

Technical Update 190324 Part L Changes to iRoof



Part L 2021 implication on panelised roofing systems

Part L 2021 amendments has driven 2.5 story houses to require the following:

- 0.15W/m²K sloped roof
- 0.10 W/m²K flat roof
- Full Psi set of details

Other points to consider:

- Condensation risk analysis and moisture control in the cold roof void

Part L changes to the cassette makeup

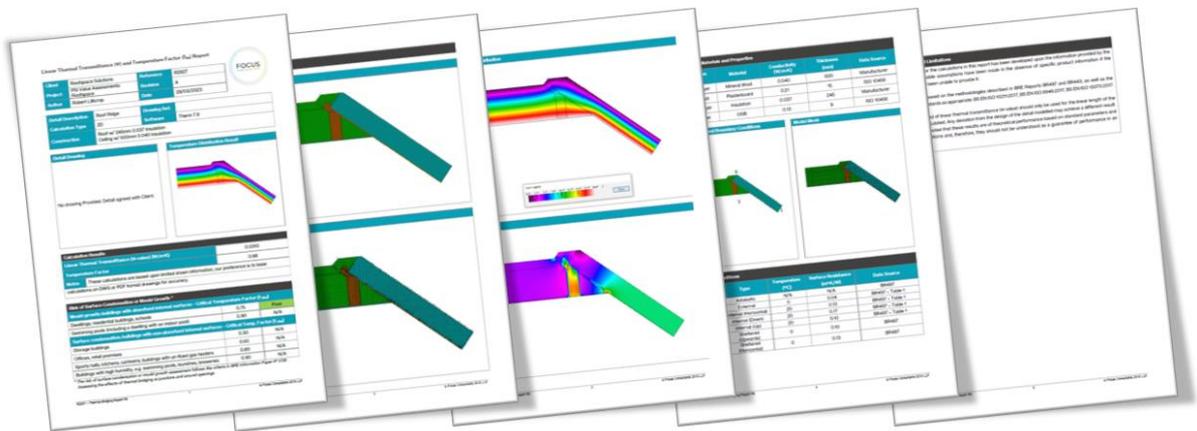


- Insulation in the cassettes now stopped above flat ceiling
- Flat ceiling now to be insulated on site by client
- Current cassette U-Value offerings

U-Value	0.20W/m ² K	0.18W/m ² K	0.18W/m ² K	0.17W/m ² K	0.15W/m ² K
Depth	195mm	195mm	245mm	195mm	245mm
Make up	Breather membrane	Breather membrane	Breather membrane	Breather membrane	Breather membrane
	195mm Isover Cladding Roll 40	195mm Isover Timber Frame Roll 35	220mm Isover Cladding Roll 40	195mm Isover Cladding Roll 40	240mm Isover Cladding Roll 37
				20mm Celotex TB4000	
	VCL + Air Leakage Barrier	VCL + Air Leakage Barrier	VCL + Air Leakage Barrier	VCL + Air Leakage Barrier	VCL + Air Leakage Barrier
	Plasterboard	Plasterboard	Plasterboard	Plasterboard	Plasterboard

To be fitted on site by the client. Material not included.

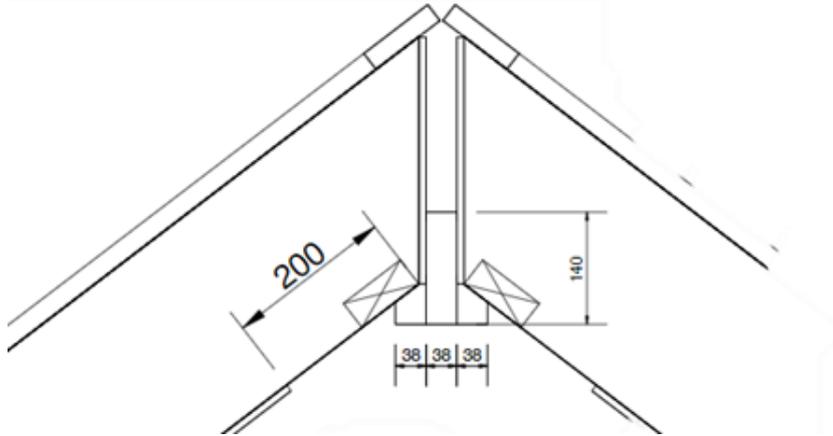
Full set of Psi values available on request



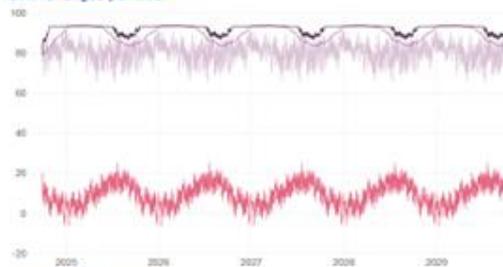
Condensation control

- OSB held back 200mm from ridge to ventilate the cold attic space
- WUFI modelling. We have tested the hygrothermal performance of our roof construction to ensure sufficient ventilation and that moisture does not accumulate beyond expected levels

Roofspace Solutions



0 Air Changes per Hour



OSB Relative Humidity

As the main barrier between the roof void and the external ventilated conditions, the OSB is the most significant hygrothermal aspect of the construction. These graphs examine the relative humidity through this material, taken from monitoring positions on the outside, midpoint, and internal surface of the OSB. Without ventilation in the roofspace, the relative humidity on the underside of the OSB is never below 87%, and spends most of the year at 93%, implying that the OSB has minimal chance to dry out. This threshold is due to the moisture capacity of the air.

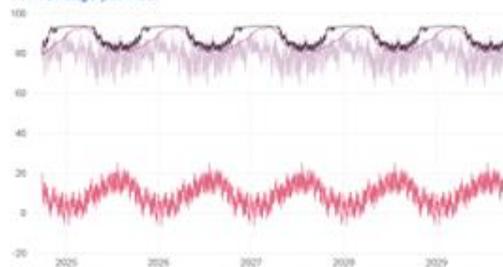
As the ventilation is increased, the relative humidity drops, with the case with one air change showing a 40% reduction in the percentage of the year spent at 95% relative humidity (November to April), rather than October to July). Additionally, the relative humidity through the centre of the OSB is generally lower, only reaching the 93% saturation point for a period of hours each year. This occurs in March, evidencing that the moisture content of the roofspace continually increases over winter, but that with even minimal ventilation, this does diminish as the temperature rises.

Legend

- OSB Relative Humidity:
- External Surface
- Midpoint
- Internal Surface
- Temperature:
- Midpoint

With full ventilation, the relative humidity on the inside of the OSB is only marginally higher than that of the outside, indicating that there is no increased risk of condensation in the system.

1 Air Change per Hour



14 Air Changes per Hour

