

U-VALUE CALCULATOR REPORT

ATSPACE

DELIVERING BEYOND COMPLIANCE

Property Reference	Q-03466 APT.01	Issued on Date	08/04/2022
Assessment Reference	P.V. Revision	Prop Type Ref	New Build
Project	The Star, Uxbridge Road, Uxbridge, UB10 0LY		
Calculation Type	New Build (As Designed)		

SAP Rating	77 C	DER	30.48	TER	31.61
Environmental	80 C	% DER<TER	3.57		
CO ₂ Emissions (t/year)	1.28	DFEE	45.86	TFEE	56.44
General Requirements Compliance	Pass	% DFEE<TFEE	18.76		

Assessor Details	Mr. Paul Whiffin, Paul Whiffin, Tel: 01763 268685, pw@atspaceltd.co.uk	Assessor ID	y314-0001
Client	Harjeet Suri, 33244		

Building Elements

Wall 000001 - Masonry solid wall

Wall Type: Standard Wall

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	Brick, outer leaf				
	Main construction	102	0.7700	0.1325	82.81
	Main construction	102	0.9407	0.1084	17.19
Layer 2	Earthwool Dritherm 32 Ultimate				
	Main construction	100	0.0320	3.1250	100.00
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 3	Thermalite Shield				
	Main construction	100	0.1500	0.6667	93.43
	Main construction	100	0.8803	0.1136	6.57
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 4	airspace/plaster dabs				
	Main construction	15	0.0882	0.1700	80.00
	Main construction	15	0.0882	0.1700	20.00
	Corrections - Cavity Unventilated, Emissivity: Normal				
Layer 5	Plasterboard, standard				
	Main construction	12.5	0.2100	0.0595	100.00
Layer 6	Skim				
	Main construction	3	0.4000	0.0075	100.00
Int surface				0.1300	

Total resistance:	Upper limit = 4.286 m ² K/W	Lower limit = 4.165 m ² K/W	Average = 4.225 m ² K/W
	Total correction = 0.0056 m ² K/W	U-value (unrounded) = 0.24 W/m ² K	

Unheated space: None

Total thickness: 333 mm

U-value: 0.24 W/m² K

Kappa: n/a

U-VALUE CALCULATOR REPORT

Property Reference	Q-03466 APT.01	Issued on Date	08/04/2022
Assessment Reference	P.V. Revision	Prop Type Ref	New Build
Project	The Star, Uxbridge Road, Uxbridge, UB10 0LY		
Calculation Type	New Build (As Designed)		

SAP Rating	77 C	DER	30.48	TER	31.61
Environmental	80 C	% DER<TER	3.57		
CO ₂ Emissions (t/year)	1.28	DFEE	45.86	TFEE	56.44
General Requirements Compliance	Pass	% DFEE<TFEE	18.76		

Assessor Details	Mr. Paul Whiffin, Paul Whiffin, Tel: 01763 268685, pw@atspaceltd.co.uk	Assessor ID	y314-0001
Client	Harjeet Suri, 33244		

Building Elements

Floor 000002

Floor Type: Exposed Floor

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	Plasterboard				
	Main construction	12.5	0.2100	0.0595	100.00
Layer 2	Skim				
	Main construction	3	0.4000	0.0075	100.00
Layer 3	ROCKWOOL THERMAL ROCKFLOOR				
	Main construction	100	0.0380	2.6316	82.50
	Main construction	100	0.8800	0.1136	17.50
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 4	Pre-cast Concrete Slabs				
	Main construction	50	0.2247	0.2225	82.50
	Main construction	50	0.8800	0.0568	17.50
	Corrections - Cavity Unventilated, Emissivity: Normal				
Layer 5	Screed				
	Main construction	65	1.1500	0.0565	100.00
Int surface				0.1700	

Total resistance:	Upper limit = 1.860 m ² K/W	Lower limit = 1.020 m ² K/W	Average = 1.440 m ² K/W
	Total correction = 0.0014 m ² K/W	U-value (unrounded) = 0.35 W/m ² K	

Unheated space: CommercialPremises

Total thickness: 231 mm

U-value: 0.35 W/m² K

Kappa: n/a

U-VALUE CALCULATOR REPORT

Property Reference	Q-03466 H.01	Issued on Date	08/04/2022
Assessment Reference	Design V1	Prop Type Ref	New Build
Project	The Star, Uxbridge Road, Uxbridge, UB10 0LY		
Calculation Type	New Build (As Designed)		

SAP Rating	77 C	DER	23.29	TER	23.65
Environmental	80 C	% DER<TER	1.50		
CO ₂ Emissions (t/year)	2.38	DFEE	42.13	TFEE	54.81
General Requirements Compliance	Pass	% DFEE<TFEE	23.15		

Assessor Details	Mr. Paul Whiffin, Paul Whiffin, Tel: 01763 268685, pw@atspaceltd.co.uk	Assessor ID	y314-0001
Client	Harjeet Suri, 33244		

Building Elements

Floor 000005 - floor - slab-on-ground floor

Floor Type: Slab On Ground Floor

Area = 49.86 m², Perimeter = 21.84 m, Wall thickness = 300.00 mm, Soil: Clay

Horizontal edge insulation: none

Vertical edge insulation: Width D = 1000.0 mm, Thickness dn = 25.0 mm, Lambda = 0.022

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	Concrete, reinforced (2% steel)				
	Main construction	100	2.5000	0.0400	100.00
Layer 2	1200g Visqueen DPM				
	Main construction	1	0.0000	0.0000	100.00
Layer 3	PIR Insulation				
	Main construction	100	0.0220	4.5455	100.00
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 4	1000g VCL				
	Main construction	1	0.0000	0.0000	100.00
Layer 5	Screed				
	Main construction	70	1.1500	0.0609	100.00
Int surface				0.1700	

Total resistance:	Upper limit = 4.646 m ² K/W	Lower limit = 4.646 m ² K/W	Average = 4.646 m ² K/W
	Total correction = 0.0096 m ² K/W	U-value (unrounded) = 0.15 W/m ² K	

Unheated space: None

Total thickness: 272 mm

U-value: 0.15 W/m² K

Kappa: n/a

U-VALUE CALCULATOR REPORT

Property Reference	Q-03466 APT.10	Issued on Date	08/04/2022
Assessment Reference	P.V. Revision	Prop Type Ref	New Build
Project	The Star, Uxbridge Road, Uxbridge, UB10 0LY		
Calculation Type	New Build (As Designed)		

SAP Rating	74 C	DER	28.70	TER	28.04
Environmental	79 C	% DER<TER	-2.34		
CO ₂ Emissions (t/year)	1.79	DFEE	50.43	TFEE	56.66
General Requirements Compliance	Fail	% DFEE<TFEE	11.00		

Assessor Details	Mr. Paul Whiffin, Paul Whiffin, Tel: 01763 268685, pw@atspaceltd.co.uk	Assessor ID	y314-0001
Client	Harjeet Suri, 33244		

Building Elements

Roof 000003 - Flat roof insulation between timber joists

Roof Type: Flat Roof standard (no precipitation)

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	Felt				
	Main construction	6	0.0300	0.2000	100.00
Layer 2	Timber decking				
	Main construction	22	0.1300	0.1692	100.00
Layer 3	Thermarroof TR27 (120mm +)				
	Main construction	130	0.0240	5.4167	100.00
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 4	Timber decking				
	Main construction	22	0.1300	0.1692	100.00
Layer 5	Joists				
	Main construction	200	1.2500	0.1600	88.25
	Main construction	200	0.1300	1.5385	11.75
	Corrections - Cavity Unventilated, Emissivity: Normal				
Layer 6	Plasterboard				
	Main construction	12.5	0.2100	0.0595	100.00
Layer 7	Skim				
	Main construction	3	0.4000	0.0075	100.00
Int surface				0.1000	

Total resistance: Upper limit = 6.458 m² K/W Lower limit = 6.341 m² K/W Average = 6.399 m² K/W
Total correction = 0.0072 m² K/W U-value (unrounded) = 0.16 W/m² K

Unheated space: None

Total thickness: 396 mm

U-value: 0.16 W/m² K

Kappa: n/a

U-VALUE CALCULATOR REPORT

Property Reference	Q-03466 APT.10	Issued on Date	08/04/2022
Assessment Reference	P.V. Revision	Prop Type Ref	New Build
Project	The Star, Uxbridge Road, Uxbridge, UB10 0LY		
Calculation Type	New Build (As Designed)		

SAP Rating	74 C	DER	28.70	TER	28.04
Environmental	79 C	% DER<TER	-2.34		
CO ₂ Emissions (t/year)	1.79	DFEE	50.43	TFEE	56.66
General Requirements Compliance	Fail	% DFEE<TFEE	11.00		

Assessor Details	Mr. Paul Whiffin, Paul Whiffin, Tel: 01763 268685, pw@atspaceltd.co.uk	Assessor ID	y314-0001
Client	Harjeet Suri, 33244		

Building Elements

Wall 000004 - Timber framed insulation between studs

Wall Type: Standard Wall

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	Prefab timber frame panels				
	Main construction	10	0.1200	0.0833	100.00
Layer 2	Counter batten				
	Main construction	25	0.1389	0.1800	95.83
	Main construction	25	0.1300	0.1923	4.17
	Corrections - Cavity Unventilated, Emissivity: Normal				
Layer 3	Orientated Strand Board				
	Main construction	9	0.1300	0.0692	100.00
Layer 4	Kooltherm K12 Frame board (45mm +)				
	Main construction	120	0.0200	6.0000	85.00
	Main construction	120	0.1300	0.9231	15.00
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 5	Breather membrane				
	Main construction	1	0.0000	0.0000	100.00
Layer 6	Thermaline Basic (40mm)				
	Main construction	40	0.0500	0.8000	100.00
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 7	Plasterboard				
	Main construction	12.5	0.2100	0.0595	100.00
Layer 8	Skim				
	Main construction	3	0.4000	0.0075	100.00
Int surface				0.1300	

Total resistance:	Upper limit = 5.533 m ² K/W	Lower limit = 4.658 m ² K/W	Average = 5.095 m ² K/W
	Total correction = 0.0044 m ² K/W	U-value (unrounded) = 0.2 W/m ² K	

Unheated space: None

Total thickness: 221 mm

U-value: 0.20 W/m² K

Kappa: n/a