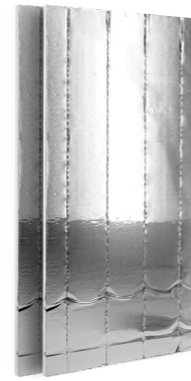


### Extruded Polystyrene Insulation Board with Aluminium Foil

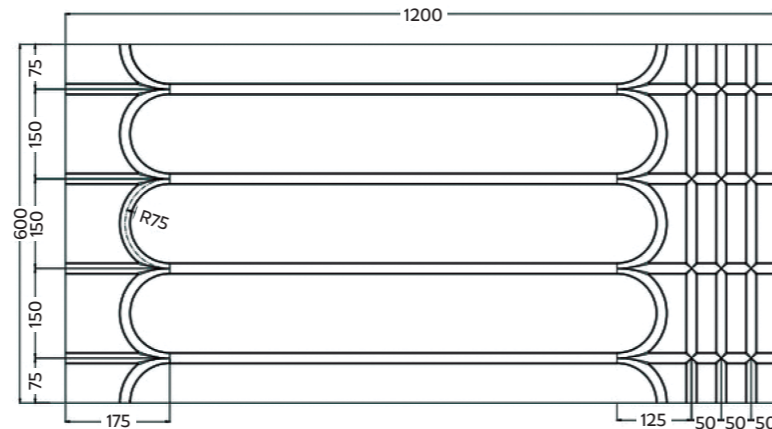
The Tio XPS Panels are dual purpose, meaning that they can be used both underneath tiles and under floating floors such as Engineered and Laminate flooring. There are two different installation methods that must be adhered to for each flooring type. The panels are constructed of XPS 400 grade polystyrene and have a 200-micron foil covering to ensure you get the best possible heat output.

The following guidance notes should be used along with the individual manufacturer's technical datasheets and documents for specific products selected. Ensure the subfloor is suitably strong, stable and flat enough to receive this flooring system.



Product Code	Product Description	Dimensions
TIOXPS0001	XPS 400 with aluminium foil	1200 x 600 x 20mm

Model code	TIOXPS0001
Product description	XPS Board with Alu Foil
Dimensions	1200 x 600 x 20mm
Material	XPS insulation board
Compressive strength	400kPa
Thermal conductivity	0.0034
Aluminium foil thickness	0.2mm
Temperature range	-20°C ~ 70°C
Pipe diameter	16mm
Pipe centres	150mm
Fire retardant class	Europe E Class



#### Floor preparation as per manufacturers guidance is always recommended as floor substrates and structures vary in requirements.

This guide cannot cover all possible scenarios. The preparation must make the subfloor suitable to these boards for either a flexible cementitious tile adhesive prior to tiling on top, or flat enough to lay the panels down prior to receiving a floating floor such as an engineered wood or Laminate boards.

#### Timber Floors:

- For a floating floor installation, you will need to ensure the floor is flat and free from movement prior to laying the panels.
- For tiled or levelling compound installations you should install a structural plywood for new floors or for existing floors, you may need to overlay these with a suitable thickness of plywood or cement boards, which should be fully screw down at 150mm intervals.

#### Solid Floors:

- Fully cured concrete that must be at least six weeks old and thoroughly dry.
- Solid screeds that have fully cured in relation to thickness as per manufacturers guidelines.
- For floating floor installation these should be flat, if they are not a suitable self-levelling compound should be used before laying the panel on top.
- For tiled or levelling compound installations you will need to ensure the subfloor is suitably primed. For any substrates such as power floated concrete, calcium sulphate screeds, or anything not listed above please seek manufacturers advice as to priming recommendations.

#### Installation method for solid floors:

This method is suitable for floor coverings such as tiles and self-levelling compound prior to laying vinyl or carpet or glue down wood floor systems.

1. Remove all contaminants, dirt, grease etc. from the floor and make dust free.
2. If supplied with a pipe layout diagram, make a note of how to position the boards.

3. Loose lay the boards across the floor and number the boards on the upper face to identify position of each board, making sure the pipework runs are calculated correctly to reach manifold position.
  4. Lift the numbered boards and prime the floor with a suitable adhesive. This should be applied by brush, roller or spray in a thin film.
  5. Drying time will depend upon ambient conditions.
  6. Position the boards into the adhesive and ensure compression of adhesive ridges, ensure full compression of the adhesive to give a void free full adhesive bed.
  7. Additional use of screws and washers is recommended over timber substrates where needed, fixed at every 300mm.
  8. Allow adhesive cure (depending on temperature) to ensure the adhesive has gone through its initial set before carrying out any further works.
  9. Ensure your floor is free from any debris before installing the pipe.
- Please remember to check in all the grooves as any debris could damage the pipework during the installation phase.**
10. Pipe work may be fitted into the boards once they are all secure. It is recommended that the pipe system is checked for leaks and correct water pressures prior to tiling over.
  11. It is recommended to limit the amount of walking on the laid boards where possible to reduce the risk of damage.

#### You now have a couple of options available to you.

You can either tile directly on top of the panels using a Class II adhesive or install a latex levelling compound prior to laying the tile adhesive/floor covering.

#### Using a levelling compound:

1. Apply Floor Levelling compound over entire floor area, making sure all voids and gaps are filled, the levelling compound should encapsulate the whole floor and cover the board with a 5mm layer on top (if tiling).
2. Allow to cure for a minimum of 24 hours or as per manufactures instructions prior to carrying out any tiling. Cold and/or humid atmospheres will delay the curing so allowances should be made accordingly. Check product specification for more details.
3. Prime the cured floor using a suitable floor primer and allow to dry thoroughly.
4. Fix the tiles using a flexible tile adhesive. Ensure full compression of the adhesive to give a void free full adhesive bed. Allow the adhesive to cure for a minimum of 4 hours (depending on temperature) to ensure the adhesive has gone through its initial set before carrying out any further works.
5. Grout tiles using a flexible grout and allow to fully dry.

#### Installation method for floating floors:

This method is suitable for floor coverings such as engineered wood, laminate flooring when using Vinyl or Carpet.

1. Remove all contaminants, dirt, grease etc. from the floor and make dust free.
  2. If supplied with a pipe layout diagram, make a note of how to position the boards.
  3. Lay the boards across the floor with grooves facing upwards, making sure the pipework runs are calculated correctly to reach manifold position.
  4. It may be required for you to modify the panels to allow for additional pipework or to allow for permanent objects. If this is required, it can be done either with a knife or a router.
- When creating bends ensure that the curve is suitable and goes not kink the pipe.**
5. When laying boards It is recommended to limit the amount of walking on the laid boards where possible to reduce the risk of damage.
  6. Allow the floorboards or final floor covering to acclimatise to the indoor temperature as they may shrink or swell depending on the climate.
  7. Ensure that the floorboards are laid at a 90° angle to the pipe direction.

#### Suitable floor finishes include engineered wooden floors and laminate flooring.

Please ensure that the maximum temperature of the floor does not exceed manufacturers stated temperatures. Most manufacturers of engineered wood or laminate floors state that a maximum floor temperature of 27°C must be maintained. In well insulated property if a room temperature of 21°C is set the floor will not go above 27°C before the room temperature is satisfied. However, if a warmer room temperature is required or the insulative state of the property is poor a floor sensor may need to be installed in order to protect the wooden flooring.

#### IMPORTANT INFORMATION

The underfloor heating should **NOT** be turned for at least 14 days after the floor has been laid. After this time the water temperature should be brought up gradually by 5°C per day to the maximum working.

#### Required thickness of levelling compound:

Floor finish	Minimum thickness
Carpet (TOG below 2.5)	10mm
Tile / Natural stone	6mm
Vinyl	10mm
Engineered wood or laminate	10mm