Psi Value Ref: BE15175-P04-001B

build energy

Prepared on behalf of:	WESTRUCTURE TIMBER FRAME Ltd Commercial Unit 2 · Aller Barton · Honiton Road · Cullompton · EX15 1QQ T: 01884 346 35 · W: www.westructure.co.uk · E: team@westructure.co.uk	**WESTRUCTURE TIMBER FRAME Ltd** Commercial Unit 2, Aller Barton, Honiton Road, Collumpton, Devon, EX15 1QQ 01884 346 35

SAP Junction Ref:	P04 Roof (insulation at ceiling level)	**Assessed by**	Liam Bartlett
Junction Description:	Compartment wall to 450mm insulation at ceiling level	**Issue Date**	17/03/2023

Linear Thermal Transmittance

SAP Ψ_{int} = 0.045 W/m.K*

*half value applies to each dwelling as BR497 guidance

Critical Temperature Factor[3]

f_{rsi} = 0.972

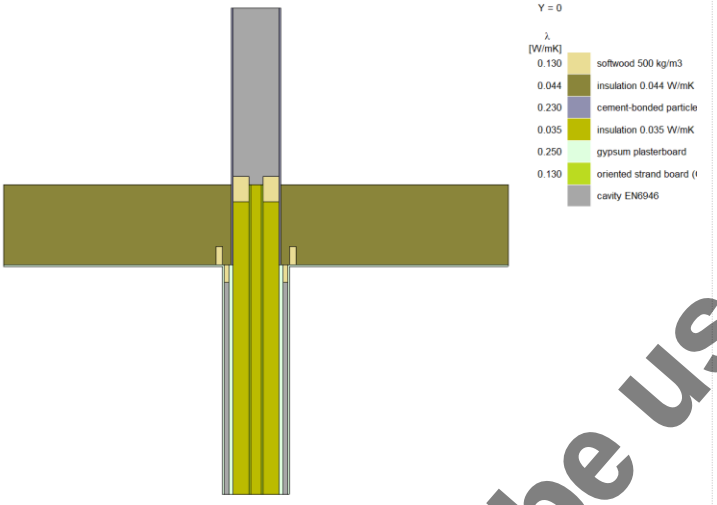


Figure 1. Material geometry.

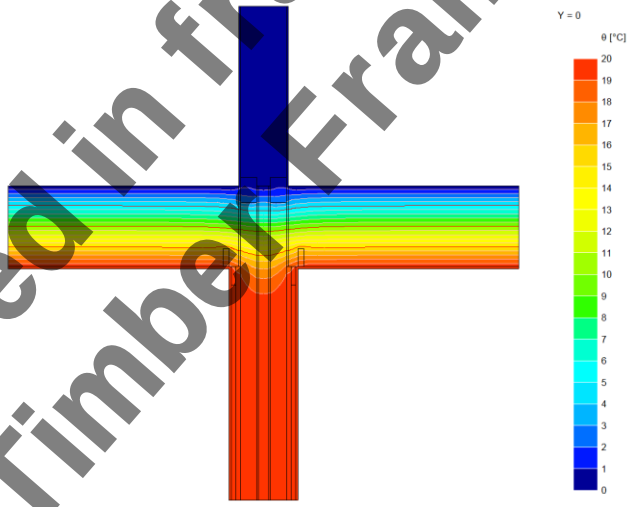


Figure 2. Isotherms (colour increment of 1°C, line increment of 5°C).

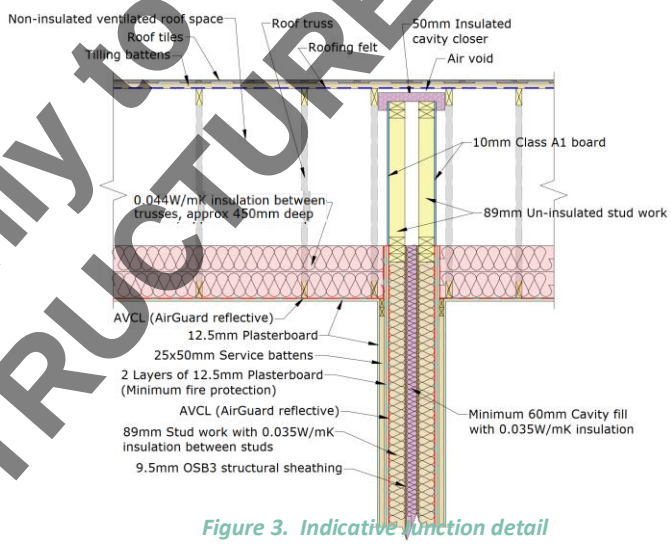


Figure 3. Indicative junction detail

Detail only to be used in frames by WESTRUCTURE Timber Frame Ltd

Notes:

1. Stated values of Ψ and f are only valid for the detail described in this report
2. Calculations have been performed in accordance with EN ISO 10211_2011 (British Standard), IP 1/06 & BR497 (BRE) and EN ISO 6946 (British Standard)
3. Please refer to IP 1/06 (BRE) for guidance on avoiding surface condensation. In dwellings, a temperature factor f which is >0.75 is considered to be sufficient to avoid the risk of mould growth.
4. The U-values used for the calculation of Ψ values may vary from those used in the SAP calculation and construction U-value as it may ignore the effects of repeating thermal bridging, e.g. masonry wall ties, and U-value correction factors. These U-values should not be relied on for any purpose other than calculation of Ψ values.