OWLarchitecture	Generic Floor	Rev:	
	Job No: :SK1001	Page:	0.00
Section: X S-Floor 0.12 18t100c75i75i25c15p	Prepared By: GJW	Date:	02/04/2020

GENERAL DATA

Element type:	suspended floor
Direction of heat flow:	downwards
Number of layers:	six
Internal surface resistance R_{si} $[m^2 K/W]$ =	0.17
External surface resistance R_{se} $[m^2 K/W]$ =	0.17

CALCULATIONS

N° of bridged layers / N° of thermal paths =	3 / 8
Upper limit of resistance R_{upper} $[m^2 K/W]$ =	7.18
Lower limit of resistance R_{lower} $[m^2 K/W]$ =	6.60
Total resistance of element R_T $[m^2 K/W]$ =	6.89
Basic U-value of element U_{basic} $[W/m^2 K]$ =	0.15
Correction for air voids ΔU_g $[W/m^2 K]$ =	0.000
Correction for fasteners ΔU_f $[W/m^2 K]$ =	0.000
Total corrections $\Delta U_g + \Delta U_f$ $[W/m^2 K]$ =	< 3%
Total element thickness $[mm]$ =	308

SUSPENDED FLOOR DATA

Soil type:	clay or silt
Underfloor space ventilation:	average ventilation
Wind exposure: average — Wind speed $[m/s]$ =	5.00
Perimeter exposed to external environment $[m]$ =	40.00
Ground floor area $[m^2]$ =	120.00
Total thickness of wall at ground level $[m]$ =	0.30
Height of floor surface above ground level $[m]$ =	0.25
Depth of underfloor space below ground level $[m]$ =	0.55
U-value of wall above ground level U_w $[W/m^2 K]$ =	0.45
U-value of wall below ground level U_{bw} $[W/m^2 K]$ =	0.45
Thermal resistance R_T of basement floor $[m^2 K/W]$ =	0.00

RESULTS

Equivalent thk. d_g / characteristic dim. B' [m] =	0.62 / 6.00
U-values U_{bf} / U_g / U_x $[W/m^2 K]$ =	0.47 / 0.55 / 0.16
Final U-value of element U_{final} $[W/m^2 K]$ =	**0.12**

Internal surface, R_{si} $[m^2 K/W]$ = 0.17

Layer 1	Material type:	continuous material	Thickness $[mm]$ =	18	Air:	Fixings:
	Material:	timber (softwood)	Ther. conductivity K =	0.130		
	N/A		Thermal resistance R =	0.138		
Layer 2*	Material type:	timber joists with airspace between	Thickness $[mm]$ =	100	Air:	Fixings:
	Material:	unventilated air layer low emissivity (<=300mm)	Ther. conductivity K =			
	N/A		Thermal resistance R =	0.222		
	Bridging:	K of timber = 0.13 — Fractional area: 0.08	Joist spacing $[mm]$ =	600	& width $[mm]$ =	50
Layer 3*	Material type:	timber joists with insulation between	Thickness $[mm]$ =	75	Air:	Fixings:
	Manufacturer:	TYPE: Celotex products	Ther. conductivity K =	0.023		
	Product:	Celotex tuff-R GA3075	Thermal resistance R =	3.250		
	Bridging:	K of timber = 0.13 — Fractional area: 0.08	Joist spacing $[mm]$ =	480	& width $[mm]$ =	38
Layer 4	Material type:	continuous insulation	Thickness $[mm]$ =	75	Air:	Fixings:
	Manufacturer:	TYPE: Celotex products	Ther. conductivity K =	0.023		
	Product:	Celotex tuff-R GA3075	Thermal resistance R =	3.250		
Layer 5*	Material type:	timber joists with airspace between	Thickness $[mm]$ =	25	Air:	Fixings:
	Material:	unventilated air layer (<=300mm)	Ther. conductivity K =			
	N/A		Thermal resistance R =	0.193		
	Bridging:	K of timber = 0.13 — Fractional area: 0.08	Joist spacing $[mm]$ =	600	& width $[mm]$ =	50
Layer 6	Material type:	continuous material	Thickness $[mm]$ =	15	Air:	Fixings:
	Material:	plasterboard	Ther. conductivity K =	0.250		
	N/A		Thermal resistance R =	0.060		

* - indicates bridged layer.

External surface, R_{se} $[m^2 K/W]$ = 0.17