THIN THERMO-REFLECTIVE INSULATION

TRISO-SUPER 10

INSTALLATION GUIDELINES

ACTIS
THE INVENTOR OF THIN INSULATION

PZ182
Physical Characteristics

<table>
<thead>
<tr>
<th>THERMAL EFFICIENCY</th>
<th>PERFORMANCE</th>
<th>TEST METHOD</th>
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</thead>
<tbody>
<tr>
<td>Equivalent to 210mm of mineral wool</td>
<td>U-value * = 0.19 W/m².K</td>
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<table>
<thead>
<tr>
<th>COMPOSITION</th>
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<tbody>
<tr>
<td>NUMBER OF LAYERS</td>
</tr>
<tr>
<td>2 metallic films with reinforcing mesh, 3 wadding layers, 8 foam layers, 6 internal reflective films</td>
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| NUMBER OF REFLECTIVE FILMS | 8 |
| SURFACE WEIGHT | 650g/m² |
| THICKNESS | 30mm approx |

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<thead>
<tr>
<th>MECHANICAL PROPERTIES</th>
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<tbody>
<tr>
<td>BREAKING STRENGTH</td>
</tr>
<tr>
<td>Warp</td>
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<tr>
<td>Weft</td>
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| TEAR STRENGTH |
| Warp | > 50N |
| Weft | > 60N |

| TEMPERATURE (max/min) | -40/+70 |

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<tr>
<th>PACKAGING</th>
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<tbody>
<tr>
<td>WIDTH</td>
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<tr>
<td>LENGTH</td>
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<tr>
<td>WEIGHT (per roll approx)</td>
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</table>

* Thermal efficiency measured under real conditions by TRADA Technology Limited and equivalent to 210mm of mineral wool as certified by BM TRADA Certification Limited.
1. Ensure an air gap on either side of the insulation.

2. Ventilation:
   - VAPOUR PERMEABLE UNDERLAY: Ensure an air gap of 25mm minimum between the insulation and the breather membrane. The membrane should have a vapour resistance less than 0.25MNs/g.
   - ROOFING FELT: Ensure an air gap of 50mm minimum between the insulation and the felt, with ventilation from eaves to ridge according to British Standards.

3. Pull the insulation taut and staple to the rafters and horizontal support battens using galvanised staples, 14mm minimum. 20mm stainless steel staples are recommended.

4. Overlap the insulation from 50-100mm at each joint and staple every 50mm onto the rafter or horizontal support batten.

5. Cover all the joints with ACTIS ISODHESIF tape to give an air tight finish.

6. Fold all finishing edges under by 50mm minimum and staple every 50mm or trap with a final batten.
Over rafter installation

TRISO-SUPER 10 is suitable for use in an over rafter application giving a continuous layer of insulation across the roof creating a more air tight section.

1. Measure 1500mm from the eaves (A), to (B), and fix horizontal support batten (HSB) between the rafters. Continue to fix HSBs every 1500mm as appropriate.

2. Lay TRISO-SUPER 10 insulation horizontally starting at the eaves. Fold exposed edge over and staple to HSB every 50mm.

3. Fix next layer of insulation overlapping edges 50–100mm. Staple to HSB every 50mm and seal with 100mm ACTIS ISODHESIF tape.

4. At verges or gable, fold over insulation and staple to prevent air ingress.

5. Visually inspect installed insulation to ensure the finish is as air tight as possible.

6. Fix counter batten (38x25mm) with nails or screws.

7. Install vapour permeable underlay to manufacturer’s specifications.

8. Fix tile batten to suit.

Appendices 1 - 4 show further installation instructions for specific details.

TRISO-SUPER 10 insulation can be used for walls around pitched roof installations such as dwarf walls, dormer walls and gable ends, as long as these constitute less than 37.5% of the overall insulated area.
OVER RAFTER INSTALLATION

Masonry cavity wall construction

Universal ridge or dry ridge system (other ridge systems are compatible)

Prefabricated or made up roof trusses
Under rafter installation

TRISO-SUPER 10 is suitable for under rafter application.

1. Fix horizontal support battens (HSB) (A) and (B) between the rafters at collar/roof junctions. Continue to fix HSBs every 1500mm as appropriate.

2. Install secondary insulation, for example mineral wool or PIR foam between roof collars, to achieve Part L compliance, aligning a 25mm air gap to the underside.

3. Lay TRISO-SUPER 10 across the face of the rafters, fixing at continuous HSB (A), through (B), to (C). Staple in place every 50mm keeping insulation as taught as possible.

4. Fix next layer overlapping insulation by 50–100mm.

5. Staple the insulation to HSB and seal with 100mm ACTIS ISODHESIF tape.

6. Ensure all exposed ends of insulation are folded to stop air ingress.

7. Visually inspect installed insulation to ensure the finish is as air tight as possible.

8. Prepare for plasterboard by fixing horizontal or vertical battens (38x25mm) using nails or screws, through the ACTIS insulation to the rafter.

9. Fixing vapour controlled plasterboard is recommended.

Appendices 1 - 4 show further installation instructions for specific details.

TRISO-SUPER 10 insulation can be used for walls around pitched roof installations such as dwarf walls, dormer walls and gable ends, as long as these constitute less than 37.5% of the overall insulated area.
UNDER RAFTER INSTALLATION

Roof covering

Vapour permeable underlay

Tiling battens

Rafters

TRISO-SUPER 10 insulation pulled taut to maintain air gap to plasterboard

12.5mm vapour controlled plasterboard

38x25mm timber batten fixed in line with rafters

Ventilation at eaves and ridge

TRISO-SUPER 10 insulation pulled taut to maintain 19mm air gap to plasterboard

12.5mm vapour controlled plasterboard

38x25mm timber batten fixed in line with rafter
### Over rafter installation - boarded roof

1. Fix counter battens (38x45mm) in-line with rafters.
2. Fix horizontal batten (38x45mm) at eaves.
3. Measure 1500mm from eaves batten and fix horizontal support batten (HSB) between cross battens. Continue to fix HSBs every 1500mm, as appropriate.
4. Install TRISO-SUPER 10 insulation horizontally starting at the eaves. Fold exposed edge over and staple to HSB.
5. Visually inspect installed insulation to ensure the finish is as air tight as possible.
6. Fix counter batten (38x25mm) with nails or screws in line with rafters.
7. Fix vapour permeable underlay to manufacturer’s specification.
8. Fix tile battens to suit.

### Over rafter installation - sarking board

1. Fix horizontal batten (38x45mm) at eaves.
2. Measure 1500mm from eaves batten and fix horizontal support batten (HSB) between cross battens. Continue to fix HSBs every 1500mm, as appropriate.
3. Install TRISO-SUPER 10 insulation horizontally starting at the eaves. Fold exposed edge over and staple to HSB.
4. Visually inspect installed insulation is as air tight as possible.
5. Fix counter batten (38x45mm) with nails or screws in line with rafters.
6. Fix sarking board as required.
7. Fix vapour permeable underlay to manufacturer’s specification.
8. Fix slate tiles.
BOARDED ROOF INSTALLATION

Prefabricated or made up roof trusses

Universal ridge or dry ridge system (other ridge systems are compatible)

Roof covering

Vapour permeable underlay

Tiling battens

TRISO-SUPER 10 insulation with lap over ridge and taped joint to finish

38x25mm counter timber batten @ 600mm crs

38x45mm counter timber batten @ 600mm crs

22mm T&G boarding

Prefabricated or made up roof trusses

Fireclay or zinc ridge

Slated roof finish

Vapour permeable underlay

TRISO-SUPER 10 insulation with lap over ridge and taped joint to finish

22mm softwood sarking boards

38x45mm timber batten in line with rafters

Prefabricated or made up roof trusses
TRISO-SUPER 10 insulation can be used for walls around pitched roof installations such as dwarf walls, dormer walls and gable ends, as long as these constitute less than 37.5% of the overall insulated area. (Please contact Local Building Control for guidance on a project specific basis).

**Walls**

**Masonry walls**
1. Fix horizontal or vertical batten (38x25mm min.) to wall at 500mm centres, inserting felt packers to ensure air circulation.
2. Fix horizontal batten (38x25mm min.) at ceiling and floor junction.
3. Lay TRISO-SUPER 10 insulation vertically stapling every 50mm with 14mm (min.) galvanised steel staples. Cut insulation 100mm longer at ceiling and floor allowing insulation to be clamped by second batten.
4. Overlap 50–100mm on batten and tape joints with 100mm ACTIS ISODHESIF tape.
5. Fix horizontal batten (38x25mm) at ceiling and floor clamping insulation to floor and ceiling and creating an air tight seal.
6. Fix vertical batten (38x45mm min.) at 600mm (max.) centres.
7. Fix vapour controlled plasterboard.

**Timber frame walls**
1. Fix vertical or horizontal support batten to timber frame at joint positions of insulation.
2. Fit insulation horizontally stapling every 50mm. Cut insulation oversized at floor and ceiling allowing insulation to be clamped by the second batten.
3. Overlap 50–100mm on batten, staple using 14mm galvanised staples, and tape with ACTIS ISODHESIF tape.
4. Fix horizontal batten (38x25mm) at ceiling and floor clamping insulation to floor and ceiling creating an air tight seal.
5. Fix vertical batten (38x25mm).
6. Fix vapour controlled plasterboard.
WALL INSTALLATION

38x45mm vertical rails at 600mm c/c with 50mm oval nails nailed through TS10* and horizontal rails

12.5mm vapour controlled plasterboard 50mm air cavity screwed to verticals with 30mm dry wall screws

TRISO-SUPER 10 taken down to meet TS10 in floor & taped joint with 100mm foil tape over 50mm overlap

25x45mm horizontal rails with DPC

22mm T&G V313 chipboard flooring

33x45mm cross battens

TS10 (lapped up wall to vertical TS10)

33x45 cross battens with DPC

150mm thick concrete floor slab with 10mm fibreboard perimeter expansion

DPM lapped under wall DPC

50mm sand blinding on layers of compacted hardcore

* TS10 - TRISO-SUPER 10
Installation around a roof window - under rafter installation

- Roof window head
  - Vapour permeable underlay lapped over tilting fillet and roof window flashing
  - Vapour permeable underlay lapped over tilting fillet and roof window flashing

- Cavity filled with mineral wool or friction fit polystyrene insulation to reduce cold bridge

- TRISO-SUPER 10 insulation with 38x25mm horizontal timber batten to provide air seal and pulled taut to maintain air gap to plasterboard

- Roof window flashing as approved by window manufacturer

- Roof window flashing as approved by window manufacturer

- 38x25mm counter timber batten

- TRISO-SUPER 10 insulation with 38x25mm horizontal timber batten to provide air seal and pulled taut to maintain air gap to plasterboard

- Vapour permeable underlay lapped over tilting fillet and roof window flashing

- Vapour permeable underlay lapped over tilting fillet and roof window flashing

- Tiling battens

- TRIMMER for roof window

- 12.5mm vapour controlled plasterboard
Installation around a roof window - over rafter installation

Roof window head

- Roof window head vapour permeable underlay lapped over tilting fillet and roof window flashing
- TRISO-SUPER 10 insulation sandwiched between 38x25mm horizontal batten and 38x25mm noggin to provide air seal at roof window
- Roof window flashing as approved by window manufacturer
- Cavity filled with mineral wool or friction fit polystyrene insulation to reduce cold bridge
- Vapour permeable underlay
- Double glazed roof window
- Tiling battens
- TRISO-SUPER 10 insulation sandwiched between 38x25mm horizontal batten and 38x25mm noggin to provide air seal at roof window
- Trimmer for roof window
- 12.5mm vapour controlled plasterboard

Roof window jamb

Roof window cill
Installation around a chimney

Code 5 lead flashing stepped around chimney and dressed into raggles and dressed over 150mm plywood plate shot fired to blockwork.

TRISO-SUPER 10 insulation sandwiched between 38x25mm horizontal batten and 38x25mm noggin to provide air seal at chimney.

Tiling battens

38x25mm counter timber batten

Bold roll interlocking roof tiles

Vapour permeable underlay

Timber rafter with trimmer around chimney

Tilting fillet & flashing

12.5mm vapour controlled plasterboard

Rigid friction fit non combustible insulation to reduce cold bridging.
Installation around a dormer window detail

- 38x25mm in-line timber batten
- TRISO-SUPER 10 insulation sandwiched between 38x25mm horizontal batten and 38x25mm noggin to provide air seal at base of rafter
- Fascia & soffit board mineral wool or friction fit polystyrene insulation to reduce cold bridging
- 100x50mm dormer frame
- Insulation as required - see wall detail for fixing of TRISO-SUPER 10 in this application
- 12.5mm vapour controlled plasterboard with taped and filled joints

For any application not shown in this document please contact our technical support team or visit www.insulation-actis.com