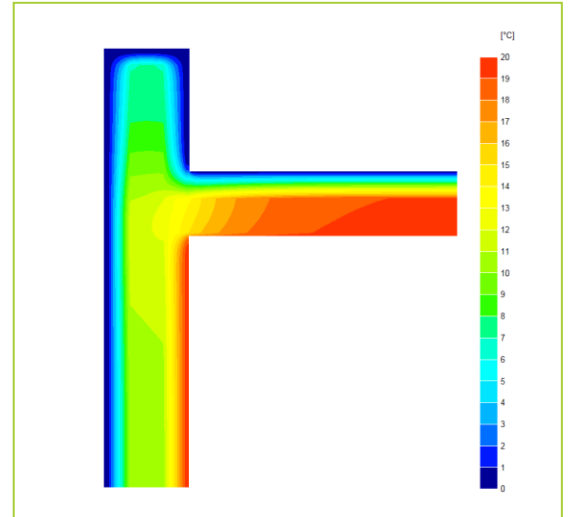
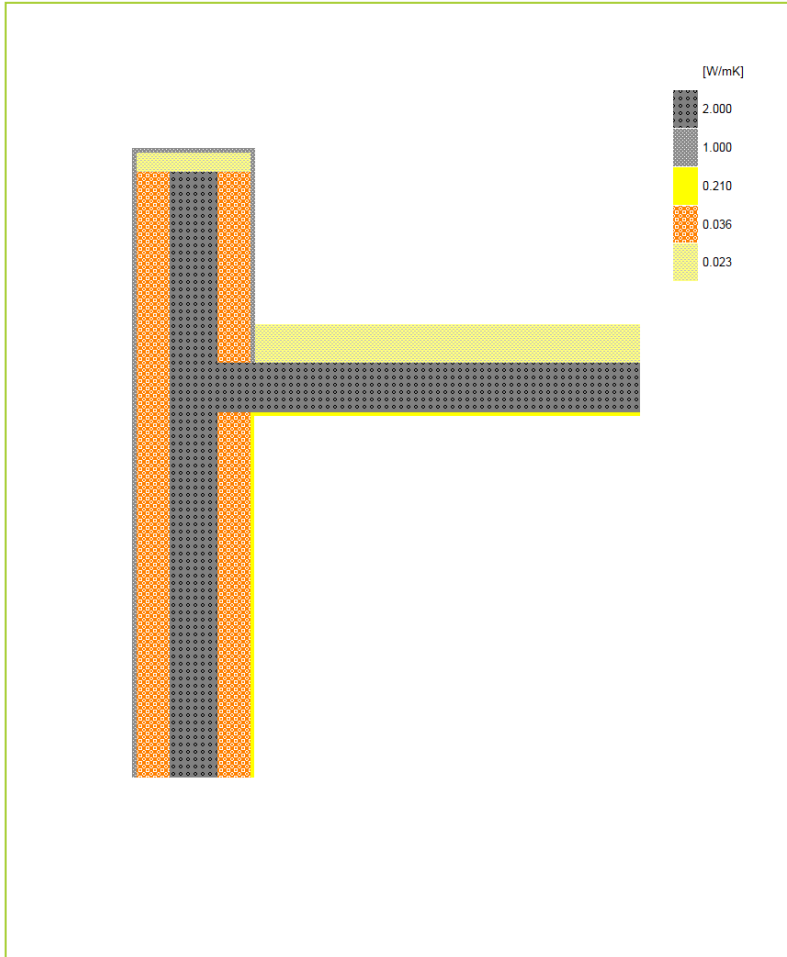


<b>Certificate No:</b>	<b>WRTM – 000111 vs. 0 PHPP</b>	<b>Issued:</b>	<b>15 August 2019</b>
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Issued to: <i>Jean-Marc Bouvier</i>  <b>Nudura Corporation</b> International Sales & Field Support  Tel: Mob +44 (0) 7766 118711 Email: <a href="mailto:jmb@nudura.com">jmb@nudura.com</a> www.nudura.com	<b>General Construction Specification:</b> (see detail below for full construction)	Main/Load-bearing:	152mm (nominal) Dense Concrete Core, $\lambda \leq 2.50$
		Insulation:	2x 102mm layers of EPS, $\lambda = 0.036$
		Roof Terrace:	Cast in situ, 6mm acoustic mat, 75mm MW with ceiling below
		Cladding:	9mm of Render OR 102mm Brick OR other Cladding
	<b>Description:</b>	<b>Upper floor as flat roof with sealing – 20cm concrete + 12cm insulation R = 5.2</b>	
	<b>Reference:</b>	<b>E15</b>	<b>Flat roof with parapet</b>



Temperature Distribution

Linear Thermal Transmittance W/m.K	
$\Psi =$	<b>0.194</b>
Temperature Factor <sup>3</sup> for Humidity and Mould	
$f =$	<b>0.848</b>

Calculation Prepared By: Trefor Jones

**Notes:** Calculated only for the calculations of passive houses (PassivHaus, PHPP), not to be used with the UK construction regulations and SAP calculations. Party values are per dwelling, that is, they have already been halved.

- $\Psi$  and  $f$  are only valid for the detail drawn and described above.
- The  $\Psi$  and  $f$  quoted are considered valid for U-value(s) Wall  $U = 0.16 \text{ W/m}^2.\text{K} \pm 10\%$  (external brick with cavity  $U = 0.159$ , thin render  $U = 0.167$ ), (allowance of  $\pm 20\%$ , following the present guidance from B. Anderson, BRE, correspondence dated 24/02/2012, for the UK market). The use of different claddings may affect the U-value slightly, but will have no material impact on the calculated values used here, in this case.
- In dwellings, UK regulations stipulate that a temperature factor,  $f$ , that is  $>0.75$  would avoid the risk of mould growth. For other nations, jurisdictions and climates, please consult the local building regulations that apply for avoiding mould and condensation. (For example, typical requirements may be: Netherlands: 0.65; Switzerland: 0.75; Belgium: 0.7; Germany: 0.7; Finland: 0.87. French, German and other standards often do not indicate a single number for acceptable risk, but are dependent on circumstances.)
- Calculations have been performed in accordance with: EN ISO 10211\_2007 (British Standards), IP 1/06 & BR497 (BRE Press) and with reference to the following publications: EN ISO 6946 (British Standards) BR443 (BRE Press)