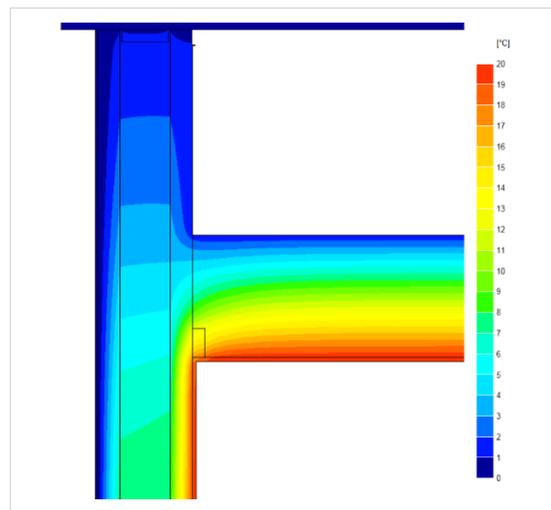
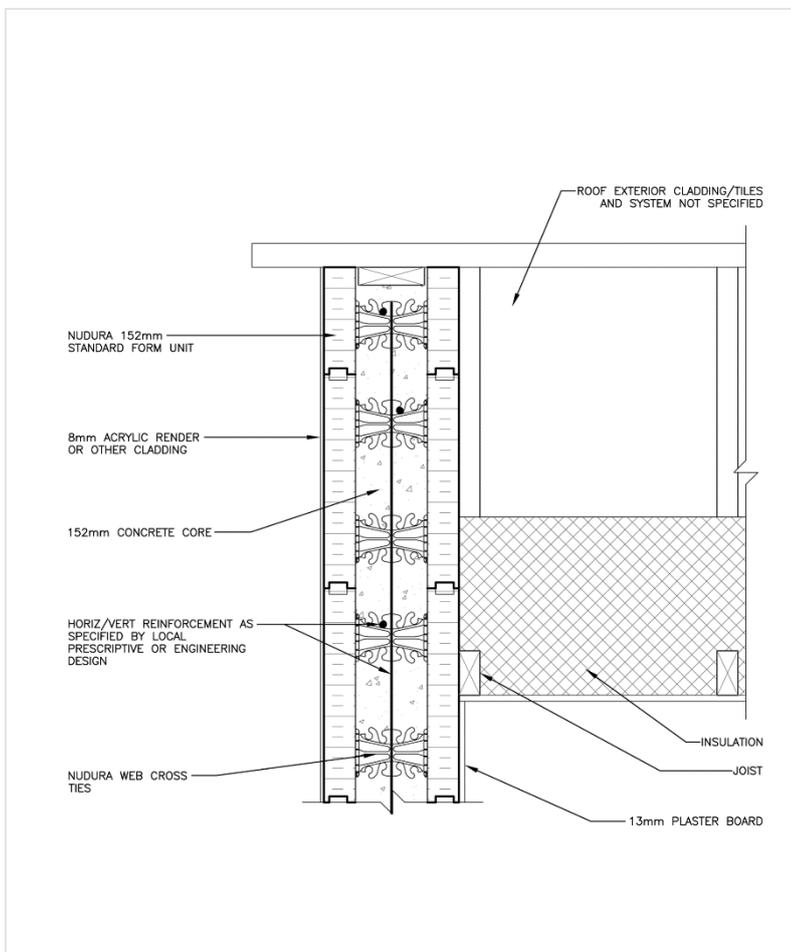


Linear Thermal Transmittance (Ψ) and Temperature Factor (f)



Certificate :	WRTM – 778 CPG E12 vs. 0	Issued:	22 February 2024
Issued to: Stuart Sadler Tremco CPG UK Tel: +44 1942 251400 Email: stuart.sadler@tremcocpg.com Web: www.tremcocpg.com	General Construction Specification: (see detail below for full construction)	Main/Load-bearing:	152mm (nominal) Dense Concrete Core, $\lambda \leq 2.00$
		Insulation:	2x 67mm layers of EPS, $\lambda = 0.036$
		Roof:	375mm MW @ joists
			Cladding:
	Description:	ICF Wall, Gable @ Ceiling, Minimum Roof U-value 0.1	
	Reference:	E12	Gable @ Ceiling, Standard Wall



Temperature Distribution

Linear Thermal Transmittance	
W/m.K	
$\Psi =$	0.084
Temperature Factor³ for Humidity and Mould	
$f =$	0.938

Calculation prepared by: Matthew Wright MA Physics (Oxon) PGCE

Notes: Calculation based upon internal heat loss areas, applicable in UK Building Regulations and SAP calculations

- Ψ and f are only valid for the detail drawn and described above.
- The Ψ and f quoted are considered valid for $U\text{-value(s) Wall} \leq 0.248$ $U\text{-value(s) Roof} \geq 0.11$ $W/m^2.K$ (allowance of +/- 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 indicate that a temperature factor f that is >0.75 would avoid the risk of mould. For other nations, jurisdictions and climates, other standards may apply. E.g. 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: 2017 Thermal bridges in building construction. Heat flows and surface temperatures. Detailed calculations
 - IP 1/06 & BR 497 : 2016 (2nd Edition) Conventions for calculating linear thermal transmittance and temperature factors
 and with reference to the following publications:
 - BS EN ISO 6946 : 2017 Building components and building elements. Thermal resistance and thermal transmittance. Calculation methods
 - BR 443 (2019 Edition) Convention for U-value calculations