INTELLO®

Application Guide

NZ
INTELLO®

NZ
INTELLO® PLUS

AUS
INTELLO® PLUS

Intelligent Air Barrier System

Intelligent moisture management for healthy, durable and energy efficient buildings

pro clima®

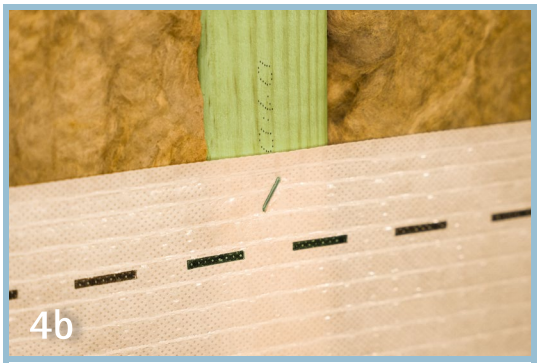
Prepare site
Clean the area. Check interior frame surface for staples, nails and protrusions that might damage the membrane.

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

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

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.

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



Staple at approximately 45deg angle
Orient staples around 45deg angle from horizontal. Use 5-6 staples at the initial fixing point. Staple within the 30mm dashed line.

IMPORTANT

INTELLO® and INTELLO® PLUS are for internal use only. Keep the product 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 help at critical junctions and reduce re-work.

IMPORTANT

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

INTELLO® must be detailed and installed airtight in order to function optimally is a vapour control layer.

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 the corners down and staple (4 & 5). Along the top edge of the membrane, staple at every stud within the 100mm solid line.

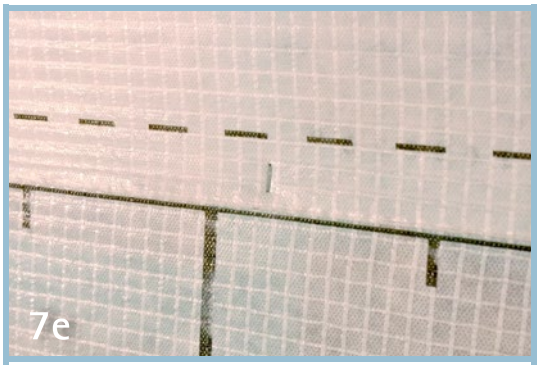
Note: For fixing INTELLO® on metal frames
Use pro clima DUPLEX double-sided tape to adhere the membrane on metal framing with the same "V" pattern as above.

Correctly overlap INTELLO®
Position upper courses of INTELLO® to make a 100 mm lap over the lower course. Staple within the 30mm dashed line

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).

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



Fix staples within the 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.

Seal overlaps & joints with TESCON® VANA
Apply TESCON® VANA along the 30 mm dashed line. Gradually remove the release film while working from one end to the other.

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.

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

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.

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

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.

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

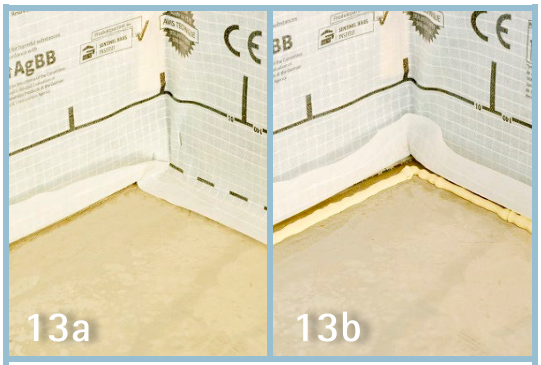
Attach INTELLO® to ORCON® CLASSIC bead
Lay the INTELLO® onto the ORCON® CLASSIC bead. Run two fingers along each side of the bead, leaving slack to allow for expansion and a flexible connection. Do not press the bead flat.

Apply TESCON® PRIMER RP
Do an adhesion test. If adhesion is not optimal, prime the surface by applying a layer of TESCON® PRIMER RP.

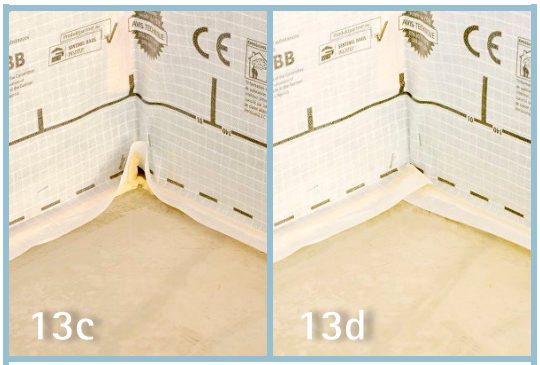
Evenly spread TESCON® PRIMER RP
Apply TESCON® PRIMER RP using a brush.

Apply ORCON® CLASSIC to TESCON® PRIMER RP
When TESCON® PRIMER RP has dried (approx. 15 - 20 min), a ~5mm thick bead of ORCON® CLASSIC may be applied along the floor.

Attach INTELLO® to ORCON® CLASSIC bead
Lay the INTELLO® onto the ORCON® CLASSIC bead. Run two fingers along each side of the bead, leaving slack to allow for expansion and a flexible connection. Do not press the bead flat.

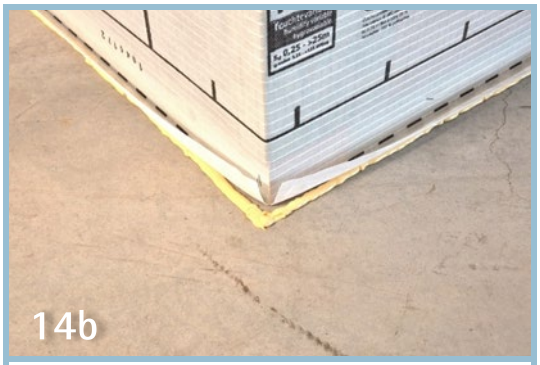


Seal internal corner using ORCON® CLASSIC
Hold the INTELLO® overlap up & apply a bead of ORCON® CLASSIC adhesive that is at least 5 mm thick along the floor.



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.

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



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

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.

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 adhesive suitable for bonding all pro clima products to any building material, smooth or rough, masonry or timber.

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®.

Prepare interior to exterior wall junction

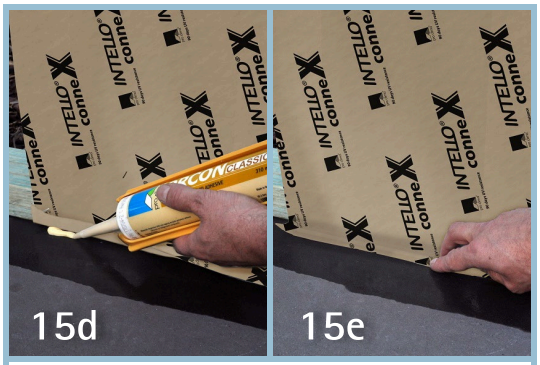
Where an interior partition abuts an exterior wall, continuity of the INTELLO® system is required. Pre-planning is critical.

Install INTELLO® conneX strips

Use the 300mm wide version of INTELLO® conneX where the internal partitions will be. Fix to studs with staples every 100mm along each stud.

Apply TESCON® PRIMER RP

Do an adhesion test. If adhesion is not optimal, prime the surface by applying a layer of TESCON® PRIMER RP.



Connect INTELLO® conneX with ORCON® CLASSIC

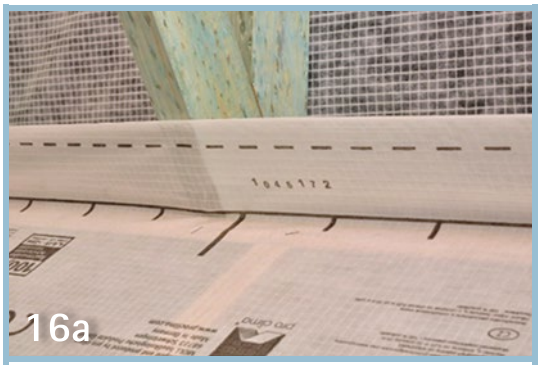
For uneven surfaces, when TESCON® PRIMER RP has dried, apply a bead of ORCON® CLASSIC adhesive and lay the INTELLO® conneX overlap onto it.

Secure lap using TESCON® VANA

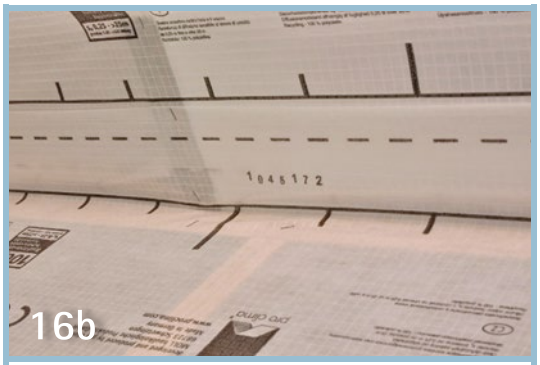
Apply a strip of TESCON® VANA to secure the connection between INTELLO® conneX and the floor for extra security and long-term exposure to the elements during framing stage.

Ready for internal partition install

Once the seal is complete, the interior wall frame may be placed. This ensures continuity of the INTELLO® Intelligent Air Barrier system.



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.



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

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.

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.

Window sealing with TESCON® PROFIL
After windows are fixed in place, use TESCON® PROFIL to bridge the gap between INTELLO® and the window frame.

Window sealing with CONTEGA® SOLIDO SL-D
CONTEGA® SOLIDO SL-D must be connected to the window before placement. Once fixed in place, complete the connection to INTELLO®.

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.

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.

CONTEGA® SOLIDO SL-D
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.

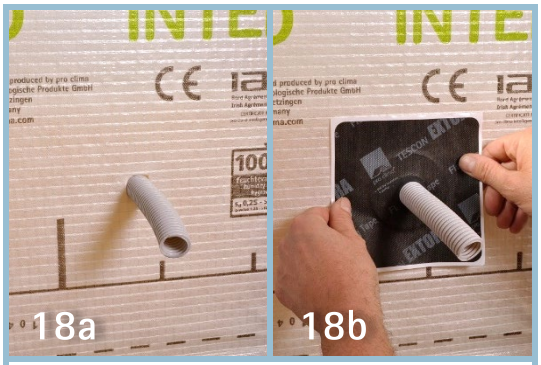
IMPORTANT

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

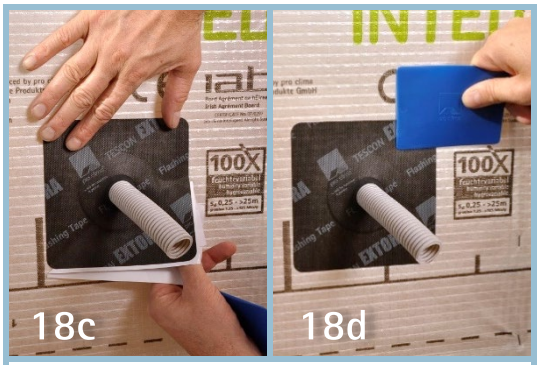
Many pipe penetrations and details can be fixed manually with TESCON® VANA tape but ROFLEX makes quick and effective work of many repeated details.

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.

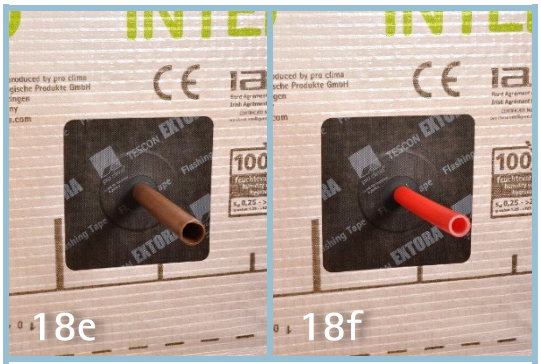
ROFLEX
Sealing grommet made of strong and highly flexible EPDM for rapid and permanent airtight feedthroughs for pipes.



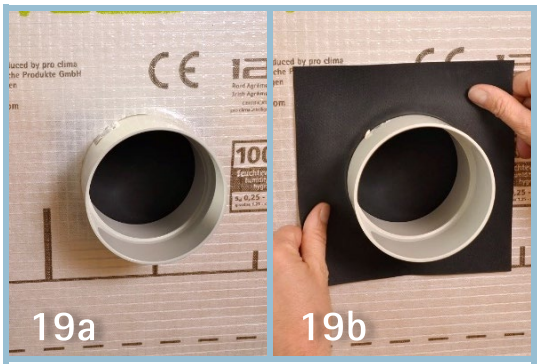
For small pipes use ROFLEX 20 grommet
Use ROFLEX to seal pipes & conduit. Use the appropriate diameter ROFLEX for the penetration. ROFLEX should fit snuggly around the penetration.



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.

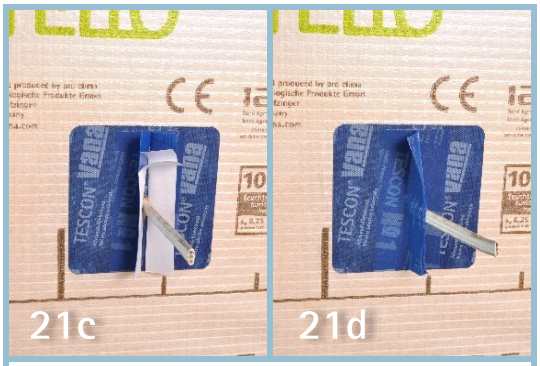
Seal round cables using KAFLEX
Pull the cable penetration through the KAFLEX grommet. Where the cable penetrates INTELLO®, align it with the grommet opening on the KAFLEX.

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

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

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.

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.



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.

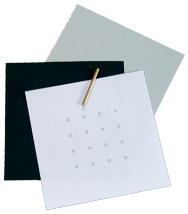
KAFLEX post for flat or already installed cables.

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.

IMPORTANT

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



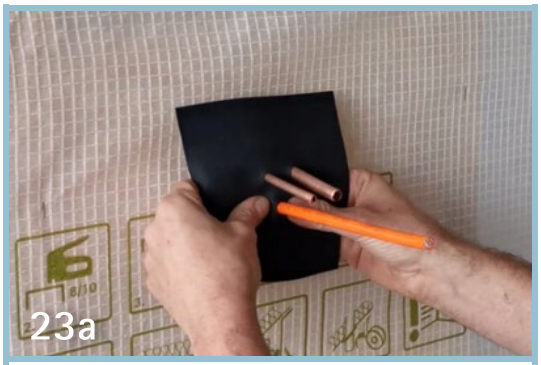
KAFLEX multi
Sealing grommet made of strong and highly flexible EPDM for rapid and permanent air seals for up to 16 round cables.

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.

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

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

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.

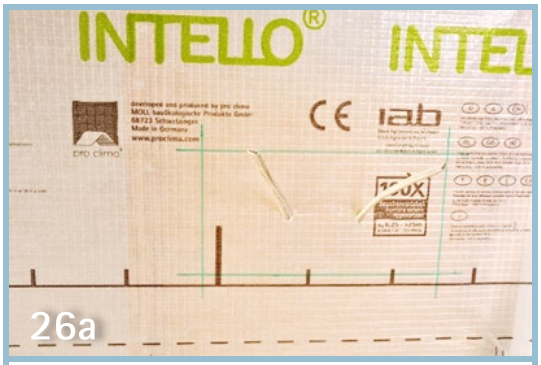


Use KAFLEX multi to seal refrigerant lines
Use KAFLEX multi & hole punch for refrigerant lines. Cut and pull lagging insulation away from the pipe so that KAFLEX seals around the pipe.

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.

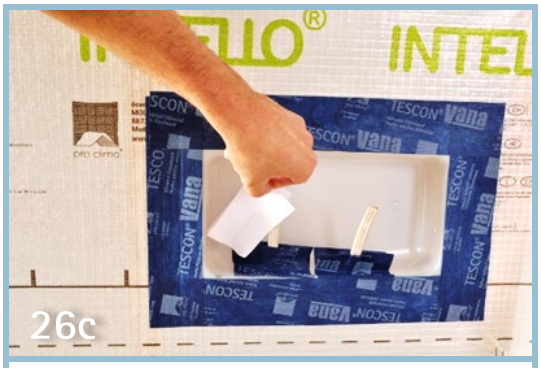
Use service cavity to avoid INTELLO® penetration
Cavity battens used to create a service cavity for electrical and plumbing avoiding penetrations or the need for an INSTAAABOX.

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.

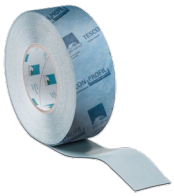
If there is a service cavity, the penetrations are often not needed when services are run to the interior of INTELLO®.

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

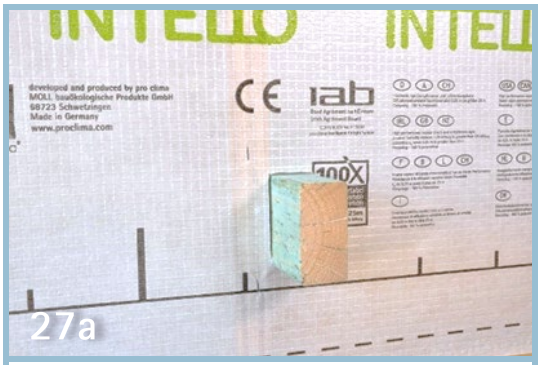
INSTAABOX
Installation box for walls without a service cavity to provide a dedicated airtight alcove for GPO's, sockets, switches, and other outlets.

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.

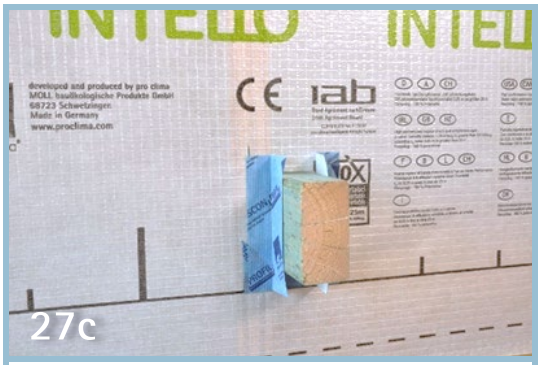


TESCON® PROFIL
With a simple to remove triple release paper it is the ideal tape for easy installation around penetrations.

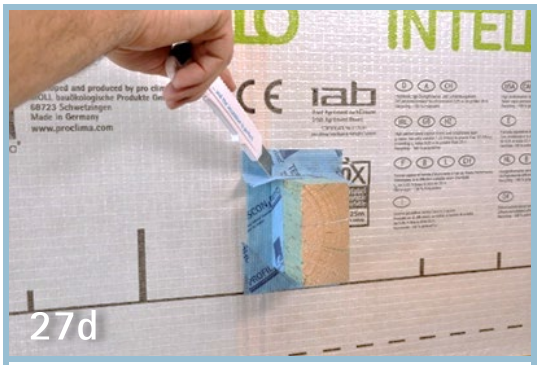


Seal structural penetrations
Cut INTELLO® flush with the sides. Seal the bottom side first. Cut a length of TESCON® PROFIL 60 mm longer than the narrow side.

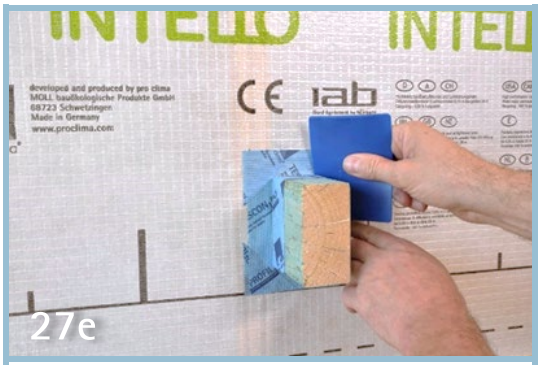
Apply TESCON® PROFIL to bottom edge
Apply tape half on the penetration and half on INTELLO®. Cut at 45° and 3 mm away from the corner of the penetration and fold it up as shown.



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.

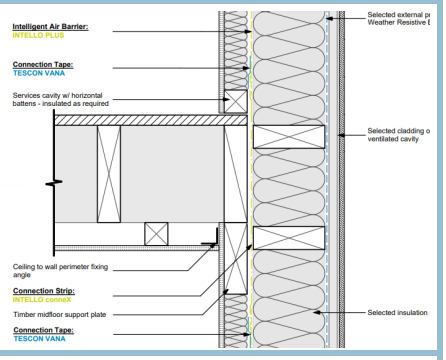


Apply TESCON® PROFIL to top edge
Finish with the top of the penetration. Make a small slice at a 45° angle and 3 mm away from the corners to allow a fold around.



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

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



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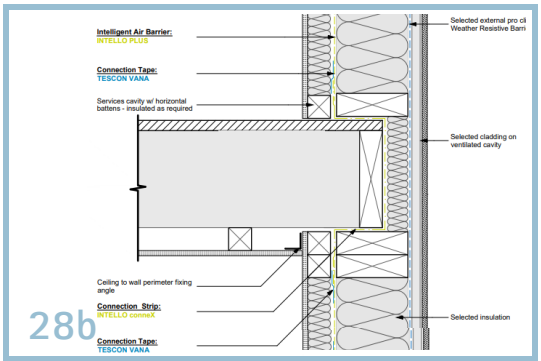
Connecting INTELLO® between floors: Option 1

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 A2213)
NZ: www.proclima.co.nz/construction-details-library-wall/ (MIDFLOOR A2213)



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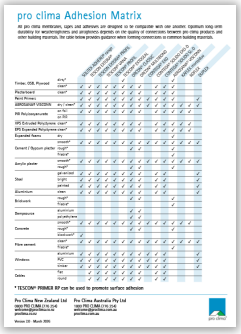
Connecting INTELLO® between floors: Option 2

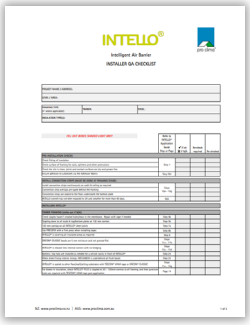
Use a block of timber and seal it with ORCON® CLASSIC all around and to the underside of the floor panel.
AUS: www.proclima.com.au/construction-details-library-wall/ (MIDFLOOR A2211)
NZ: www.proclima.co.nz/construction-details-library-wall/ (MIDFLOOR A2211)



28c

Adhesion Matrix

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



28d

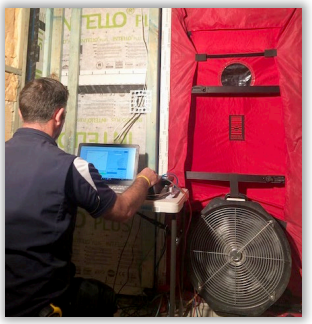
INTELLO® Installer QA Checklist

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/

IMPORTANT

Mid-floor connections must be planned and executed well before INTELLO® installation takes place.

This means the connection strip needs to be planned into the construction timeline.

If INTELLO® connection strips will be exposed, it is recommended they be protected from rain and UV exposure.

Access all documentation online

AUS
INTELLO® PLUS

NZ
INTELLO® PLUS

NZ
INTELLO®

Recommendations and requirements

ATTENTION:

- Keep all angle grinding of metals away from INTELLO®. Sparks projected from angle grinders during cutting can burn tiny holes in the membrane and reduce its effectiveness.
- Blow torches and heat guns should be used with care when near INTELLO®. All damage must be repaired.
- INTELLO® and INTELLO® PLUS are for internal use only.
- 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.
- For timber framed structures, it is recommended that the moisture content in the timber is measured prior to installation of INTELLO®.
  Timber structure should be below 18% moisture content by mass prior to installation of INTELLO®.
- 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 and 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. Alternatively, the adhesive tape can also be secured on the overlap with short strips of adhesive tape running perpendicular across it at a distance of 300 mm.
- When installing INTELLO® in conjunction with roll, batt or board insulation materials, staples should be installed every 100 mm along the studs and top and bottom plates.
  The membrane overlaps must be 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.

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Version 2.0 dated April 2026