

Installation instructions **INTELLO® X**

Application for insulation between rafters



1. Install membranes

Roll out the membrane and fasten it using galvanised staples that are at least 10 mm (3/8") wide by 8 mm (5/16") long at intervals of 10-15 cm (4" to 6") or, if blown-in insulation is to be installed, 5-10 cm (2" to 4"). Install the membrane leaving an additional 4 cm (1 5/8") overlap at adjacent building components so that an airtight bond can be applied here subsequently.



2. Fasten to stud wall frame members

Fastening of membranes to metal frame members on stud wall and ceiling structures using pro clima DUPLEX.



3. Overlap the membranes

Allow for an overlap of approx. 10 cm (4") between the membranes. The marking that is printed onto the membrane will serve as a guide here.



4. Clean the subsurface

Clean the subsurface (dry and free of dust, silicone and grease) before taping; carry out an adhesion test, if necessary.



5a. Tape the overlaps

Centre the TESCON VANA system adhesive tape on the overlap and gradually stick it in place, ensuring that there are no folds or tension.



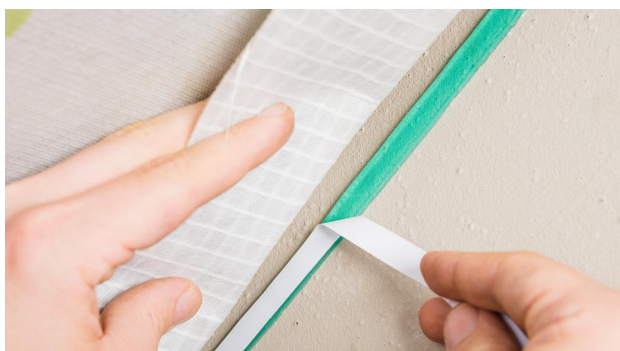
5b. Rub the adhesive joint firmly

Rub tape firmly into place using the pro clima PRESSFIX. Ensure that there is sufficient resistance pressure.



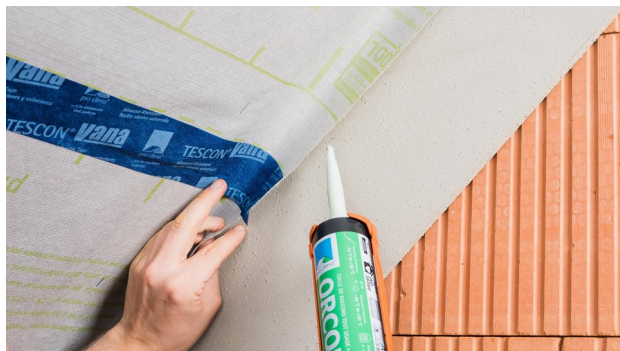
6. Sealing to smooth, non-mineral substraces

... (e.g. knee walls made of wood-based panels) should also be implemented using TESCON VANA system adhesive tape. Centre the tape and gradually stick it in place, ensuring that there are no folds or tension. Rub tape firmly into place using the pro clima PRESSFIX.



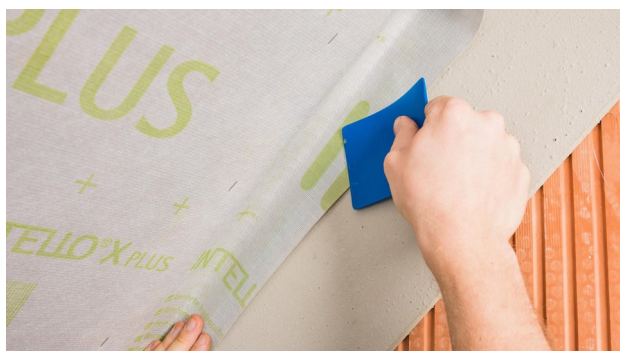
8a. Alternative: Sealing to mineral substraces

Position ORCON MULTIBOND on the subsurface, roll it out and gradually stick it to the subsurface. Gradually remove the release film.



7. Sealing to rough or mineral substraces

Clean the subsurface. Apply a line of ORCON F system adhesive of at least d = 5 mm (3/16"), or more in the case of very rough substraces if necessary. Place INTELLO X onto the adhesive bed, leaving slack to allow for expansion. Do not press the adhesive completely flat.



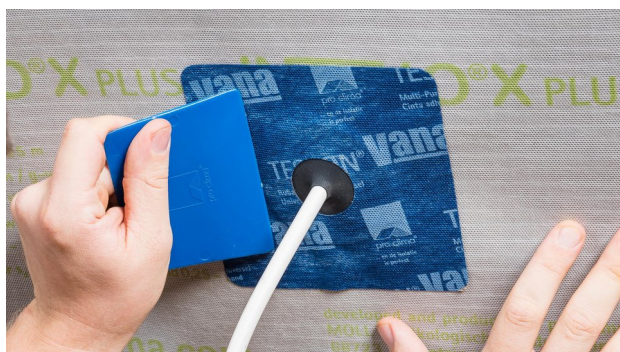
8b. Stick the membrane / Rub the joint firmly

Apply the membrane onto the adhesive strip, leaving slack for expansion so as to allow for relative motion between components. Rub firmly into place using the pro clima PRESSFIX. Ensure that there is sufficient resistance pressure.



9. Sealing to unplastered substraces

Put the vapour check in place. Leave slack for expansion so as to allow for relative motion between components. Remove all release films from CONTEGA SOLIDO SL or CONTEGA SOLIDO IQ. Centre the tape and gradually stick it in place. Rub tape firmly into place using the pro clima PRESSFIX.



10a. Joints to cables

Place a KAFLEX cable gasket over the cable and stick to the membrane. The cable gaskets are self-adhesive.

The range includes:

- KAFLEX mono (see picture)
- KAFLEX duo - for 2 cables
- KAFLEX multi - for up to 16 cables
- KAFLEX post - for retrofit installation



10b. Joints to pipes

Place a ROFLEX pipe grommet over the pipe and stick to the membrane using TESCON VANA.

The range includes:

- ROFLEX 20 - e.g. for pipes, Ø 15-30 mm (1/2" - 1 3/16")
- ROFLEX 20 multi - for up to 9 conduits
- ROFLEX 30 - 300 - for Ø 30-320 mm (1 3/16" - 12 1/2")



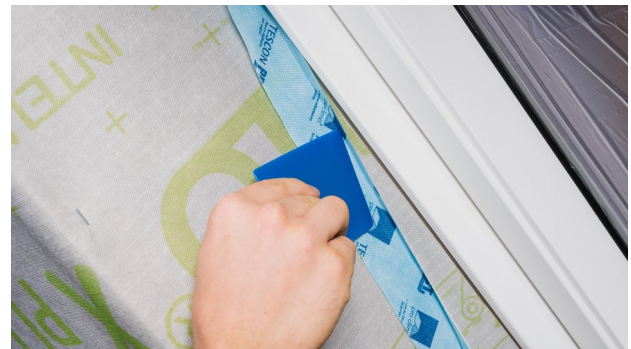
11. Corner bonding

Guide TESCON PROTECT pre-folded corner sealing tape into the corner while the release film is still in place and stick the first independent adhesive strip. Then remove the release film and stick the second independent adhesive strip.



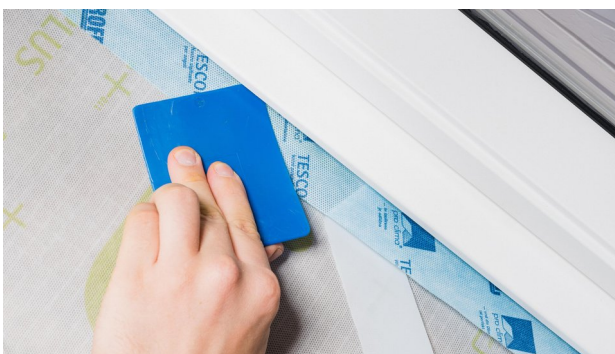
12. Skylights: Cut the membrane

Cut the membrane in such a way that it can be guided into the reveals around the skylight.



13. Stick the membrane around the skylight

Guide TESCON PROTECT pre-folded corner sealing tape into the opening for the skylight while the release film is still in place and then stick the first independent adhesive strip. The pro clima PRESSFIX application tool is a helpful aid when carrying out this step.



14. Stick to the membrane

Then remove the release film and stick the second independent adhesive strip to the INTELLO X membrane. Rub the tape firmly in place using the pro clima PRESSFIX application tool.



15. Apply tape in an airtight manner around the entire reveal

Install membrane pieces to the top and bottom reveals and stick these in a step-by-step manner using TESCON VANA system adhesive tape, ensuring that there are no folds or tension (PRESSFIX).

16. Laths

Apply laths (e ≤ 50 cm; 1' 8") to support the weight of the insulation material.



17. Quality assurance

It is recommended that airtightness should be checked using a blower door test.

Application for external roof insulation



1. Install the membrane

Roll out the membrane and fasten it using galvanised staples that are at least 10 mm (3/8") wide by 8 mm (5/16") long at intervals of 10-15 cm (4"-6") in the overlap area in a manner that protects against moisture entry. If exposure to the elements is planned, staples installed in open areas of the membrane should be taped over.

Install the membrane leaving an additional 4 cm (1 5/8") overlap at adjacent building components so that an airtight bond can be applied here subsequently.



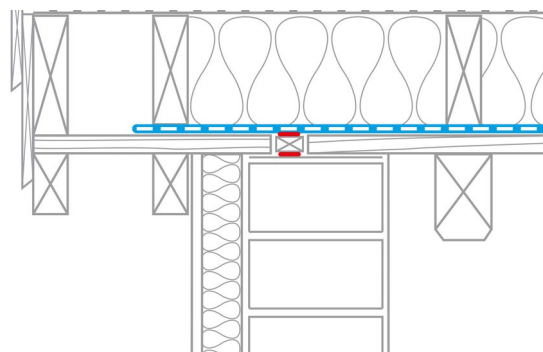
2. Overlap the membranes

Allow for an overlap of approx. 10 cm (4") between the membranes and ensure that the upper membrane lies over the lower membrane in the finished overlap to create a waterproof arrangement. The marking that is printed onto the membrane will serve as a guide here.



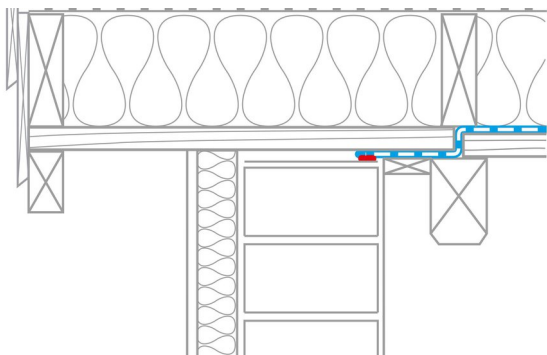
3. Tape the overlap

Clean the subsurface (dry and free of dust, silicone and grease) before taping; carry out an adhesion test, if necessary. Centre the TESCON VANA system adhesive tape on the overlap and gradually stick it in place, ensuring that there are no folds or tension. Rub the tape firmly in place using the pro clima PRESSFIX application tool.



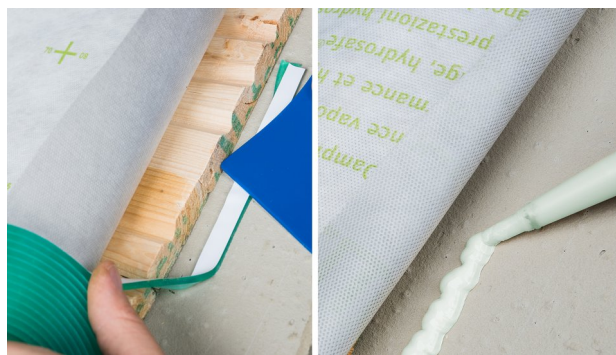
4. Joint at bargeboard

Interruption of the timber cladding at the top of the wall cap, which has a layer of mortar applied to it. A roof lath is adhesively bonded to the wall cap with ORCON F along its entire length. Bonding of the membrane to the roof lath using ORCON F.



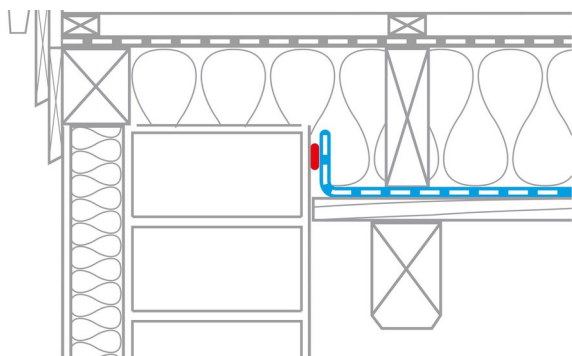
5. Joint at bargeboard, alternative 1

Butt joint between timber cladding and last rafter. The membrane passes through the butt joint and onto the inside of the timber cladding and is stuck to the top of the wall cap using ORCON F.



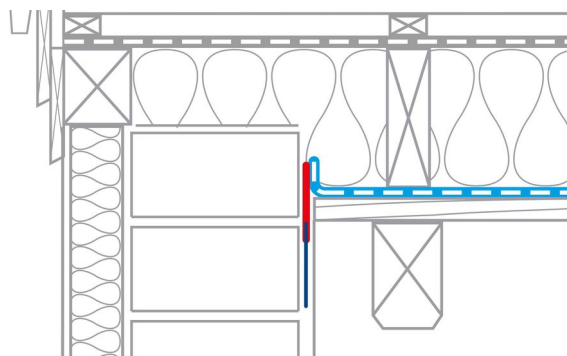
Example: Joint at wall cap

Bonding to the continuous smooth plaster finish on the wall cap can be carried out using the ORCON MULTIBOND joint adhesive (applied from a roll) or in liquid form using ORCON F (or, alternatively, ORCON CLASSIC). Any loose material on the subsurface should be removed beforehand.



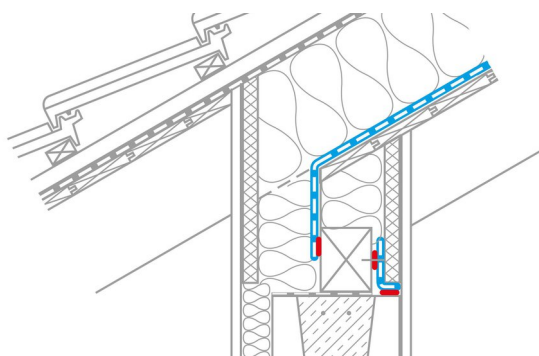
6. Joint at bargeboard, alternative 2

In the case of a plastered gable wall, bond the pro clima membrane to the plaster using ORCON F.



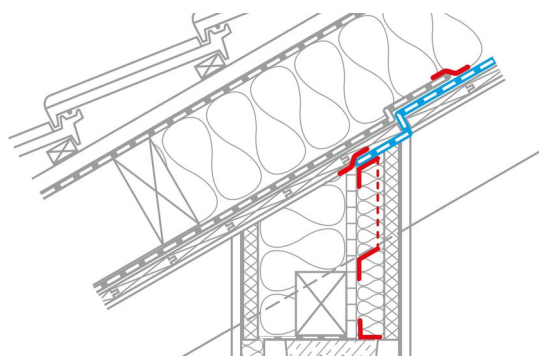
7. Joint at bargeboard, alternative 3

If there is no layer of plaster, affix CONTEGA PV to the wall using joint adhesive and bond the membrane to the adhesive strip. At least 1 cm (3/8") width of the fleece must be embedded into the middle of the layer of plaster.



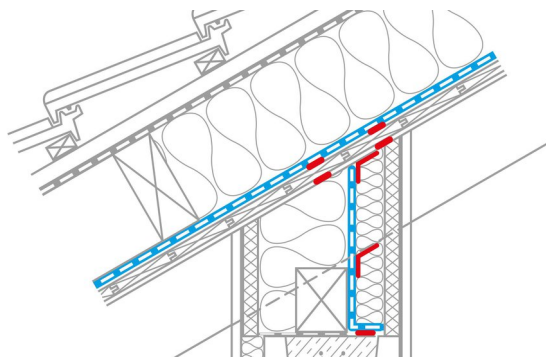
8. Eave joint with exposed rafters without rafter tails

Stick the membrane to the wallplate in an airtight manner using ORCON F. Seal the joint between the wallplate and the ring beam in an airtight manner using a strip of vapour check (e.g. INTELLO conneX) and ORCON F.



9. Eave joint with exposed rafters with rafter tails

Install a positioning board made of wood-based panel on the inside between the rafters and bond it to the ring beam and the rafters using TESCON PROTECT. If necessary, apply ORCON F underneath the tape in the case of rough concrete. Interrupt the cladding above the positioning board and stick the membrane to this board.



10a. Eave joint with exposed rafters with rafter tails, alternative

Install a strip of vapour check, e.g. INTELLO conneX, on the inside between the rafters and bond it to the ring beam and the rafters using TESCON PROTECT. If necessary, apply ORCON F underneath the tape in the case of rough concrete. Stick the cladding to the rafters above the vapour check strip and to the membrane using a double strip of adhesive.



10b. Sheet joint in corners with support

The TESCON FIX mounting bracket rail is stuck to the subsurface using one of the two independent strips of adhesive tape that are fitted to it. The vapour check sheet is put in place and then stuck to the second independent strip of adhesive tape in an airtight manner (working from the inside). The (exterior) bracket rail provides resistance pressure when pressing with the PRESSFIX tool.

Airtight bonding to the upper side of the rafter is carried out simply by using a length of TESCON VANA.



11a. Joints to cables

Place a KAFLEX cable grommet over the cable and stick to the membrane. The cable grommets are self-adhesive.

The range includes:

- KAFLEX mono (see photo)
- KAFLEX duo - for 2 cables
- KAFLEX multi - for up to 16 cables
- KAFLEX post - for retrofit installation



11b. Joints to pipes

Place a ROFLEX pipe grommet over the pipe and stick to the membrane using TESCON VANA.

The range includes:

- ROFLEX 20 - e.g. for pipes, Ø 15-30 mm (1/2" - 1 3/16")
- ROFLEX 20 multi - for up to 9 conduits
- ROFLEX 30 - 300 - for Ø 30-320 mm (1 3/16" - 12 1/2")



12. Quality assurance

If all joints have been implemented in an airtight manner, the thermal insulation structure will be reliable and permanent. Testing of the airtightness with a BlowerDoor test is recommended for quality assurance purposes.

General conditions

pro clima INTELLO X is to be installed with the printed side facing the installation technician. The membrane is to be installed horizontally (parallel to the eave) in a taut manner.

Airtight seals can only be achieved on vapour checks that have been fitted with no folds or creases. Ventilate regularly and systematically to prevent build-up of excessive humidity (e.g. during the construction phase). Occasional, intermittent ventilation is not sufficient to remove large quantities of moisture due to construction work from a building; use a dryer if necessary.

To avoid condensation formation, the thermal insulation should be installed immediately after the airtight installation of INTELLO X. This applies particularly to work carried out in winter.

Fastening

Overlap the membranes by at least 10 cm (4"). Use fastening staples that are at least 10 mm (3/8") wide by 8 mm (5/16") long to attach the membranes. The membranes can only be fastened in a protected manner in the overlap area. The maximum distance between fasteners is 10 to 15 cm (4" - 6"). Fasteners may not be applied in areas where water runs off in a collected manner (e.g. in roof valleys).

If exposure to the elements is planned, it is recommended to provide additional mechanical support for the membranes (e.g. with counter battens). TESCON NAIDECK mono sticks to counter battens, seals nail holes and improves the level of rain protection.

The information provided here is based on practical experience and the current state of knowledge. We reserve the right to make changes to the recommended designs and processing or to make alterations due to technical developments and associated improvements in the quality of our products. We would be happy to inform you of the current technical state of the art at the time you use our products.

Further information about installation and design details is available in the pro clima planning documentation. If you have any questions, please contact [pro clima Technical Support](<https://proclima.com/service/technical-support>).

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