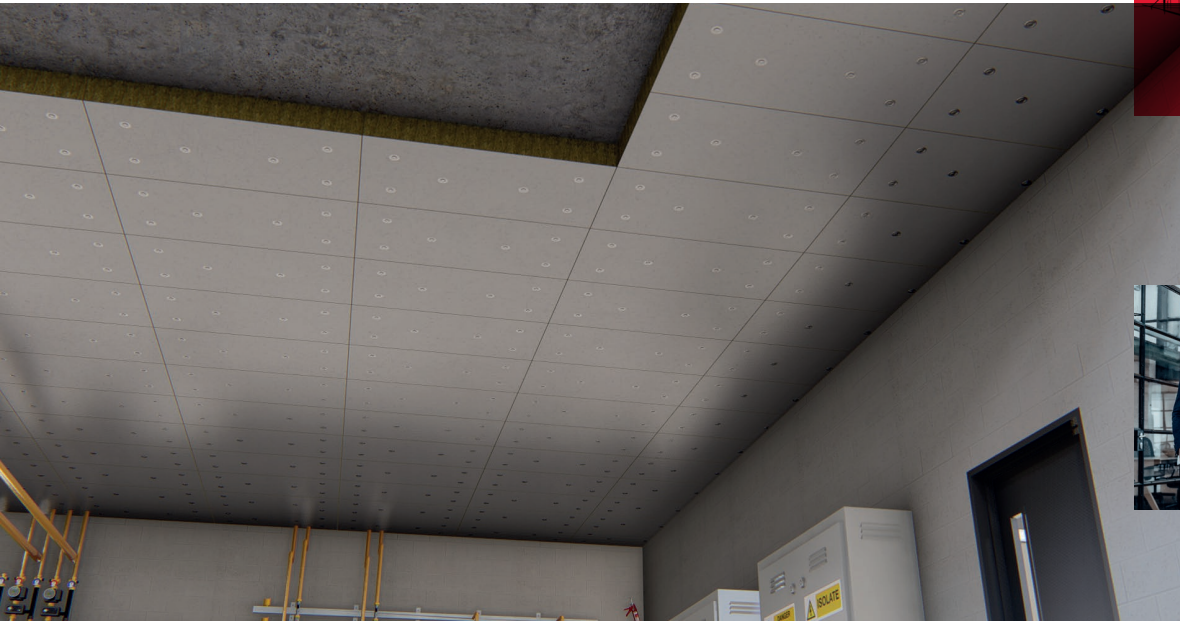


Concrete Soffit System



General Installation Guide

1. It is recommended to start with a focus reference slab in the centre of the soffit with subsequent slabs being fixed working towards each edge. The use of string lines or laser alignment equipment will assist in ensuring alignment and squareness of the installation. Refer to **Illustration 1**.
2. Lay the insulation slabs in a staggered joint pattern. Refer to **Illustration 2**. It is recommended that the insulation slabs are tightly butted to minimise heat loss through insulation gaps, ensuring a professional finish is achieved.

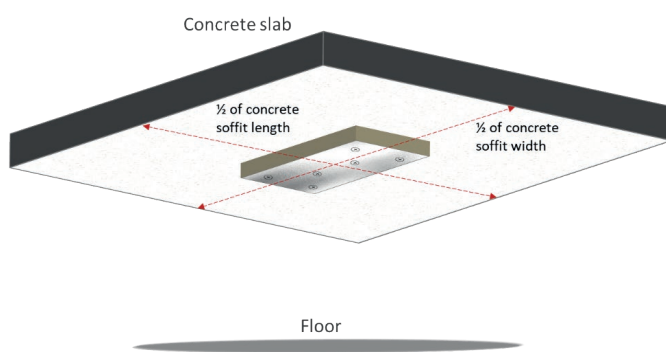


Illustration 1: Setting focus reference slab in the centre of the soffit

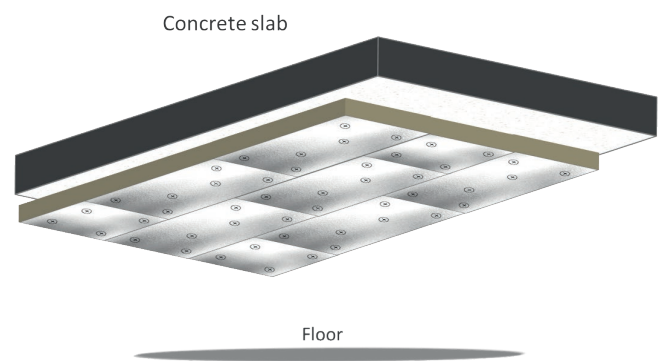


Illustration 2: Position of the insulation slab

CONCRETE SOFFIT SYSTEM

3. Insulation slab can be fixed onto soffit using insulation fastener (gas actuator tool), insulation anchor (pre-drilling) or insulation pin (adhesive).
4. Fixings should be installed 150mm from the edge and corners. Recommended number and pattern of fixing for each slab size are explained in the fixing methods section. Be careful not to over-tighten fixings to prevent damage to the slab surface.
5. Any hanging rod or services penetrating through the insulation slab should be with minimum damage to the insulation slab. Any holes or gap need to be filled with sealant and taped up with respective foil tape.

Special consideration

- Store ROCKWOOL insulation products strictly in accordance with the ROCKWOOL storage and installation guidelines.
- Install insulation to the thickness specified. Avoid compression of the insulation wherever possible and make sure there are no gaps.
- Depending on the soffit construction, requirement for additional mechanical fixing should be assessed such as wind loading requirement. For further information on fixing type and suitability, please refer to the fixing manufacturer.
- Soffit insulation slab product should not be used for supporting light fitting or services. Such installations should be supported by the soffit.
- ROCKWOOL product comes in the form of slabs which ease the soffit installation through butting and joints. It also come with various thickness to suit the site installation requirements

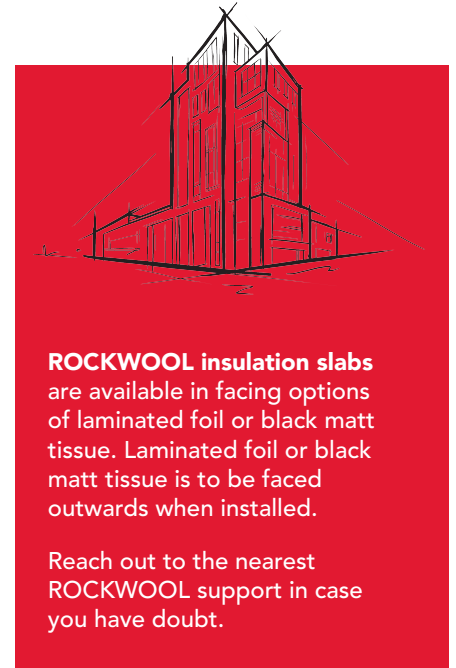


Illustration 1: Use of insulation fastener & gas actuator tool

Recommended Slab Fixing Methods

Gas actuator tool with insulation fastener

ROCKWOOL insulation slab supports the use of insulation fastener with gas actuator for direct fixing to the underside of the concrete soffit without the need of pre-drilling. This installation method helps to improve the installation efficiency and speed. Refer to the fixing tool manufacturer's recommendation and instructions.

1. Start with a focus reference slab at the centre of the soffit with subsequent slabs being fixed working towards each edge. See [Illustration 1](#).
2. Mark the mounting points on the insulation slabs as a positioning guide for fastener insertion with the fixing tools shown in [Diagram 1](#).
3. Recommended number and pattern of fixings for each insulation is shown in [Diagram 1](#). Fixings should be installed 50mm - 150mm (minimum) from the edge and corners of the insulation board with a minimum of 5 fixings per 1200mm × 600mm insulation slab.

Special consideration

- Use only the right actuation power for fixing, do not over-compress the insulation slab to prevent damage to the slab surface and its facing.
- It is recommended that the insulation slabs are tightly butted to minimise heat loss through insulation gaps, ensuring a professional finish is achieved. For better performance and aesthetic appearance, respective adhesive tape can be used to seal all the butt joints.

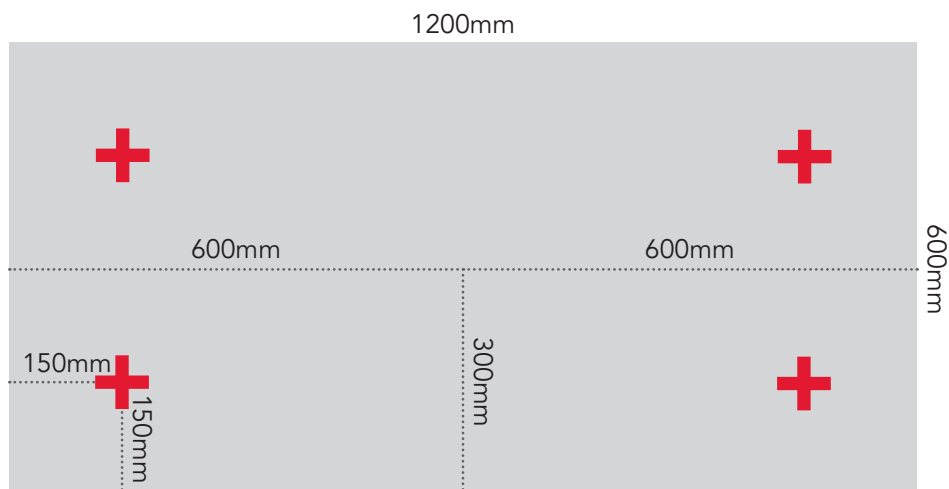


Diagram 1: Recommended number of insulation fastener to use and pattern of fixings for each slab

Alternative Slab Fixing Methods

Fixing with insulation anchor

1. Start with a focus reference slab at the centre of the soffit with subsequent slabs being fixed working towards each edge as shown in **Illustration 1**. Mark the mounting points on the slabs as a positioning guide for drilling.
2. Pre-drill the insulation slab and concrete to a depth as recommended by the fixings manufacturer, using light hammer blows, drive the anchor into the hole until the head of the anchor is in contact with the insulation slab and the insulation slab is firmly held against the concrete soffit. See **Illustration 3**. Use only the right anchor length for fixing, do not over-compress the insulation slab to prevent damage to the slab surface and facing.
3. Recommended number and pattern of fixings for each slab is shown in **Diagram 2**. Fixings should be installed 50mm - 150mm (minimum) from the edge and corners of the insulation board with a minimum of 6 fixings per 1200mm × 600mm insulation slab.
4. It is recommended that the insulation slabs are tightly butted to minimise heat loss through insulation gaps, ensuring a professional finish is achieved. For better performance and aesthetic appearance, respective adhesive tape can be used to seal all the butt joints.

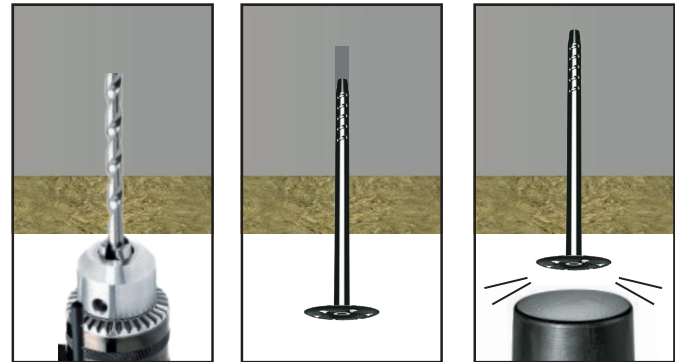


Illustration 3: Pre drill slab and concrete and drive the anchor into the hole until the head of the anchor is in contact with the insulation

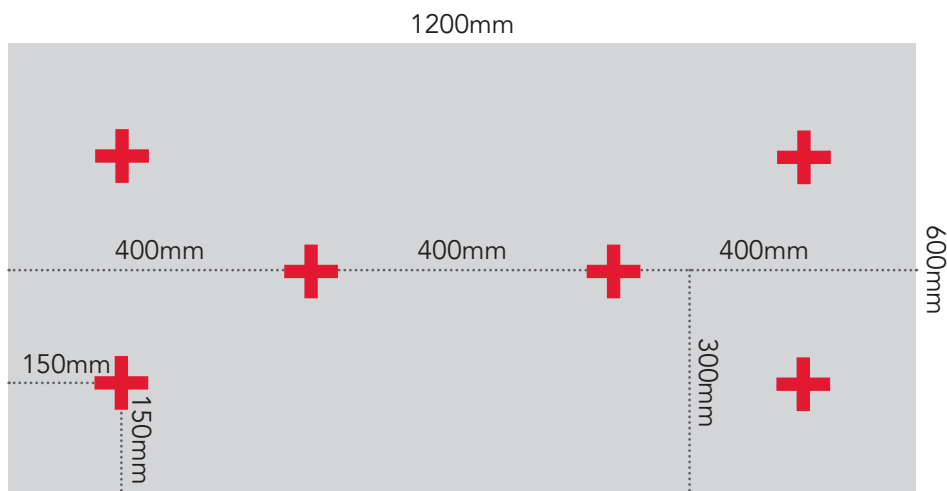


Diagram 2: Recommended number of insulation anchor to use and pattern of fixings for each slab

Alternative Slab Fixing Methods (cont'd)

Fixing with insulation pins (with or without self-adhesive)

1. Start with a focus reference slab at the centre of the soffit with subsequent slabs being fixed working towards each edge as shown in [Illustration 1](#).
2. Wipe and dry the installation surface. Mark the edge of the slab and the mounting pin location on concrete soffit as a positioning guide for the later installation steps.
3. Based on the type of insulation pins shown in [Image 2](#):
 - **Insulation pins without self-adhesive**
Apply the adhesive to the base of the pin evenly using a putty knife. Press the base of the pin on earlier marked location with a twisting motion to allow even spread of adhesive.
 - **Insulation pins with self-adhesive**
Peel off the adhesive backing and press the base of the pin firmly onto the earlier marked location.
4. Allow the adhesive to cure or dry thoroughly (according to adhesive manufacturer recommendation duration).
5. Install the insulation slab onto the soffit (punch through once the adhesive has dried) with alignment to earlier marked edges. Secure the insulation slab with self-locking washer and bend over or snip off excess spindle length.
6. Recommended number and pattern of fixings for each slab is shown in [Diagram 4](#). Fixings should be installed 50mm - 150mm (minimum) from the edge and corners of insulation slab with a minimum of 6 fixings per 1200mm x 600mm insulation slab.
7. It is recommended that the insulation slabs are tightly butted to minimise heat loss through insulation gaps, ensuring a professional finish is achieved. For better performance and aesthetic appearance, respective adhesive tape can be used to seal all the butt joints.

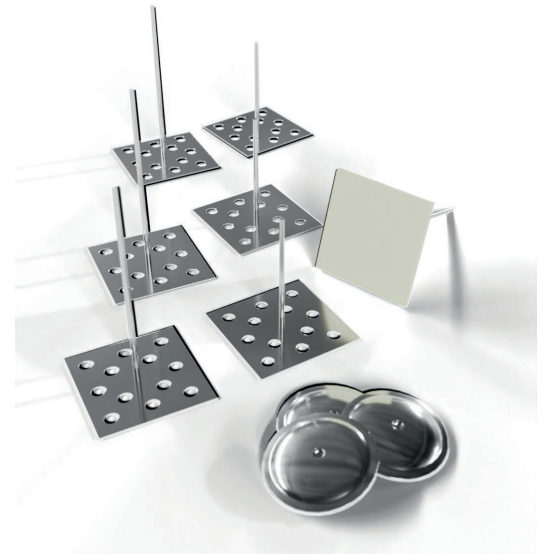


Image 2: Insulation pins (with or without self adhesive) and self locking washer.

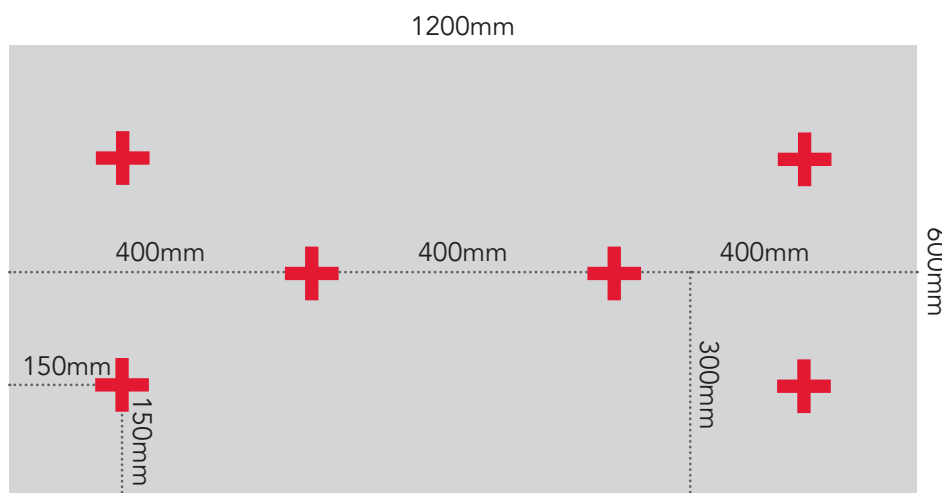


Diagram 4: Recommended number of insulation anchor to use and pattern of fixings for each slab

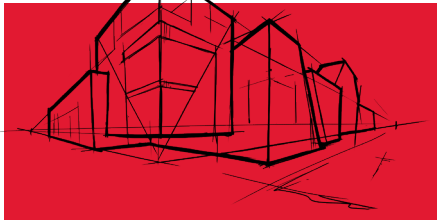
CONCRETE SOFFIT SYSTEM

Common M&E Structure

Beam

Beam is a common structure found in concrete soffit slab. Thermal bridging might occur if not properly insulated. It is recommended to start with beam insulation prior to the rest of the soffit slab area.

1. Cut the insulation slab according to the beam dimension.
2. Ensure the insulation slabs are tightly butt to
3. Ensure thermal performance and aesthetic presentation.
4. Ensure all the joints and expose woools are sealed with respective adhesive foil.



Caution:
Ensure that the exposed woools at the cut edges need to be fully sealed to avoid fiber drop which are concerns to certain application, i.e. server room

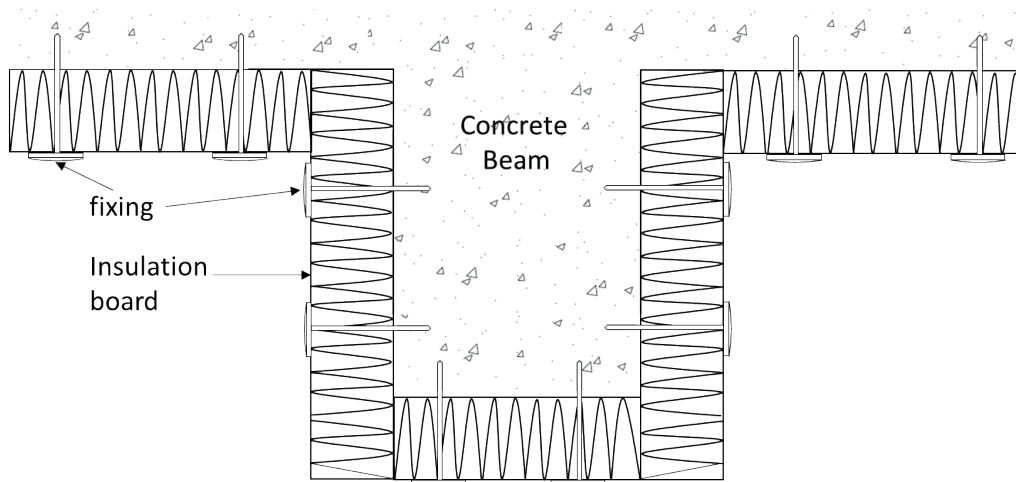


Illustration 4: : Fixing details to Beam Section



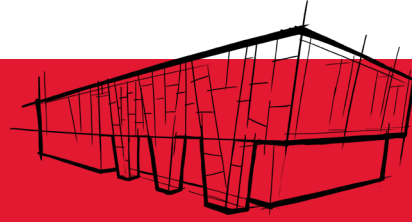
Image 3: Example of beam insulation

CONCRETE SOFFIT SYSTEM

Common M&E Structure (cont'd)

Threaded rod

Threaded rod is the most common structure found on the concrete soffit slab. It is used to support or hold the mechanical structure, i.e. lighting, electrical cable conduit or tray, fire sprinkle piping, HVAC ducting, etc. It is recommended to start with insulation slab installation prior to threaded rod fitting to reduce the installation complexity.



Caution:

The insulation slabs shall not be used to support any M&E structure. All the threaded rod mounting is to penetrate the concrete soffit slab.

Please ensure the slab penetration opening are made according to the diameter size of the threaded rod.

For any gap larger than penetration, fill in the gap with silicone sealant.



Common M&E Structure (cont'd)

Threaded Rod (Pre-Insulation Slabs Installation)

1. Identify the mounting position of the insulation slabs. Mark and make the penetration point for threaded rod according to the rod diameter.

■ Slot in Method

Cut a slot starting from the entry edge of the insulation slabs to the penetration opening. Slot in insulation slab till it butt in well with adjacent insulations slab/edges.

■ Butting Method

Cut the insulation into 2 pieces across the penetration opening. Install the first piece of cut insulation slabs then follow by the second piece. Ensure both pieces of insulation slabs are butt tightly.

2. Sealed the slots and penetration openings with respective adhesive tape.

Threaded Rod (Post-Insulation Slabs Installation)

1. Fix the insulation slabs onto the concrete soffit.

2. Mark the penetration point for threaded rod as a positioning guide.

3. Drill through the insulation slabs with the correct diameter drilling bits. Refer to Illustration 5. Follow the recommended hole depth by the threaded rod manufacturer.

4. Insert the fastener into the mounting inside the concrete slab.

5. Tap the threaded rod into the concrete slab and secure it tightly.

6. Fill the gaps around the threaded rod with silicone sealant.

7. Sealed the threaded opening with respective adhesive tape.

Recommendation:

Measure the actual dimension prior to cut the insulation slab to ensure its fitting feasibility.

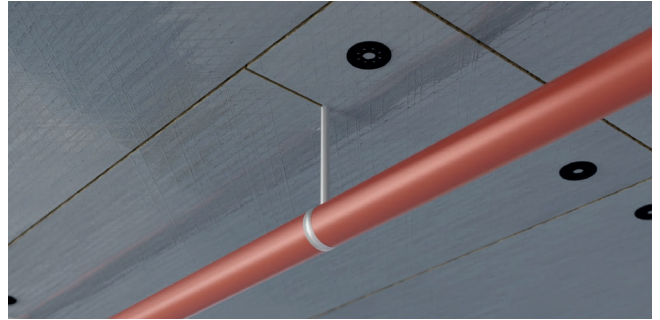


Image 4: Slot in method

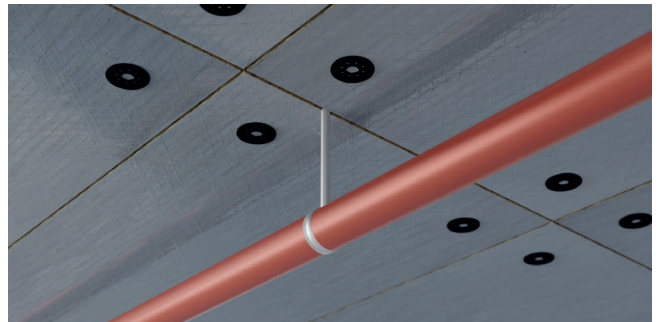


Image 5: Butting method

Caution:

Take extra precaution to avoid damaging the prefixed facing (if any) during drilling threaded rod penetration hole.

Sealed the opening of the facings (if any) with respective adhesive tape to ensure thermal performance and aesthetic presentation.

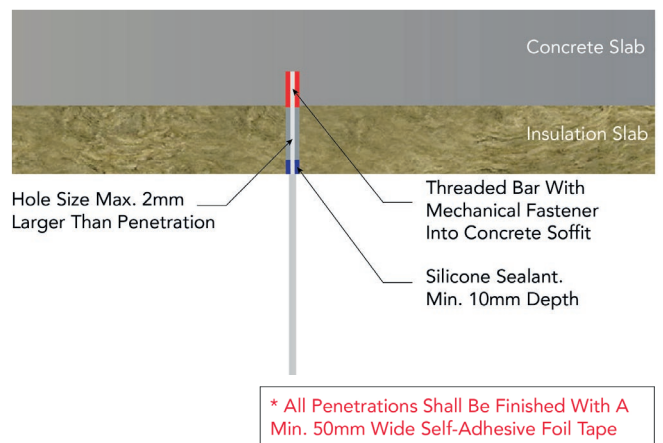


Illustration 5: Fixing details for threaded rod installation

Common M&E Structure (cont'd)

Through Hole Penetration

Inter floor through hole piping penetration is another common structure found in building soffit. Thermal bridging might occur if not properly insulated.

Identify the mounting position of the insulation slabs. Mark and make the penetration point for threaded rod according to the rod diameter.

■ Slot in Method

Cut a slot starting from the entry edge of the insulation slabs to the penetration opening. Slot in insulation slab till it butt in well with adjacent insulations slab/edges.

■ Butting Method

Cut the insulation into two "C"-shaped configurations. Install these "C"-shaped insulation slabs tight butt around the pipe. Seal the slots and penetration openings with respective adhesive tape.

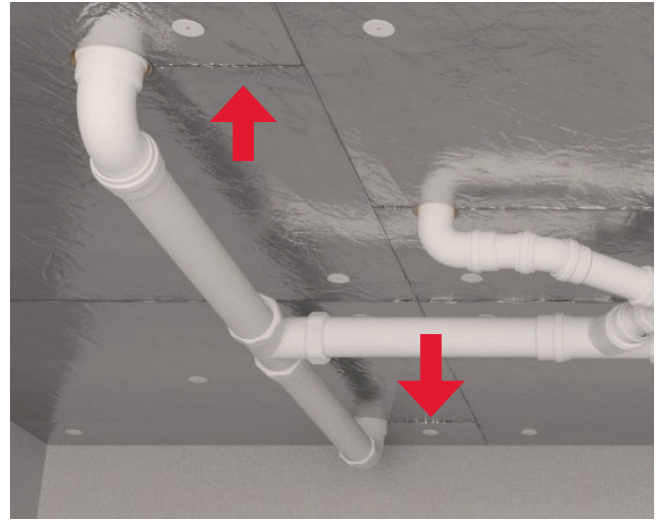


Illustration 6: Slot in method

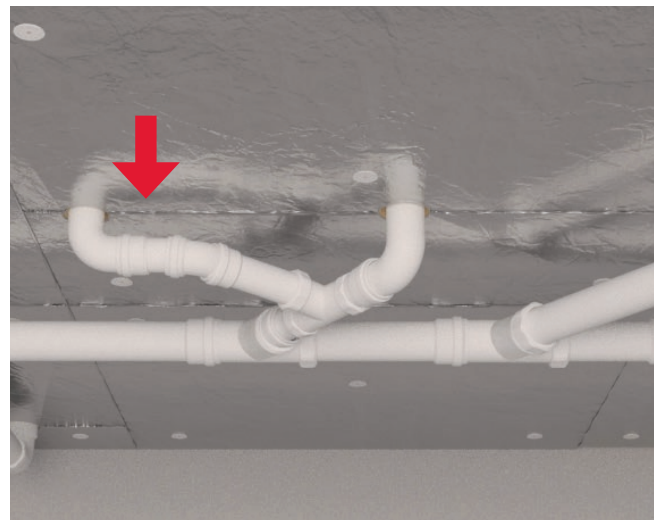


Illustration 7: Butting method

Disclaimer:

All information contained herein is solely based upon the generic installation and workmanship which may change based on situation in hand. It is the responsibility of the user to confirm the adequacy and accuracy of the information supplied. ROCKWOOL makes no representations nor gives any warranties of any kind as to the accuracy or completeness of the information as provided herein. Customer is requested to check with the installation team as well as local ROCKWOOL representative for further information if needed.