is needed.

If there is a service cavity, the penetrations are often not needed when services are run to the interior of INTELLO®.

Some projects will use a combination of service cavities and INSTAABOX to create an effective air barrier system.

INSTAABOX
Installation box for walls without a service cavity to provide a dedicated airtight alcove for GPO's, sockets, switches, and other outlets.
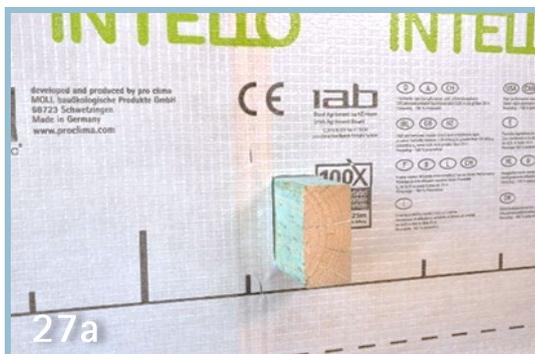
IMPORTANT

Steel structural members such as I-beams, C-channels, Z-channels are difficult to tape but with care taken a good airtight connection can be achieved.

TESCON® PROFIL
With a simple to remove triple release paper it is the ideal tape for easy installation around penetrations.
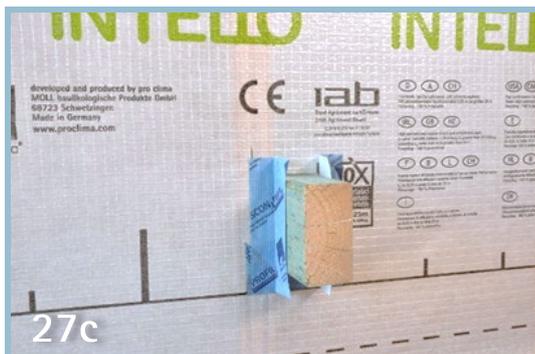
27a

Seal structural penetrations
Cut INTELLO® flush with the sides. Seal the bottom side first. Cut a length of TESCON® PROFIL 60 mm longer than the narrow side.

27b

Apply TESCON® PROFIL to bottom edge
Apply tape half on the penetration and half on INTELLO®. Cut at 45° and 3 mm away from the corner of the penetration and fold it up as shown.

27c

Apply TESCON® PROFIL to vertical edges
Seal the sides of the penetration. TESCON® PROFIL has split backing that allows adhesion of one half to INTELLO®, then the other to the penetration.
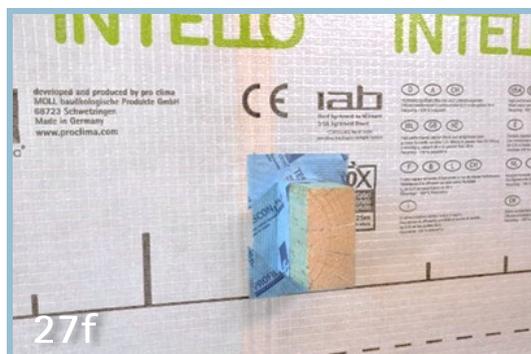
27d

Apply TESCON® PROFIL to top edge
Finish with the top of the penetration. Make a small slice at a 45° angle and 3 mm away from the corners to allow a fold around.

27e

Use PRESSFIX to adhere TESCON® PROFIL
Always use the PRESSFIX tool to apply pressure to the adhesive to ensure durable adhesion.

27f

Penetration finishing check
TESCON® PROFIL should be free of creases and folds. Check all imperfections for air pathways & tape with TESCON® strips if necessary.
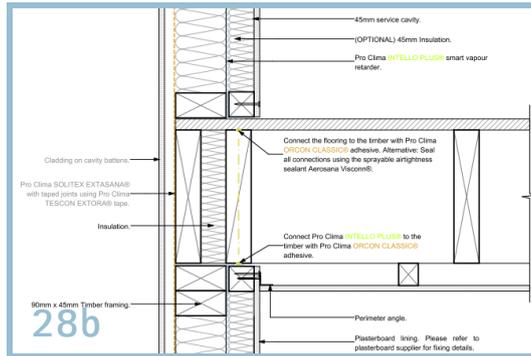
28a

Connecting INTELLO® between floors: Option 1
Where an air barrier is required between floors, a strip of INTELLO® may be used to create a continuous seal around floor framing.
AUS: www.proclima.com.au/construction-details-library-wall/ (MIDFLOOR A2211)
NZ: www.proclima.co.nz/construction-details-library-wall/ (MIDFLOOR A2211)

28b

Connecting INTELLO® between floors: Option 2
Use a block of timber and seal it with ORCON® CLASSIC all around and to the underside of the floor panel.
AUS: www.proclima.com.au/construction-details-library-wall/ (MIDFLOOR A2214)
NZ: www.proclima.co.nz/construction-details-library-wall/ (MIDFLOOR A2214)

28c

INTELLO® Product Matrix
Ensure good adhesion to substrates by checking the INTELLO® Product Matrix.
AUS www.proclima.com.au/intello-plus/
NZ www.proclima.co.nz/intello/
NZ www.proclima.co.nz/intello-plus/

28d

INTELLO® Installer QA Checklist
Use the INTELLO® Installer QA Checklist to confirm that all the proper steps have been done.
AUS www.proclima.com.au/intello-plus/
NZ www.proclima.co.nz/intello/
NZ www.proclima.co.nz/intello-plus/

28e

Protect your work!
Where INTELLO® is installed, use pro clima Signage on site to prevent damage to INTELLO®.
AUS www.proclima.com.au/intello-plus/
NZ www.proclima.co.nz/intello/
NZ www.proclima.co.nz/intello-plus/

28f

Check install quality with a Blower Door
Before installing plasterboard, consider using a Blower Door to find any air leaks in the Intelligent Air Barrier system.
AUS www.proclima.com.au/blower-door/
NZ www.proclima.co.nz/blower-door/

Access all documentation online

AUS
INTELLO® PLUS

NZ
INTELLO® PLUS

NZ
INTELLO®

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Recommendations and requirements

ATTENTION:

- <u>Keep all angle grinding of metals away from INTELLO®.</u> Sparks projected from angle grinders during cutting can burn tiny holes in the membrane and reduce its effectiveness.

- <u>Blow torches and heat guns should be used with care</u> when near INTELLO®. All damage must be repaired.

- <u>INTELLO® and INTELLO® PLUS are for internal use only.</u>

- Where possible, INTELLO® should be installed so that adhesion can be achieved using single-sided adhesive tape on the printed, smooth side of the membrane.

- The maximum span between supporting members for INTELLO® shall be no more than 1 m.

- After ceiling installation, perpendicular cavity battens on the inside should have a maximum separation distance of 500 mm & the battens must be fitted to carry the weight of the insulation material.

- If regular tensile loads on adhesive tape bonds are to be expected – for example, due to the weight of the insulation material – when using roll, batt or board type insulation materials, an additional supporting batten should be fitted over the overlap connection. Alternately, the adhesive tape can also be secured on the overlap with strips of adhesive tape running across it at a distance of 300 mm.

- When attaching the membranes in the case of roll, batt or board insulation materials, a maximum separation distance of 100 mm to 150 mm applies for the fastening staples, which must be at least 10 mm wide and 8 mm long. The membrane overlaps must be approx. 80 mm to 100 mm.

- **For blown-in insulation: Only INTELLO® PLUS** (not INTELLO®) is strong enough to hold the weight and pressure during the process of installation. Orientation of the staples should be lengthwise i.e. the same as the structural frame orientation.

  NOTE
  - Information in this Application Guide applies to INTELLO® and INTELLO® PLUS unless otherwise stated. New Zealand: INTELLO® & INTELLO® PLUS are available | Australia: INTELLO® PLUS is available.
  - Photography undertaken in Australia. Installation method applies for Australia and New Zealand, timber colour may vary.

Certification

NZ   GER   UK   EU   IRL

SENSITIVE CHOICE   BRANZ Appraised Appraisal No.1149 [2021]   DIBt   BBA BRITISH BOARD OF AGRÉMENT CERTIFICATE No 07/4432   CE   iab Bord Agrément na hÉireann Irish Agrément Board

Global

Red List Free   Declare.   phA CERTIFIED COMPONENT Passive House Institute

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General:	welcome@proclima.co.nz	welcome@proclima.com.au
	www.proclima.co.nz	www.proclima.com.au

Healthy Building No Worries!