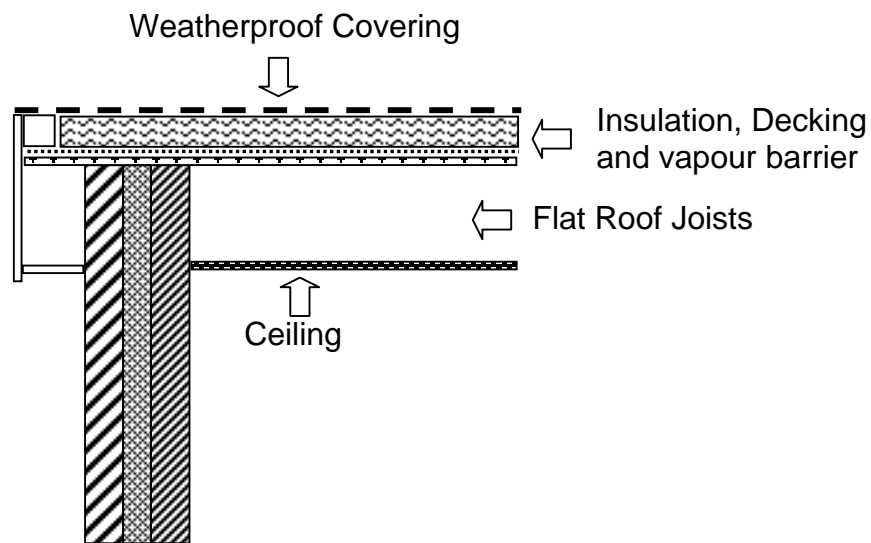


## Flat Roofs

There are two common forms of construction for flat roofs:

- Warm deck (sandwich), or
- Cold deck.

### Warm Deck Roof

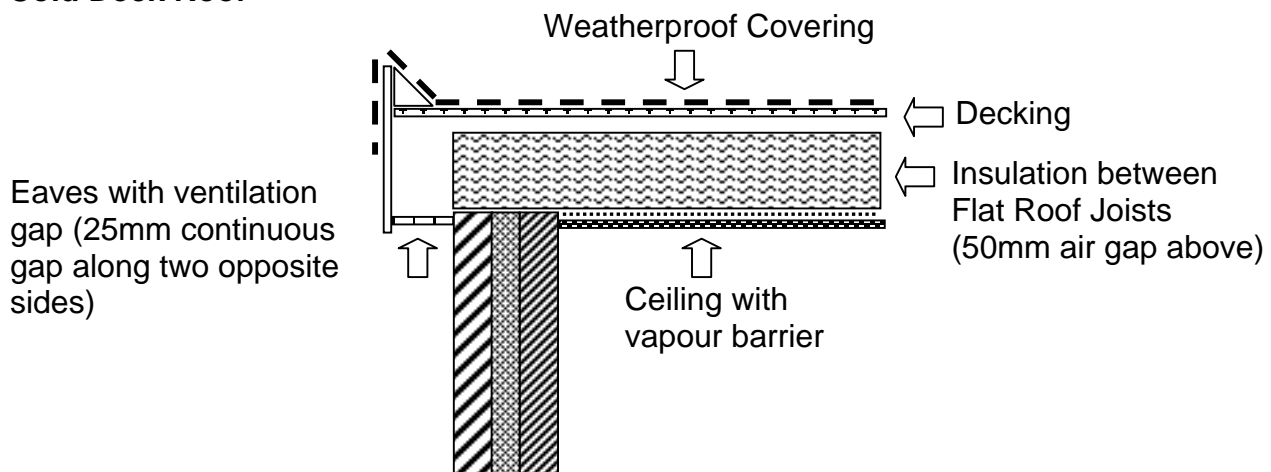


With this type of roof the insulation is placed above the roof deck but below the weatherproofing. There should be no insulation below the deck and no ventilation is required.

Some forms of roof decking may also have insulation bonded to them.

The external wall insulation needs to be extended up to the underside of the roof insulation to prevent cold bridging.

### Cold Deck Roof



With this type of roof the insulation is placed between the flat roof joists at ceiling level.

To prevent condensation forming when the insulation is placed at ceiling level, a minimum of 50mm gap is provided for ventilation above insulation. This may involve the use of 50mm x 50mm counter battens or firrings reducing to 50mm. A vapour barrier should also be placed on the warm side of the insulation, i.e. between the insulation and the ceiling finish.

The roof should also have ventilation openings of at least equal to a 25mm continuous gap running the full length of the eaves on two opposite sides.

The external walls need to be extended up to the underside of the roof insulation to prevent cold bridging.

## **Insulation**

All roofs should be insulated. The thickness of insulation will depend on the type of insulant used and whether you are constructing a cold or warm roof.

Insulation levels have increased dramatically. Typical details being used at the moment include:

Warm deck construction using 100mm Celotex Extra – R XR3000 or 183mm Jablite Jabdec.

Cold deck construction using 160mm between joists and 50mm under of Jablite Board or 180mm Celotex GA3000.

## **General**

When constructing flat roofs please consider the following:

- Materials used must be suitable for use in flat roofs,
- Roof needs to achieve an external fire rating,
- Vapour barriers should be used,
- Flat roofs should be anchored to walls to prevent uplift,
- Flat roofs should be laid to falls,
- Flat roofs require regular maintenance.

For further information contact the Building Regulations Division

**Please note that these guidance notes are for advice only and may not cover all situations. It is your responsibility to ensure that they are appropriate for use in your particular circumstance.**