



... and the insulation is perfect



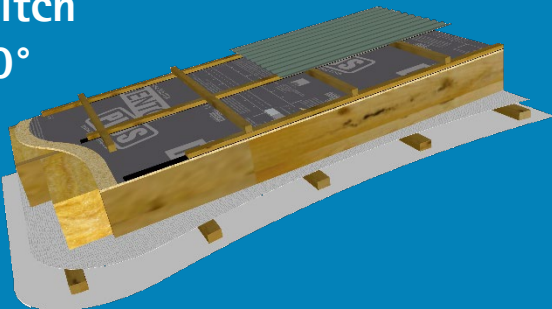
Pitched Roofs  
**SOLITEX MENTO®**  
Roofing Design



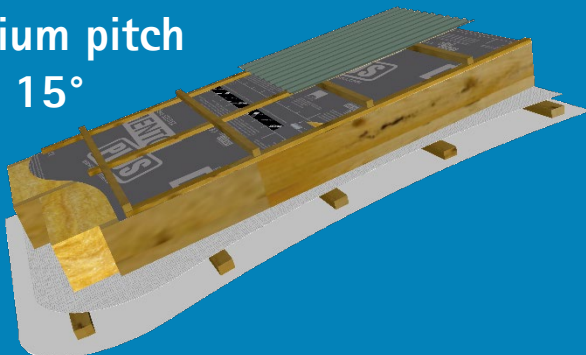


# Risk Factors Based on Pitch

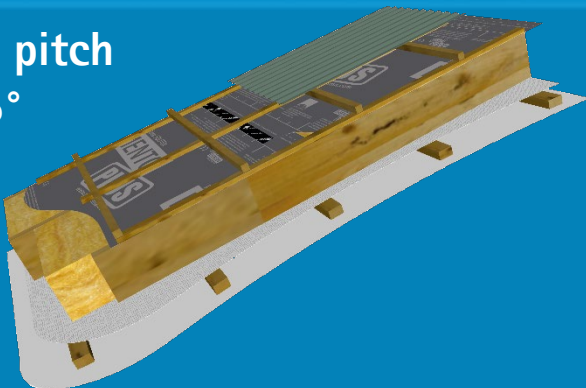
Low pitch  
 $5 \leq 10^\circ$



Medium pitch  
 $10 \leq 15^\circ$



High pitch  
 $> 15^\circ$



Same principles apply for cathedral or trussed roofs



# Risk Factors Based on Pitch

It is essential that moisture sensitive materials (timber, timber boards etc.) in the structure are protected from wetting during construction.

The risks of rain leaks prior to cladding is dependent on the pitch of the roof.

Lower pitch roofs present a greater risk that water may leak through laps, fixing holes and imperfections.

The recommendations on materials used to protect against this are in 3 categories:

- **Low Pitch** ⇒ High Risk  
Minimum 5° pitch and up to and including 10°
- **Medium Pitch** ⇒ Medium Risk  
More than 10° and up to and including 15°
- **High Pitch** ⇒ Low Risk  
More than 15°

All Pro Clima Australia recommended systems are designed to maximise drying potential for any residual construction moisture and management of water vapour during operation. Exterior vapour permeability of SOLITEX MENTO® products allows outward drying capacity, and utilising INTELLO® with intelligent vapour variable properties allows for inward drying capacity. Bi-directional drying (inwards & outwards) is always most preferable.



# SOLITEX MENTO® – Outstanding Thermal Resistance

## SOLITEX MENTO® 5000

**-40°C to 120°C**

0.0% Shrinkage @ 70°C  
Up to 90 Days UV Exposure  
Light Duty Classification



## SOLITEX MENTO® PLUS

**-40°C to 100°C**

0.0% Shrinkage @ 70°C (LD)  
0.4% Shrinkage @ 70°C (MD)  
Up to 90 Days UV Exposure  
Medium Duty Classification



## SOLITEX MENTO® ULTRA

**-40°C to 100°C**

0.0% Shrinkage @ 70°C  
Up to 90 Days UV Exposure  
Extra Heavy Duty Classification



### SOLITEX MENTO® Weather Resistive Barrier (WRB)

All SOLITEX MENTO® roof membranes provide outstanding temperature resistance, due to the TEEE functional layer used in the membranes, and are suitable for use under the following roof types:

- dark or light coloured metal
- tile
- slate
- shingle





# SOLITEX MENTO® – Easy Watertight Connections

## SOLITEX MENTO® 5000 connect

**-40°C to 120°C**

0.0% Shrinkage @ 70°C  
Up to 90 Days UV Exposure  
Light Duty Classification



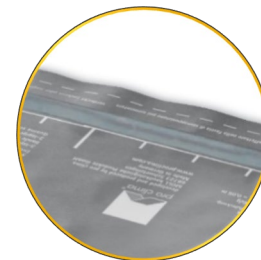
## connect Technology

SOLITEX MENTO® roof membranes are available with two integrated self-adhesive strips for optimum waterproofing on the overlap joints.

## SOLITEX MENTO® PLUS connect

**-40°C to 100°C**

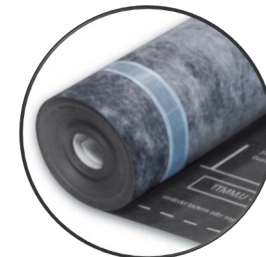
0.0% Shrinkage @ 70°C (LD)  
0.4% Shrinkage @ 70°C (MD)  
Up to 90 Days UV Exposure  
Medium Duty Classification



## SOLITEX MENTO® ULTRA connect

**-40°C to 100°C**

0.0% Shrinkage @ 70°C  
Up to 90 Days UV Exposure  
Extra Heavy Duty Classification





# SOLITEX MENTO® System – Sealing Products

Accessory products used to enhance performance and provide suitable protection may include:



TESCON **EXTORA**®  
Weathertight Sealing Tape



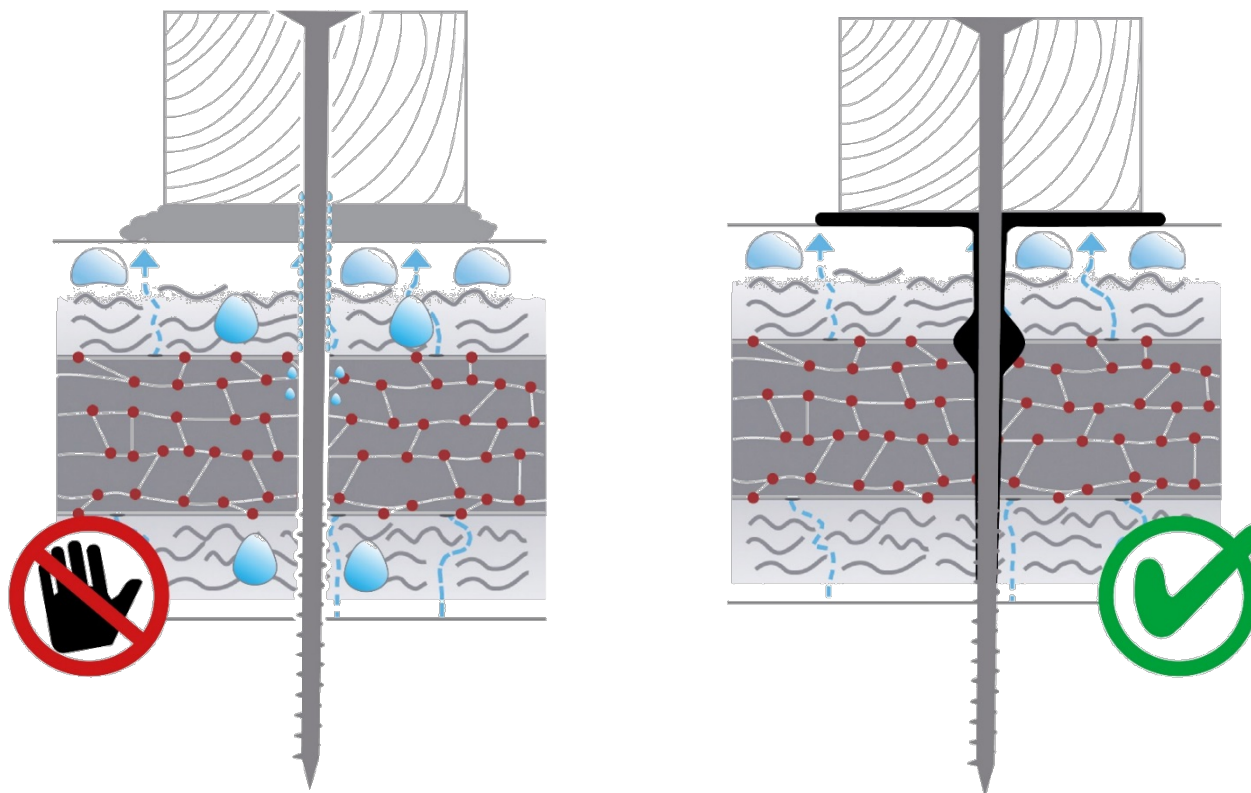
TESCON® **NAiDECK**  
Double Sided Self-Sealing Strip



**DUPLEX**  
Double Sided Tape



**ORCON**® **CLASSIC**  
Multi-Purpose Liquid Adhesive



TESCON® NAIDECK used under the vertical battens to seal nail or screw penetrations used to fix the battens. Screws are the preferred fixing method as they clamp the battens down onto TESCO<sup>®</sup> NAIDECK for optimal seals. TESCO<sup>®</sup> NAIDECK is made from butyl and entrains into the screw thread providing a weathertight seal at the screw penetration. This is particularly important on low slope roofs but is also highly beneficial for additional security on all battened roofing systems with or without rigid sheathings.

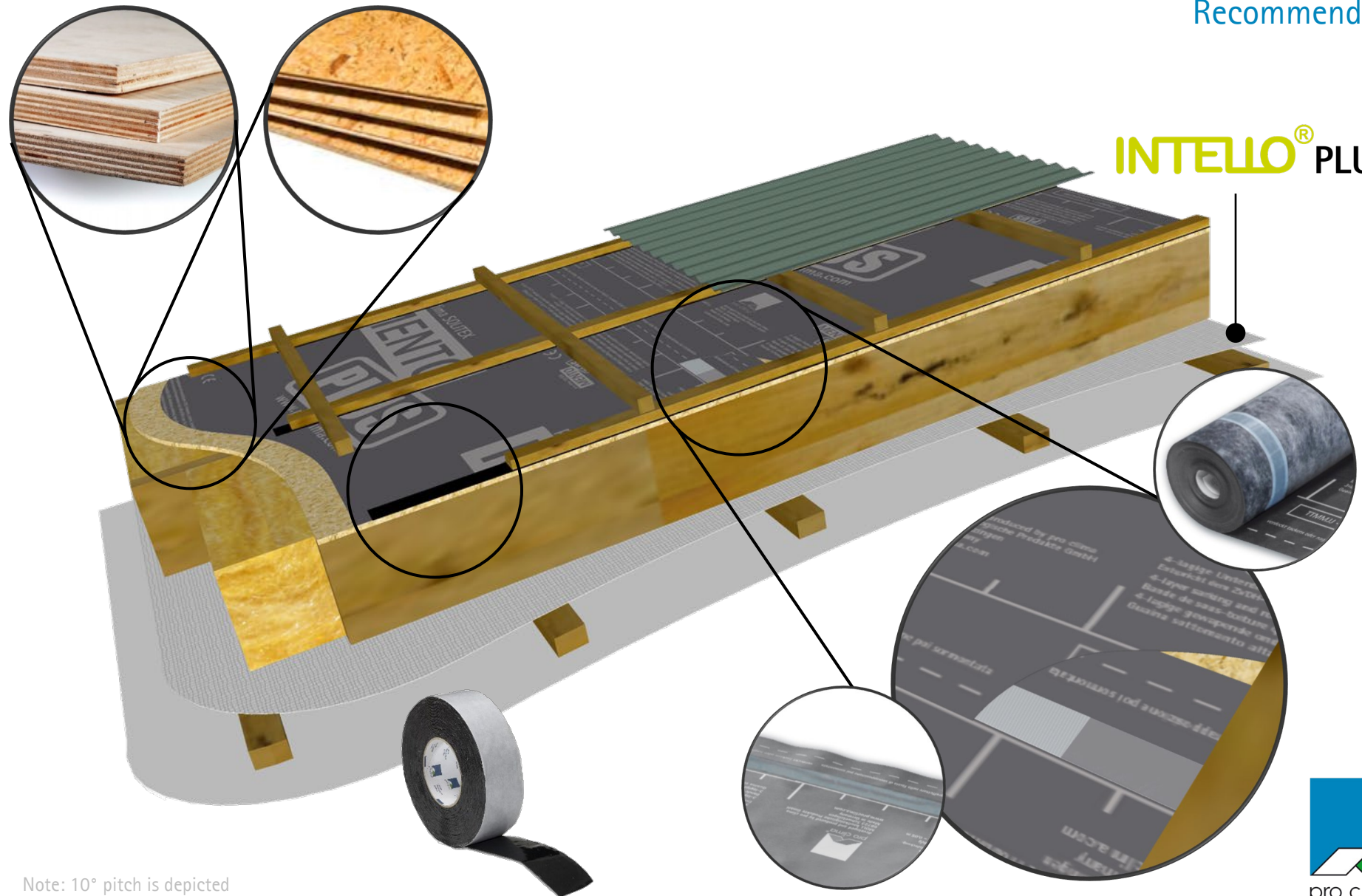
This ensures any rain on the membrane prior to cladding does not lead to leakage through nail or screw penetrations ensuring the structural timbers and rigid sheathing boards stay dry. All temporary fixing staples should be located either hidden within the 150 mm overlap between SOLITEX MENTO<sup>®</sup> layers or under the battens.



# LOW PITCH: Minimum 5° and up to and including 10°

Recommended

**INTELLO<sup>®</sup> PLUS**



Note: 10° pitch is depicted







# LOW PITCH: Minimum 5° and up to and including 10°

Recommended

## Low Pitch Roofs: Recommended Solution

- Low pitch is considered 10° or less, but must be at least 5° or more.
- It is recommended that SOLITEX MENTO® connect is used to ensure optimum weather protection on the membrane overlaps.
- It is recommended that TESCON® NAIDECK is used under the vertical battens to seal nail or screw penetrations used to fix the battens.
- Screws are the preferred fixing method as they clamp the battens down onto the TESCON® NAIDECK for optimal seals. TESCON® NAIDECK is made from butyl and entrains into the screw thread providing a weathertight seal at the screw penetration.
- Rigid sheathings are recommended to support SOLITEX MENTO® membranes at 10° or less. This ensures every square centimetre of the SOLITEX MENTO® drainage plane is always draining downhill and also provides an optimum substrate to allow pressure to be applied to SOLITEX MENTO® connect membranes using a pro clima PRESSFIX tool.



## Special Note

The vapour permeability of different timber sheathings can vary substantially depending on the glue used. OSB strands are encased in adhesive and the quality of adhesive can make the boards vapour permeable or vapour resistive. Plywood glues used to bond the ply layers can also be of variable properties depending on the country of origin and manufacturing processes. The adhesives may add vapour resistance and affect the overall drying capacity of the system.

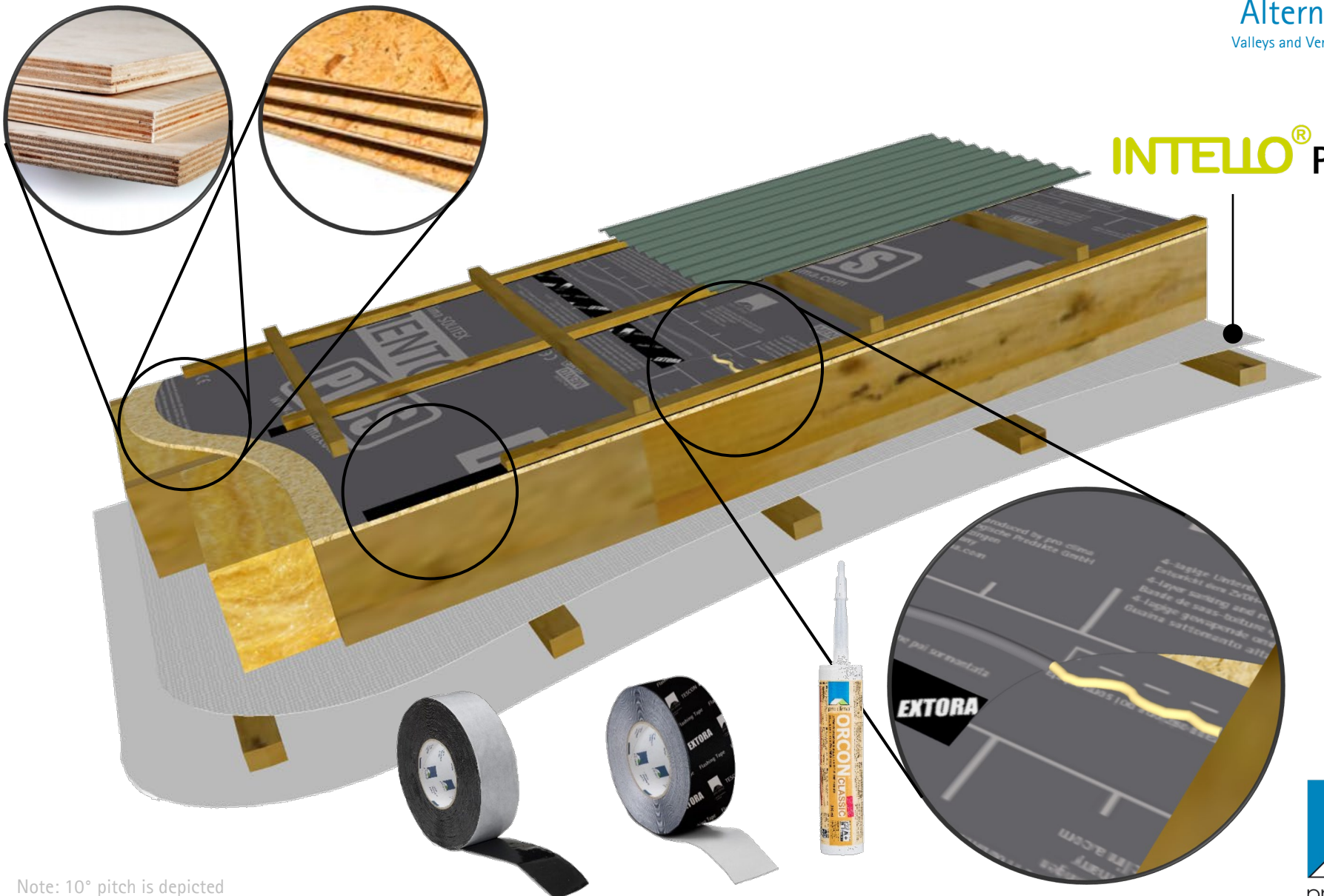
It is recommended that a WUFI® professional is engaged to advise on suitable products.  
Visit [www.wufi.com.au](http://www.wufi.com.au).



# LOW PITCH: Minimum 5° and up to and including 10°

Alternative  
Valleys and Vertical Joints

## INTELLO<sup>®</sup> PLUS



Note: 10° pitch is depicted





# LOW PITCH: Minimum 5° and up to and including 10°

Alternative  
Valleys and Vertical Joints

## Low Pitch Roofs: Alternative Solution

- Low pitch is considered 10° or less, but must be at least 5° or more.
- For scenarios where SOLITEX MENTO® connect is not possible or has not been specified or where this scenario occurs at ridges and valleys.
- An alternative joint connection utilises ORCON® within the 150 mm overlap and taped over with TESCON EXTORA®.
- Suitable pressure needs to be applied to TESCON EXTORA® using pro clima PRESSFIX.
- Do not use the PRESSFIX tool on ORCON® joints. Apply only gentle pressure on the ORCON® joint and ensure a thick bead of ORCON® remains.
- It is recommended that TESCON® NAIDECK is used under the vertical battens to seal nail or screw penetrations used to fix the battens.
- Screws are the preferred fixing method as they clamp the battens down onto the TESCON® NAIDECK for optimal seals. TESCON® NAIDECK is made from butyl and entrains into the screw thread providing a weathertight seal at the screw penetration.
- Rigid sheathings are recommended to support SOLITEX MENTO® membranes at 10° or less. This ensures every square centimetre of the SOLITEX MENTO® drainage plane is always draining downhill and also provides an optimum substrate to allow pressure to be applied to SOLITEX MENTO® connect membranes using pro clima PRESSFIX tool.

## Special Note

The vapour permeability of different timber sheathings can vary substantially depending on the glue used. OSB strands are encased in adhesive and the quality of adhesive can make the boards vapour permeable or vapour resistive. Plywood glues used to bond the ply layers can also be of variable properties depending on the country of origin and manufacturing processes. The adhesives may add vapour resistance and affect the overall drying capacity of the system. Roof colour selection & ventilation strategy under the cladding can also have a large impact to hygrothermal behaviour.

It is recommended that a WUFI® professional is engaged to advise on suitable products.

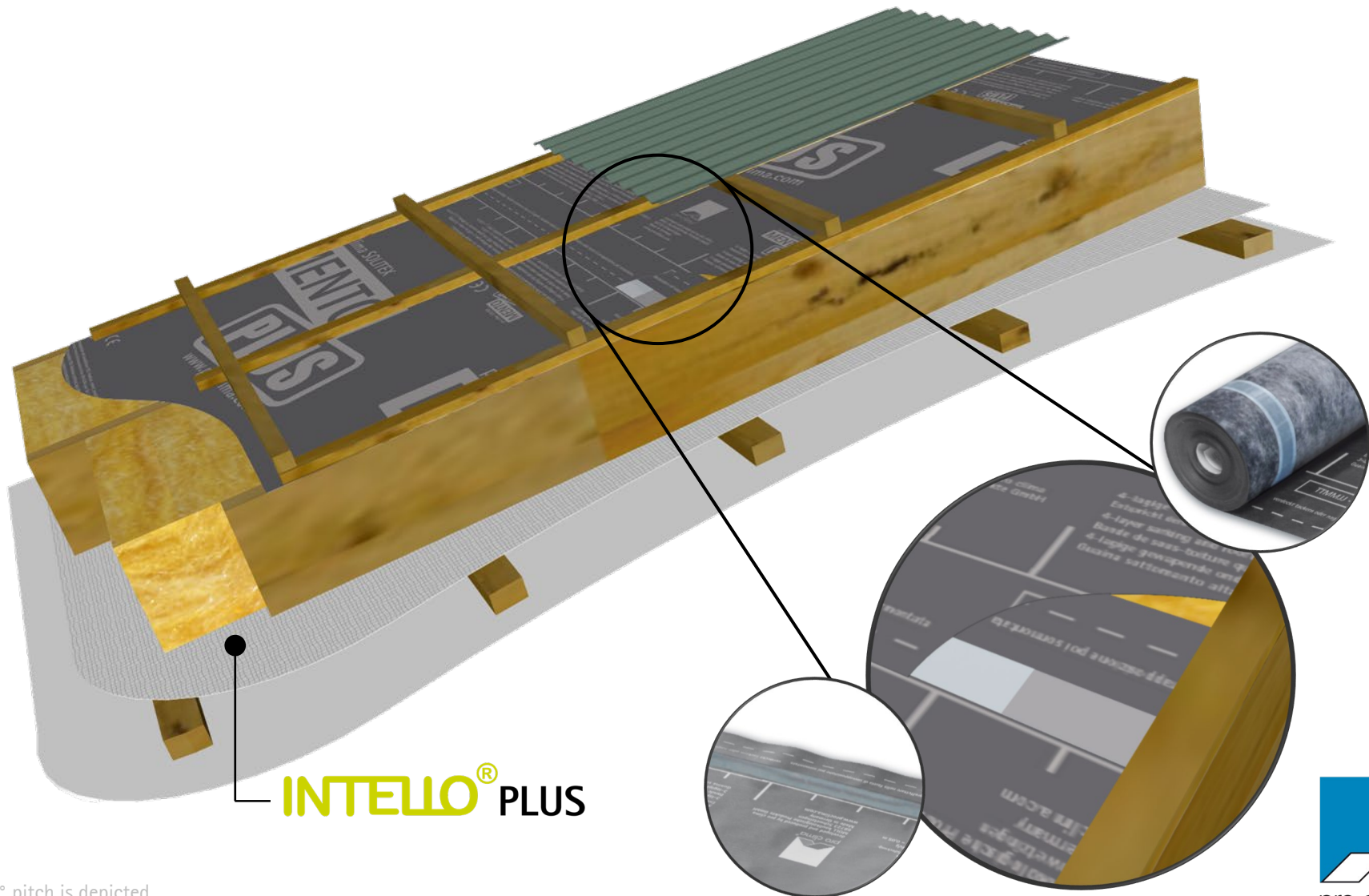
Visit [www.wufi.com.au](http://www.wufi.com.au).





# MEDIUM PITCH: More than 10° and up to and including 15°

Recommended



**INTELLO<sup>®</sup> PLUS**

Note: 15° pitch is depicted







# MEDIUM PITCH: More than 10° and up to and including 15°

Recommended

## Medium Pitch Roofs: Recommended Solution

- Medium pitch is considered more than 10° but less than or equal to 15°.
- It is recommended that SOLITEX MENTO® connect is used to ensure optimum weather protection on the membrane overlaps.
- Sagging or draping membrane installation is NOT recommended.

## Special Note

If using rigid sheathings, the vapour permeability of different timber sheathings can vary substantially depending on the glue used. OSB strands are encased in adhesive and the quality of adhesive can make the boards vapour permeable or vapour resistive. Plywood glues used to bond the ply layers can also be of variable properties depending on the country of origin and manufacturing processes. The adhesives may add vapour resistance and affect the overall drying capacity of the system.

Roof colour selection & ventilation strategy under the cladding can also have a large impact to hygrothermal behaviour.

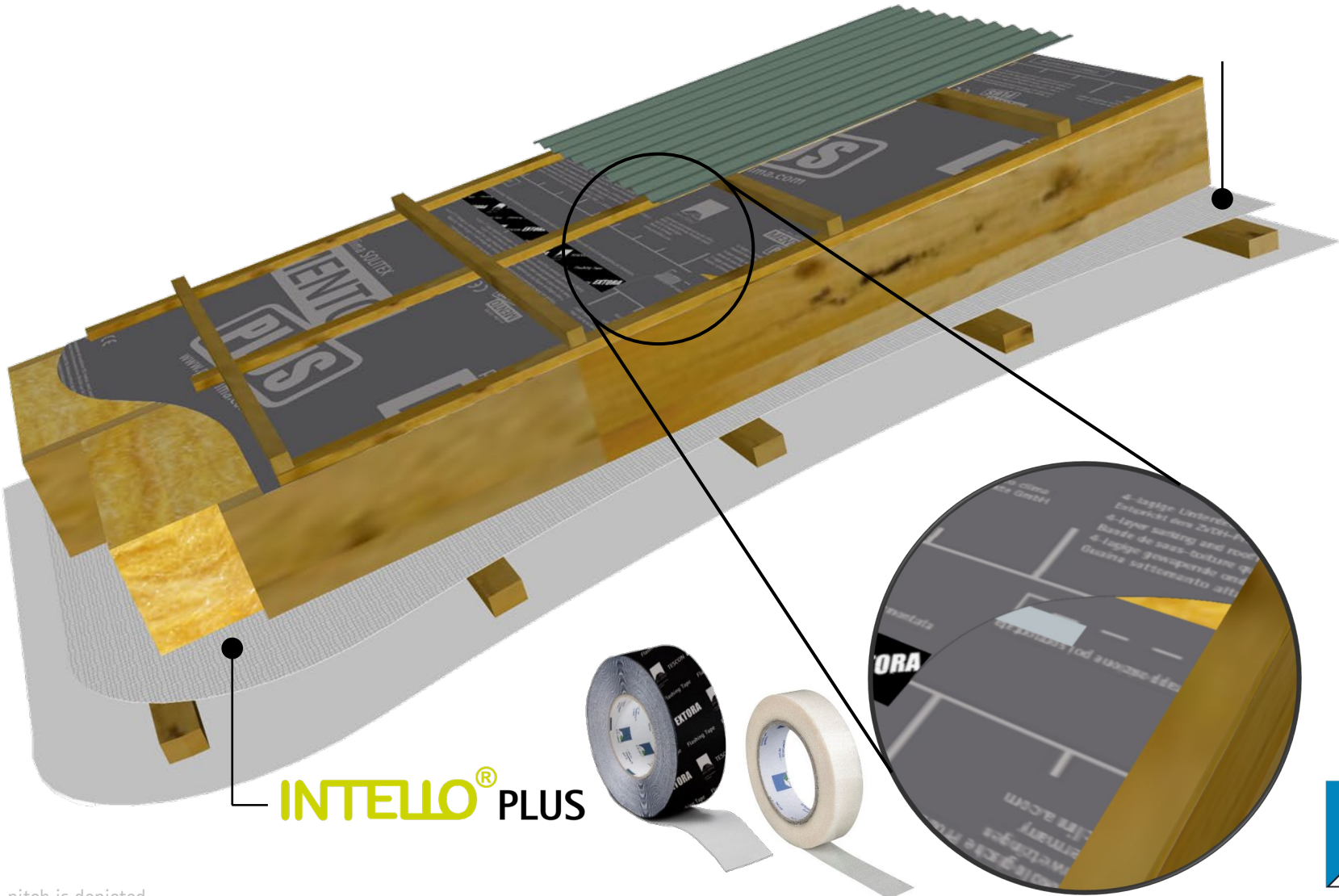
It is recommended that a WUFI® professional is engaged to advise on suitable products.

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# MEDIUM PITCH: More than 10° and up to and including 15°

Alternative  
Valleys and Vertical Joints



**INTELLO<sup>®</sup> PLUS**

Note: 15° pitch is depicted





# MEDIUM PITCH: More than 10° and up to and including 15°

Alternative  
Valleys and Vertical Joints

## Medium Pitch Roofs: Alternative Solution

- Medium pitch is considered more than 10° but less than or equal to 15°.
- For scenarios where SOLITEX MENTO® connect is not possible or has not been specified or where this scenario occurs at ridges and valleys.
- An alternative joint connection utilises DUPLEX within the 150 mm overlap and taped over with TESCON EXTORA®.
- Suitable pressure needs to be applied to DUPLEX and TESCON EXTORA® using pro clima PRESSFIX.
- SOLITEX MENTO® membrane should be installed taut to ensure sufficient pressure can be applied on the joining tapes.
- Sagging or draping membrane installation is NOT recommended.

## Special Note

If using rigid sheathings, the vapour permeability of different timber sheathings can vary substantially depending on the glue used. OSB strands are encased in adhesive and the quality of adhesive can make the boards vapour permeable or vapour resistive. Plywood glues used to bond the ply layers can also be of variable properties depending on the country of origin and manufacturing processes. The adhesives may add vapour resistance and affect the overall drying capacity of the system.

Roof colour selection & ventilation strategy under the cladding can also have a large impact to hygrothermal behaviour.

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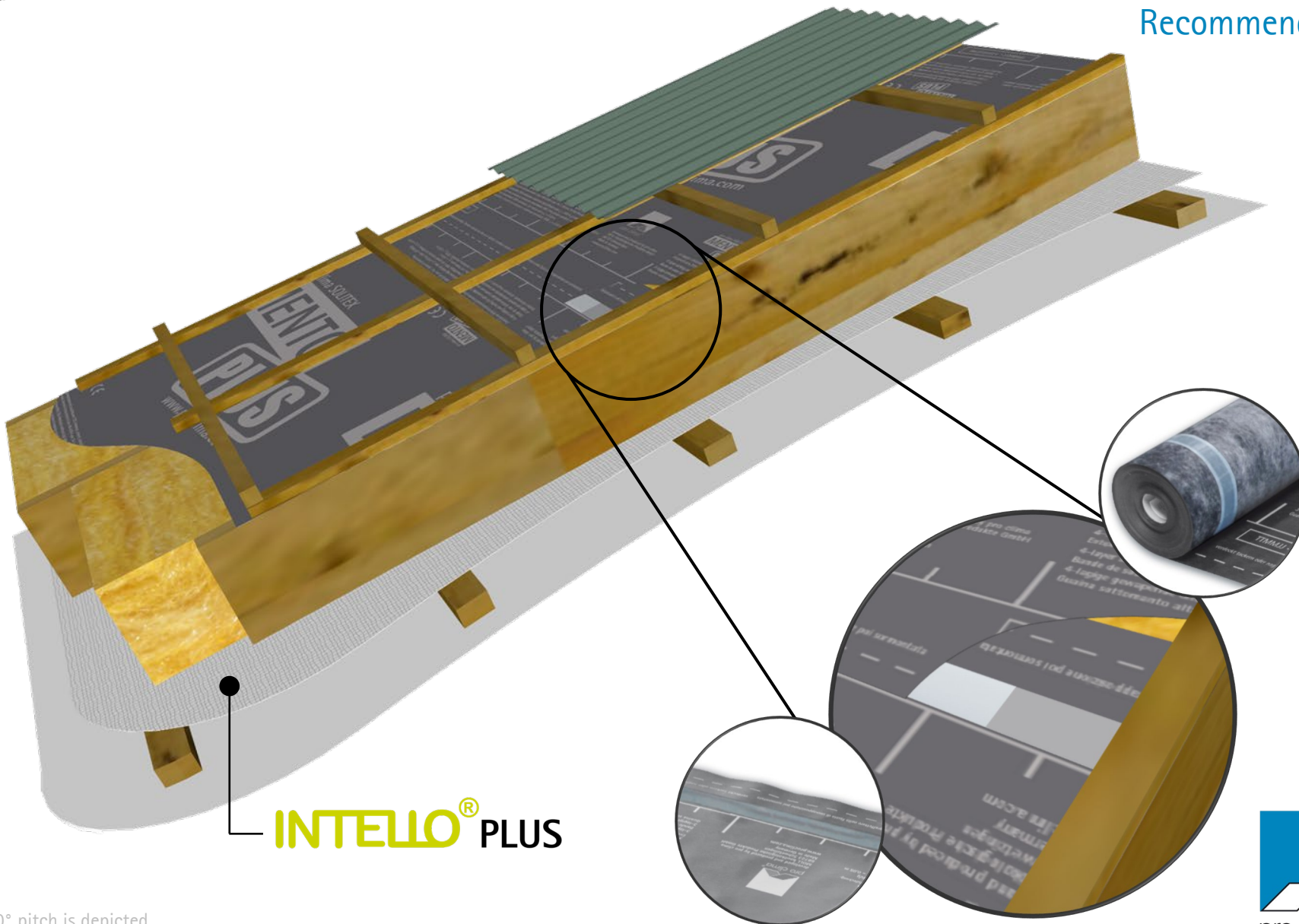
Visit [www.wufi.com.au](http://www.wufi.com.au).





# HIGH PITCH: More than 15°

Recommended



**INTELLO<sup>®</sup> PLUS**

Note: 20° pitch is depicted







# HIGH PITCH: More than 15°

Recommended

## High Pitch Roofs: Recommended Solution

- High pitch is considered more than 15°.
- It is recommended that SOLITEX MENTO® connect is used to ensure optimum weather protection on the membrane overlaps.
- Sagging or draping membrane installation is NOT recommended.

## Special Note

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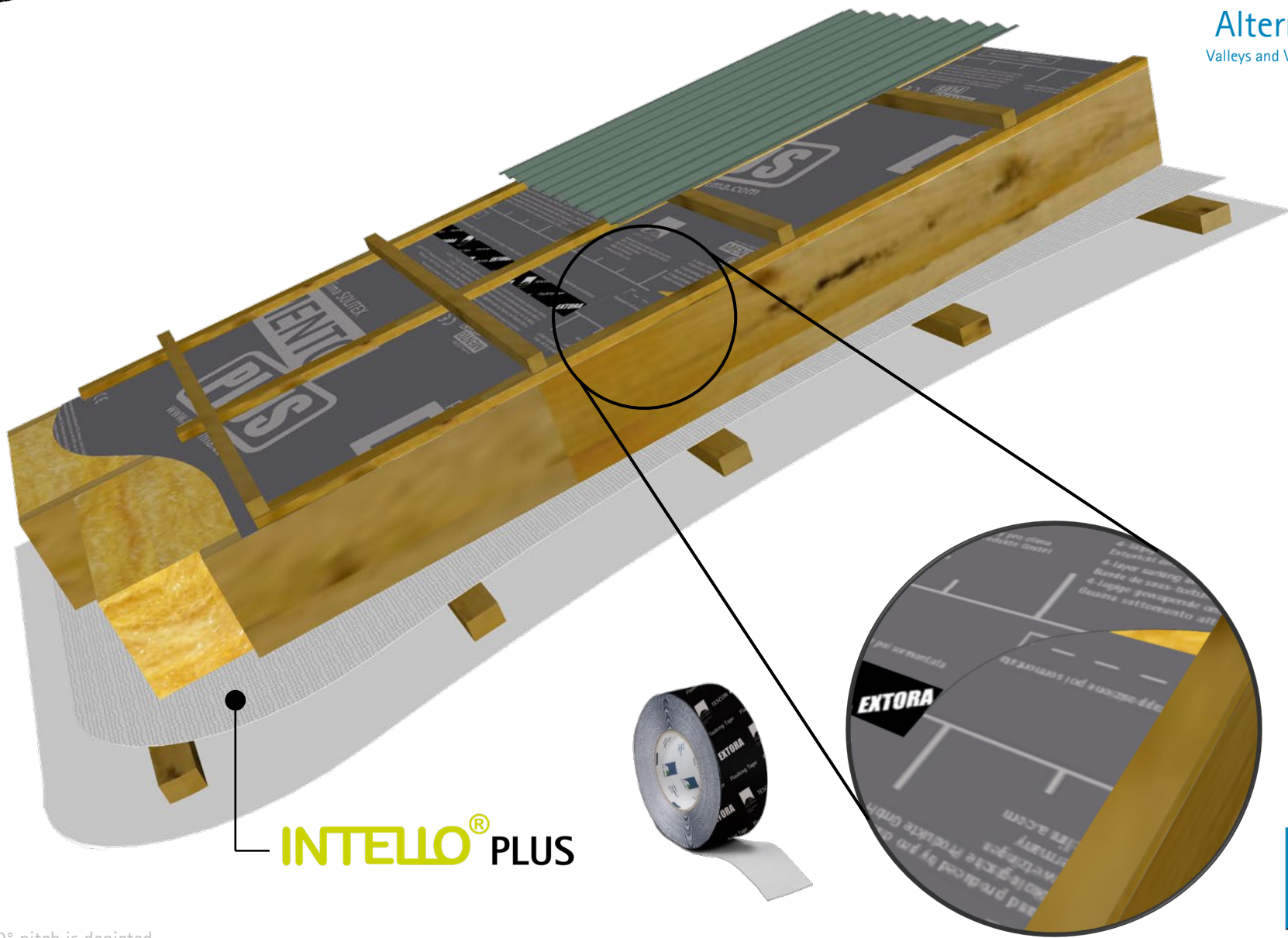
It is recommended that a WUFI® professional is engaged to advise on suitable products.

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# HIGH PITCH: More than 15°

Alternative  
Valleys and Vertical Joints



**INTELLO<sup>®</sup> PLUS**

Note: 20° pitch is depicted





# HIGH PITCH: More than 15°

Alternative  
Valleys and Vertical Joints

## High Pitch Roofs: Alternative Solution

- High pitch is considered more than 15°.
- For scenarios where SOLITEX MENTO® connect is not possible or has not been specified or where this scenario occurs at ridges and valleys.
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# NCC 2019 – Minimum Pitch Requirements For Roof Profiles



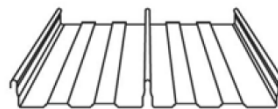
**Corrugated**  
Minimum pitch – 5 degrees



**Close pitched trapezoidal**  
Minimum pitch – 2 degrees



**Trapezoidal**  
Minimum pitch – 2 degrees



**Concealed fastened**  
Minimum pitch – 1 degree

For trapezoidal and concealed fastened roof profiles below 5° pitch, it is recommended that heat treated or liquid applied membranes are used over solid substrates and a professional consultant well versed in hygrothermal analysis and durability is engaged.

## Codes and Standards – Australia

AS 4200.2-2017 Installation of Pliable Building Membranes allows membranes to be used for drainage down to 2° pitch.

However, Pro Clima Australia Pty Ltd does not endorse the use of membranes to facilitate drainage at such low pitches and cannot warrant systems under 5°.

Australian Standards represent the minimum practice you are legally allowed to build whilst still being covered by State and/or Federal laws concerning minimum construction practices. In many circumstances this insufficiently protects the structure from condensation, rain during the construction sequence, accidental water ingress and consequential moisture damage.

**INTELLO<sup>®</sup> PLUS**

pro clima INTELLO<sup>®</sup> PLUS  
Intelligent Air Barrier can greatly  
reduce the risk of condensation in  
low pitch metal profile roofing  
with rigid drainage planes.



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# pro clima Warranties

pro clima guarantees and warranties stand for two distinct installation techniques. According the minimum industry practices outlined in AS 4200.2 and as per the pro clima defined installation method outlined in the previous sections of this guide.

## pro clima Method



The market leading pro clima System Warranty applies to the pro clima Installation Method as detailed in this guide.

[System Warranty](#)

[Warranty Agreement](#)

## AS 4200.2



AS 4200.2 prescribes the minimum industry standard for the installation of pliable building membranes. pro clima Product Warranties apply for installation according to this standard in so far as they are maintained within the technical parameters within the technical datasheet.







... and the insulation is perfect



## Contact us

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[www.proclima.com.au](http://www.proclima.com.au)

