TYPICAL U-VALUES

FOR PARTIALLY FILLED MASONRY CAVITIES – NEW– USING ROCKSILK® RAINSCREEN SLAB
(BRICK OUTER LEAF / CAVITY /TIMBER FRAME INNER LEAF AS DETAILED BELOW)

	U-value (W/m²K)	
	102.5mm Brick outer leaf or 100mm Dense block and render	
	FrameTherm® Roll / Slab 32	
Rocksilk® RainScreen Slab (mm)	90mm	140mm
250	0.10	0.09
210	0.11	0.10
200	0.11	0.10
180	0.12	0.11
150	0.14	0.12
120	0.16	0.13
100	0.17	0.14
75	0.20	0.16
50	0.23	0.18

Note: Default timber fraction BR443:2019. Timber studs fully filled with FrameTherm® Roll or Slab 32 (0.032W/mK). 9mm sheathing and 2x15mm Standard wallboard internal finish. Rocksilk® Rainscreen Slab (0.034W/mK) installed with 50mm residual cavity using ACS 25/15 Framefix restraint system secured with stainless steel fixings.

The above values are for guidance only, please contact our Technical Support Team direct for specific values.

TYPICAL U-VALUES

FOR PARTIALLY FILLED MASONRY CAVITIES – NEW– USING ROCKSILK® RAINSCREEN SLAB
(BRICK OUTER LEAF / CAVITY / TIMBER FRAME INNER LEAF AS DETAILED BELOW)

	U-value (W/m²K)				
	102.5mm Brick outer leaf or 100mm Dense block and render				
	OmniFit® Slab 35				
Rocksilk® RainScreen Slab (mm)	90mm	100mm	140mm	150mm	200mm
250	0.10	0.10	0.09	0.09	0.08
210	0.11	0.11	0.10	0.10	0.09
200	0.12	0.11	0.10	0.10	0.09
180	0.12	0.12	0.11	0.11	0.10
150	0.14	0.14	0.12	0.12	0.10
120	0.16	0.15	0.14	0.13	0.12
100	0.18	0.17	0.15	0.14	0.13
75	0.20	0.19	0.17	0.16	0.14
50	0.24	0.23	0.19	0.18	0.15

Note: Default timber fraction BR443:2019. Timber studs fully filled with OmniFit® Slab 35 (0.035W/mK). 9mm sheathing and 2x15mm Standard wallboard internal finish. Rocksilk® Rainscreen Slab (0.034W/mK) installed with 50mm residual cavity using ACS 25/15 Framefix restraint system secured with stainless steel fixings.

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For any U-value calculations for alternative construction build-ups, please contact our Technical Support Team on 01744 766 666 or visit our online tool at knaufinsulation.co.uk/uvalue-calculator

For written U-value calculations, please email details of your full construction build-up to technical.uk@knaufinsulation.com and we will respond accordingly to meet your requirements.

TYPICAL U-VALUES

USING FRAMETHERM® ROLLS BETWEEN TIMBER FRAMED WALLS WITH A LOW E SERVICE VOID AND CAVITY

		U-value (W/m^2K)	
Stud thickness (mm)	**Product used**	**Masonry outer leaf** (Cavity Unventilated)	**Tile / timber clad outer leaf** (Cavity Ventilated)
140	FrameTherm® Roll 32	0.19	0.22
140	FrameTherm® Roll 35	0.20	0.23
140	FrameTherm® Roll 40	0.21	0.25
90	FrameTherm® Roll 32	0.25	0.30
90	FrameTherm® Roll 35	0.26	0.31
90	FrameTherm® Roll 40	0.27	0.33

Notes: Timber bridging is assumed as 15% and the stud depth is taken to be the same as the thickness of insulation specified. Thermal conductivity of timber studs is 0.12W/mK. Ventilated low emissivity airspace assumed to increase the R-value of the cavity to 0.29m^2K/W and unventilated low emissivity airspace assumed to increase R-value of cavity to 0.77m^2K/W. Knauf Insulated Plasterboard comprises 9.5mm plasterboard facing at 0.19W/mK where the remainder of the thickness is insulation with thermal conductivity of 0.023W/mK.

Please refer to specific national building regulations with respect to reaction to fire when selecting materials for use in external walls of buildings, restrictions apply to building of certain heights.

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TYPICAL U-VALUES

USING SUPAFIL® FRAME BETWEEN TIMBER STUDS

		U-value (W/m²K)	
Stud thickness (mm)	Vapour permeable membrane	Standard clay brick outer leaf (0.77W/mK)	Tile / timber clad outer leaf
200	Standard	0.20	0.22
140	Standard	0.27	0.29
200	Low E	0.17	0.21
140	Low E	0.23	0.28

Low E membrane used in the above calculations = Protect TF200 Thermo. U-values calculated assuming Supafil Frame installed density of 30kg/m³ and having thermal conductivity of 0.033W/mK.

SUPAFIL® FRAME CONDUCTIVITY

THE THERMAL CONDUCTIVITY OF SUPAFIL® FRAME IS DEPENDENT ON APPLICATION AND INSTALLED DENSITY.

Application	**Angle range** (°)	**Installed density** (kg/m³)	**Thermal conductivity** (W/mK)
Enclosed rafter spaces and timber frame stud walls	0–90	30.0	0.033
	0–90	26.0	0.034
	0–90	23.0	0.036
Enclosed rafter spaces	0–25	19.0	0.038

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