



## Generic Wall

Rev:

Job No:

:SK1000

Page:

0.00

Section: X D-Wall 0.17 15f25c18t25c75i75i25c15p

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Date:

01/04/2020

## GENERAL DATA

Element type: external wall

Direction of heat flow: horizontal

Number of layers: eight

Internal surface resistance  $R_{si}$  [ $m^2 K/W$ ] = 0.13External surface resistance  $R_{se}$  [ $m^2 K/W$ ] = 0.04

## CALCULATIONS

N° of bridged layers / N° of thermal paths = N/A

Upper limit of resistance  $R_{upper}$  [ $m^2 K/W$ ] = 5.95Lower limit of resistance  $R_{lower}$  [ $m^2 K/W$ ] = 5.95Total resistance of element  $R_T$  [ $m^2 K/W$ ] = 5.95Basic U-value of element  $U_{basic}$  [ $W/m^2 K$ ] = 0.17Correction for air voids  $\Delta U_g$  [ $W/m^2 K$ ] = 0.000Correction for fasteners  $\Delta U_f$  [ $W/m^2 K$ ] = 0.000Total corrections  $\Delta U_g + \Delta U_f$  [ $W/m^2 K$ ] = < 3%

Total element thickness [mm] = 223

## RESULTS

Final U-value of element  $U_{final}$  [ $W/m^2 K$ ] = 0.17Minimum mass of element [ $kg/m^2$ ] = 51

Internal surface, $R_{si}$ [ $m^2 K/W$ ] = 0.13			
Layer 1	Material type:	continuous material	Thickness [mm] = 15 Air: Fixings:
	Material:	timber (softwood)	Ther. conductivity K = 0.130
	N/A		Thermal resistance R = 0.115
Layer 2	Material type:	airspace	Thickness [mm] = 25 Air: Fixings:
	Material:	unventilated air layer ( <=300mm)	Ther. conductivity K =
	N/A		Thermal resistance R = 0.185
Layer 3	Material type:	continuous material	Thickness [mm] = 18 Air: Fixings:
	Material:	plywood	Ther. conductivity K = 0.130
	N/A		Thermal resistance R = 0.138
Layer 4	Material type:	airspace	Thickness [mm] = 25 Air: Fixings:
	Material:	unventilated air layer ( <=300mm)	Ther. conductivity K =
	N/A		Thermal resistance R = 0.185
Layer 5	Material type:	continuous insulation	Thickness [mm] = 50 Air: Fixings:
	Manufacturer:	TYPE: Kingspan products	Ther. conductivity K = 0.020
	Product:	Kooltherm K8 cavity board (foil faced) ( >=45mm)	Thermal resistance R = 2.500
Layer 6	Material type:	continuous insulation	Thickness [mm] = 50 Air: Fixings:
	Material:	TYPE: Kingspan products	Ther. conductivity K = 0.020
	N/A	Kooltherm K8 cavity board (foil faced) ( >=45mm)	Thermal resistance R = 2.500
Layer 7	Material type:	airspace	Thickness [mm] = 25 Air: Fixings:
	Material:	plasterboard	Ther. conductivity K = 0.250
	N/A		Thermal resistance R = 0.100
Layer 8	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, $R_{se}$ [ $m^2 K/W$ ] = 0.04			