



SAP Report Submission for Building Regulations Compliance

- Client: Vivid Design Studio
- Project: Former Odeon, Plot 8, 92-96 London Road North End, Portsmouth, Hampshire, PO2 0LZ
- Contact: Mark Rogers Surecalc Limited mark@surecalc.co.uk

Report Issue Date: 16/05/2023

EXCELLENCE IN ENERGY ASSESSMENT

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Tue 16 May 2023 08:45:13

Project Information									
Assessed By	Mark Rogers	Building Type	House, End-terrace						
OCDEA Registration	EES/004179	Assessment Date	2023-05-16						

Dwelling Details								
Assessment Type	As designed	Total Floor Area	111 m ²					
Site Reference	sc100091 P8 Former Odeon	Plot Reference	001					
Address	Plot 6 Former Odeon 92-96 Lc	ot 6 Former Odeon 92-96 London Road, Portsmouth, PO2 0LZ						

Client Details	
Name	Philip Dudley
Company	Vivid Design Studio
Address	NA, NA, NA

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate		
Fuel for main heating system	Electricity	
Target carbon dioxide emission rate	9.94 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	4.11 kgCO ₂ /m ²	OK
1b Target primary energy rate and dwelling primary energy	ly	
Target primary energy	51.9 kWh _{PE} /m ²	
Dwelling primary energy	43.12 kWh _{PE} /m ²	OK
1c Target fabric energy efficiency and dwelling fabric ene		
Target fabric energy efficiency	33.2 kWh/m ²	
Dwelling fabric energy efficiency	32.6 kWh/m ²	OK

2a Fabric U-values									
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value						
External walls	0.26	0.22	Walls (1) (0.22)	OK					
Party walls	0.2	0	Party Wall (1) (0)	N/A					
Curtain walls	1.6	0	N/A	N/A					
Floors	0.18	0.1	Ground Floor (0.1)	OK					
Roofs	0.16	0.12	Roof (2) (0.13)	OK					
Windows, doors,	1.6	1.2	Front South Door (1.2)	OK					
and roof windows									
Rooflights	2.2	N/A	N/A	N/A					

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))								
Name	Net area [m ²]	U-Value [W/m ² K]						
Exposed wall: Walls (1)	102.79	0.22						
Exposed wall: Walls (2)	5.16	0.18						
Exposed wall: Walls (3)	1.7	0.21						
Party wall: Party Wall (1)	70.77	0 (!)						
Ground floor: Ground Floor, Ground Floor	34.96	0.1 (!)						
Exposed roof: Roof (1)	12.15	0.09 (!)						
Exposed roof: Roof (2)	30.19	0.13						
Exposed roof: Roof (3)	6	0.12						

2c Openings (better than typically expected values are flagged with a subsequent (!))									
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]					
Front South Door, New Dwelling DG	2.06	South	N/A	1.2					
Door									
Front South Windows, New Dwelling	3.18	South	0.7	1.2					
DG Window									
Rear West Windows, New Dwelling DG	7.42	West	0.7	1.2					
Window									
Rear West Window, New Dwelling DG	1.38	West	0.7	1.2					
Window									

	main Dwoning. Thormai bridging of	alculated from linear thermal transmit		
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.05	IG or Keystone Hi Therm + Lin
External wall	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.061	AutoPSI Detail
External wall	E3: Sill	Calculated by person with suitable expertise	0.032 (!)	LABC Construction Detail
External wall	E3: Sill	Calculated by person with suitable expertise	0.046	AutoPSI Detail
External wall	E4: Jamb	Calculated by person with suitable expertise	0.034 (!)	LABC Construction Detail
External wall	E4: Jamb	Calculated by person with suitable expertise	0.062	AutoPSI Detail
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.062	LABC Construction Detail
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.002 (!)	LABC Construction Detail
External wall	E11: Eaves (insulation at rafter level)	Calculated by person with suitable expertise	0.007 (!)	LABC Construction Detail
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.058	LABC Construction Detail
External wall	E13: Gable (insulation at rafter level)	Calculated by person with suitable expertise	0.057	LABC Construction Detail
External wall	E14: Flat roof	SAP table default	0.16	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.053	LABC Construction Detail
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.096	LABC Construction Detail
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.044	LABC Construction Detail
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.06	AutoPSI Detail
Party wall	P2: Intermediate floor within a dwelling	SAP table default	0 (!)	
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.043	LABC Construction Detail
Party wall	P5: Roof (insulation at rafter level)	Calculated by person with suitable expertise	0.043	LABC Construction Detail
Roof	R6: Flat ceiling	SAP table default	0.12	
Roof	R7: Flat ceiling (inverted)	SAP table default	0.12	
Roof	R9: Roof to wall (flat ceiling)	SAP table default	0.32	
		values are flagged with a subsequ	uent (!))	
	itted air permeability at 50Pa	$8 m^3/hm^2$		
	meability at 50Pa	4 m ³ /hm ² , Design value		

4 Space heating		
Main heating system 1: Heat pump wi	th radiators or underfloor heating - Elect	tricity
Efficiency	233.7%	-
Emitter type	Radiators	
Flow temperature	55°C	
System type	Heat Pump	
Manufacturer	Daikin Europe NV	
Model	EDLA04EV3	
Commissioning		
Secondary heating system: N/A		
Fuel	N/A	
Efficiency	N/A	
Commissioning		
5 Hot water		
Cylinder/store - type: Cylinder		
Capacity	180 litres	
Declared heat loss	1.2 kWh/day	
Primary pipework insulated	Yes	
Manufacturer		
Model		
Commissioning		
Waste water heat recovery system 1	- type: N/A	
Efficiency		
Manufacturer		
Model		
6 Controls		
Main heating 1 - type: Time and tempe	rature zone control by arrangement of r	olumbing and electrical services
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: Cylinder thermos	tat and HW separately timed	
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy		
Lowest light source efficacy	120 lm/W N/A	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Decentralised mechanica		
Maximum permitted specific fan power	0.7 W/(l/s)	
Specific fan power	0.14 W/(I/s)	OK
Minimum permitted heat recovery	N/A	
efficiency		
Heat recovery efficiency	N/A	N/A
Manufacturer/Model	Unity CV3	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence	9	
N/A		
L		

12 Declarations	
a. Assessor Declaration	
This declaration by the assessor is confirmation that the co are a true and accurate reflection based upon the design ir the purpose of carrying out the "As designed" assessment, evidence (SAP Conventions, Appendix 1 (documentary evid documentary evidence required) has been reviewed in the Compliance Report.	nformation submitted for this dwelling for , and that the supporting documentary idence) schedules the minimum
Signed: Name:	Assessor ID: Date:
b. Client Declaration	
N/A	

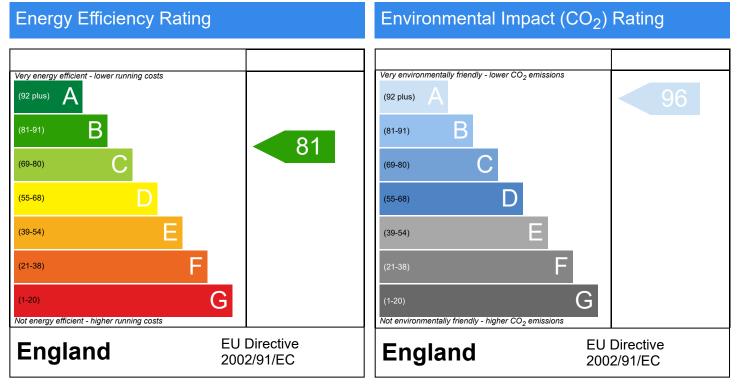


Former Odeon, Plot 6 , 92-96 London Road, Portsmouth, Dwelling type: Hampshire, PO2 0LZ Date of assess

Dwelling type: Date of assessment: Produced by: Total floor area: DRRN: House, End-Terrace 16/05/2023 Mark Rogers 110.6 m² 8052-5556-7973

This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

The energy performance has been assessed using the Government approved SAP 10 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO2) emissions.



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be. The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO_2) emissions. The higher the rating the less impact it has on the environment.



Property Reference	sc	10009	1 P8 Foi	rmer Ode	eon					Issue	l on Da	te	16/05/	2023	
Assessment Reference	e 00	1					Prop Type Ref New					New Dwelling Part L 2021			
Property	Fo	ormer (Odeon, F	Plot 6 , 92	2-96 London Road, Po	rtsmouth,	Hamps	shire, PC	02 0LZ						
SAP Rating					81 B	DER		4.11			TER		9.9		
Environmental					96 A	% DER	< TFR	4.11					58.		
CO ₂ Emissions (t/year)					90 A 0.39	DFEE		32.5	.7		TFEE		33.		
Compliance Check						% DFEE			07		IFEE				
% DPER < TPER					See BREL	DPER		_	0		TPER		2.0		
/ DFER TFER					16.93	DFLK		43.1	Ζ		IFER		51.	90	
Assessor Details	Mr. Ma	rk Rog	jers								Assess	or ID	A32	20-0001	
Client	Vivid D	esign	Studio, F	Philip Du	dley										
SUMMARY FOR INP	UT DATA I	FOR:	New B	Build (A	s Designed)										
Orientation					South										
Property Tenture					ND										
Transaction Type					6										
Terrain Type					Suburban										
1.0 Property Type					House, End-Terrace										
2.0 Number of Storeys					3										
3.0 Date Built					2023										
4.0 Sheltered Sides					2										
5.0 Sunlight/Shade					Average or unknown										
6.0 Thermal Mass Param	eter				Precise calculation										
7.0 Electricity Tariff					Standard										
Smart electricity meter	fitted				No										
Smart gas meter fitted					No										
7.0 Measurements					L										
					Ground floo		Loss P 20.22	erimete m	r Int	ernal Flo 43.80		1 A 1		Storey He 2.39 m	eight
										43.80					
					1st Store 2nd Store		20.22 16.28			23.00			2	2.76 m 2.45 m	
8.0 Living Area					1st Store 2nd Store					23.00	m²		2		
					1st Store					23.00			2		
	Туре		Constructi	ion	1st Store 2nd Store	/: U-Value	16.28 Карра	m Gross	Nett Area	23.00 n	m²	ər O	2	2.45 m Area Calcu	
9.0 External Walls	Type Cavity Wall	C	Cavity wall; ightweight	; plasterboa aggregate	1st Store 2nd Store	/: U-Value	16.28 Карра	m		23.00	m² 1²		2	2.45 m	
External Wall Dormer	Cavity Wall Timber Frame	C li e C	Cavity wall; ightweight outside stru Other	; plasterboa aggregate ucture	1st Store 2nd Store 19.95 ard on dabs or battens, block, filled cavity, any	U-Value (W/m²K) 0.22 0.18	16.28 Kappa (kJ/m²K) 110.00 0.00	m Gross Area(m²) 115.45 6.54	(m²) 102.79 5.16	23.00 n Shelter Res 0.00 0.00	m² 1² Shelte None None	•	2 2 2 0penings 12.66 1.38	2.45 m Area Calco Type Enter Gros Enter Gros	s Area s Area
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9.0 External Walls Description External Wall Dormer	Cavity Wall Timber Frame	C li a C C li	Cavity wall; ightweight outside stru Other Cavity wall; ightweight outside stru	; plasterboa aggregate ucture ; plasterboa aggregate	1st Store 2nd Store 19.95 ard on dabs or battens, block, filled cavity, any ard on dabs or battens, block, filled cavity, any	U-Value (W/m²K) 0.22 0.18	16.28 Kappa (kJ/m²K) 110.00 0.00	Gross Area(m²) 115.45 6.54 1.70	(m²) 102.79 5.16 1.70 U-Value	23.00 n Shelter Res 0.00 0.00 0.00 Kappa	m ² 1 ² Shelta None None	She	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2.45 m Area Calco Type Enter Gros Enter Gros	s Area s Area s Area
9.0 External Walls Description External Wall Dormer External Clad Wall 9.1 Party Walls	Cavity Wall Timber Frame Cavity Wall	Cavity	Cavity wall; ightweight outside stru Cavity wall; ightweight outside stru C with S	; plasterboa aggregate ucture ; plasterboa aggregate ucture	1st Store 2nd Store 19.95 ard on dabs or battens, block, filled cavity, any ard on dabs or battens, block, filled cavity, any tion sterboard on dabs on	U-Value (W/m*K) 0.22 0.18 0.21	16.28 Kappa (kJ/m²k) 110.00 0.00 110.00	Gross Area(m²) 115.45 6.54 1.70	(m²) 102.79 5.16 1.70 U-Value (W/m²K)	23.00 n Shelter Res 0.00 0.00 0.00 Kappa	m ² 1 ² Shelta None None	s She Re	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Area Calco Type Enter Gros Enter Gros Enter Gros	s Area s Area s Area
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9.0 External Walls Description External Wall Dormer External Clad Wall 9.1 Party Walls Description Party Wall 9.2 Internal Walls Description Internal Stud Walls	Cavity Wall Timber Frame Cavity Wall Type Filled	Cavity	Cavity wall; ightweight outside stru Dther Zavity wall; ightweight putside stru C with S g ca Co Pla	; plasterboa aggregate ucture ; plasterboa aggregate ucture construction ingle plas avity or c	1st Store 2nd Store 19.95 ard on dabs or battens, block, filled cavity, any ard on dabs or battens, block, filled cavity, any tion sterboard on dabs on avity fill	U-Value (W/m*K) 0.22 0.18 0.21	16.28 Kappa (kJ/m ² K) 110.00 0.00 110.00	m Gross Area(m²) 115.45 6.54 1.70	(m²) 102.79 5.16 1.70 U-Value (W/m²K) 0.00	23.00	m² Shelter None None Area (m²) 70.77	She Re	2222 ppenings 12.66 1.38 0.00 Iter ss Kapj (kJ/m 9.00 r Calcul	2.45 m Area Calcu Type Enter Gros Enter Gros Enter Gros Shelten None pa Area ² K) 0 163 lationOpe	s Area s Area s Area r (m ²)
9.0 External Walls Description External Wall Dormer External Clad Wall 9.1 Party Walls Description Party Wall 9.2 Internal Walls Description Internal Stud Walls 10.0 External Roofs	Cavity Wall Timber Frame Cavity Wall Type Filled Edge S	Cavity Sealing	Cavity wall; ightweight Jutside stru- Dther Cavity wall; ightweight Jutside stru- C with S g ca Co Pla Const	; plasterboa aggregate ucture ; plasterboa aggregate ucture onstructi ingle plas avity or c instruction	1st Store 2nd Store 19.95 ard on dabs or battens, block, filled cavity, any ard on dabs or battens, block, filled cavity, any tion sterboard on dabs on avity fill	U-Value (W/m ² K) 0.22 0.18 0.21	16.28 Kappa (kJ/m ² K) 110.00 0.00 110.00	m Gross Area(m²) 115.45 6.54 1.70	(m²) 102.79 5.16 1.70 U-Value (W/m²K) 0.00	23.00 n Shelter Res 0.00 0.00 (kappa (kJ/m²K) 70.00 Nett S	m² Shelter None None Area (m²) 70.77	She Re Shelter	2222 222 222 222 223 223 223 223	2.45 m Area Calcu Type Enter Gros Enter Gros Enter Gros Shelten None pa Area 2 [*] K) 0 163 lationOpe pe Gross 0	s Area s Area s Area r (m ²)
9.0 External Walls Description External Wall Dormer External Clad Wall 9.1 Party Walls Description Party Wall 9.2 Internal Walls Description Internal Stud Walls 10.0 External Roofs Description	Cavity Wall Timber Frame Cavity Wall Type Filled Edge S	Cavity Sealing	Cavity wall; ightweight outside stru- Dther Zavity wall; ightweight putside stru- C with S g ca Co Pla Const Plaste	; plasterboa aggregate ucture ; plasterboa aggregate ucture onstruction ingle plas avity or c instruction asterboar truction	1st Store 2nd Store 19.95 ard on dabs or battens, block, filled cavity, any ard on dabs or battens, block, filled cavity, any tion sterboard on dabs on avity fill on d on timber frame	U-Value (W/m²K) 0.22 0.18 0.21 0.21	Kappa (kJ/m²K) 110.00 0.00 110.00 s, dense	m Gross Area(m ²) 115.45 6.54 1.70 e blocks,	(m ²) 102.79 5.16 1.70 (W/m ² K) 0.00 Gross Area(m ²)	23.00 n Shelter Res 0.00 0.00 0.00 Kappa (kJ/m²K) 70.00 Nett S Area (m²)	m² Shelter None None Area (m²) 70.77	She Re Shelter Factor	222 22 22 12.66 1.38 0.00 1ter 25 (kJ/m 9.00 (kJ/m 9.00 7 Calcul Ty	2.45 m Area Calcu Type Enter Gros Enter Gros Enter Gros Shelter None pa Area Pa Area Pa Area Pa Area Pa Area Pa Gross 0 ea Gross 0	s Area s Area s Area r t (m²) 5.04 ning



10.2 Internal Ceilings Description Ground Floor Ceiling First Floor Ceiling	L	Storey ₋owest occuµ ⊦1	bied	Construction Plasterboard ceiling, o Plasterboard ceiling, o							34	a (m²) I.96 5.97
11.0 Heat Loss Floors	_											
Description	Type	Storey Index		Construction		U-Val (W/m ²	K)	Shelter Code	F	helter	(kJ/m ²	
Ground Floor	Ground Floor - Solid	1 Lowest occup	lea	Suspended concrete floor, ca	arpeled	0.10		None		0.00	75.00	34.96
11.2 Internal Floors Description		Storey	Con	struction						K	anna	Area (m ²
First Floor Second Floor		Index	Plas	terboard ceiling, carpete terboard ceiling, carpete						(kJ	/ m²K) 0.00	43.80 43.80
12.0 Opening Types												
Description	Data Source	Туре		Glazing		Glazing Gap	Filling Type	G-value	Frame Type		ame	U Value (W/m²K)
New Dwelling DG Door New Dwelling DG Windov	Manufacturer v Manufacturer	Half Glaze Window	d Do	or Double Low-E So Double Low-E So		Gap	Type	0.71 0.71	туре	C	0.70 0.70	1.20 1.20
13.0 Openings												
Name Front South Door Front South Windows Rear West Windows Rear West Window	New Dwellir	ng DG Door ng DG Windo ng DG Windo	w	Location External Wall External Wall External Wall		Orienta Sou Sou Wes Wes	th th st	Area 2.0 3.7)6 18 12		Pit	ch
Real West Window		ng DG Windo	w	Dormer		We	51	1.:	00			
14.0 Conservatory				None								
15.0 Draught Proofing				100				%				
16.0 Draught Lobby				No								
17.0 Thermal Bridging 17.1 List of Bridges				Calculate Bridges								
Bridge Type				rce Туре	Length	Psi	Adjuste	d Reference):			Imported
E2 Other lintels (including E2 Other lintels (including				pendently assessed pendently assessed	8.10 1.14	0.05 0.06	0.05 0.06	IG or Keys AutoPSI D		herm	+ Lint	No No
E3 Sill			Inde	pendently assessed	7.15	0.03	0.03	LABC Cor	struction	Detail		No
E3 Sill E4 Jamb				pendently assessed pendently assessed	1.14 17.40	0.05 0.03	0.05 0.03	AutoPSI D LABC Cor		Detail		No No
E4 Jamb E5 Ground floor (normal)				pendently assessed pendently assessed	2.40 10.44	0.06 0.06	0.06 0.06	AutoPSI D		Detail		No No
E6 Intermediate floor with				pendently assessed	15.62	0.00	0.00	LABC Cor	struction	Detail		No
E11 Eaves (insulation at r E12 Gable (insulation at c				pendently assessed pendently assessed	9.00 3.00	0.01 0.06	0.01 0.06	LABC Cor LABC Cor				No No
E12 Gable (insulation at r				pendently assessed	9.00	0.06	0.06	LABC Cor				No
E14 Flat roof	,			e K1 - Default	3.00	0.16	0.16			D - 4 - 11		No
E16 Corner (normal) E17 Corner (inverted – in	ternal area grea	ter than		pendently assessed pendently assessed	12.69 2.39	0.05 -0.10	0.05 -0.10	LABC Cor LABC Cor				No No
external area)	Ū											
E18 Party wall between d P1 Party wall - Ground flo				pendently assessed pendently assessed	10.30 10.32	0.04 0.06	0.04 0.06	LABC Cor AutoPSI D		Detail		No No
P2 Party wall - Intermedia	ate floor within a		Tabl	e K1 - Default	10.32	0.00	0.00					No
P4 Party wall - Roof (insu P5 Party wall - Roof (insu				pendently assessed	3.00 9.00	0.04 0.04	0.04 0.04	LABC Cor LABC Cor				No No
R6 Flat ceiling		ivel)		e K1 - Default	6.77	0.04	0.04	LADC CO	ISUUCION	Detail		No
R7 Flat ceiling (inverted) R9 Roof to wall (flat ceilin	a)			e K1 - Default e K1 - Default	1.36 1.36	0.12 0.32	0.12 0.32					No No
Y-value	57			0.00				W/m²K				
18.0 Pressure Testing				Yes								
Designed AP ₅₀				4.00				 	n²) @ 50 I	Da		
Test Method				Blower Door						u		
19.0 Mechanical Ventilation Mechanical Ventilation												
Mechanical Ventilation	ion System Pres	ent		Yes								
Approved Installatio	•			No				=				
Mechanical Ventilat				Database				=				
Type	on data Type			Mechanical extract vent	ilation - decent	ralised		=				
MV Reference Num	hor			500769		anseu		=				
	DGI			000100								
Configuration				1								



Wet Rooms			0						
19.1 Mechanical extra	ct ventilation - Dece	ontralised							
SFP	Fan/Room Type	Count							
0.15 0.11	In Room Fan Kitchen In Room Fan Other	0							
	Wet Room In Duct Fan Kitcher								
0.00 0.00	In Duct Fan Other								
0.11	Wet Room Through Wall Fan	1							
0.09	Kitchen Through Wall Fan Other Wet Room	0							
20.0 Fans, Open Firep									
21.0 Fixed Cooling Sy	stem		No						
22.0 Lighting									
No Fixed Lighting			No	_ ~			-		•
		L	Name Low energy Lighting	Efficacy 120.00	Power 5			acity 00	Count 36
24.0 Main Heating 1			Database						
Description			Air Source Heat Pu	Imp					
Percentage of Heat			100.00				%		
Database Ref. No.			106465						
Fuel Type			Electricity						
In Winter			0.00						
In Summer			0.00						
Model Name			EDLA04EV3						
Manufacturer			Daikin Europe NV						
System Type			Heat Pump						
Controls SAP Code			2207						
PCDF Controls			0						
Is MHS Pumped			Pump in heated sp	ace					
Heating Pump Age			2013 or later						
Heat Emitter			Radiators						
Flow Temperature	<i>,</i> ,		Enter value						
Flow Temperature	/alue		55.00						
25.0 Main Heating 2			None						
26.0 Heat Networks			None						
H	eat Source Fuel	Type Heating l	Use Efficiency F	ercentage Of Heat	Heat Heat Powe	•	trical	Fuel Factor	Efficiency type
Heat source 1 Heat source 2 Heat source 3 Heat source 4 Heat source 5					Ratio				
28.0 Water Heating									
20.0 Mater ricating			Main Heating 1						
Water Heating									
Water Heating SAP Code			901						
Water Heating SAP Code Flue Gas Heat Rec			No						
Water Heating SAP Code Flue Gas Heat Rec Waste Water Heat I	Recovery Instantaneo		No No						
Water Heating SAP Code Flue Gas Heat Rec Waste Water Heat I Waste Water Heat I	Recovery Instantaneo	ous System 2	No No						
Water Heating SAP Code Flue Gas Heat Rec Waste Water Heat I Waste Water Heat I	Recovery Instantaneo	ous System 2	No No						



Cold Water Source	From mains
Bath Count	1
Immersion Only Heating Hot Water	Yes

28.1 Showers											
Description			Shower Type				Rate nin]	Rated Power [kW]	Connected	Connected To	
28.3 Waste Water H	leat Recove	ry System									
29.0 Hot Water Cyli	nder			Hot Water	Cylinder						
Cylinder Stat				Yes							
Cylinder In Heat	ed Space			Yes							
Independent Tim	e Control			Yes							
Insulation Type				Measured	Loss						
Cylinder Volume				180.00					L		
Loss				1.20					kWh/day		
Pipes insulation				Fully insula	ated primary p	pipework					
In Airing Cupboa	ird			No							
31.0 Thermal Store				None							
34.0 Small-scale Hy	/dro			None							
Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	g Sep	Oct	Nov	Dec

Recommendations

Lower cost measures None

Further measures to achieve even higher standards

Tunical Cost	Turical covings particular	Ratings af	ter improvement
Typical Cost	Typical savings per year	SAP rating	Environmental Impact
£4,000 - £6,000	£76	B 83	A 97
£3,500 - £5,500	£179	B 89	A 98
		0	0

Thermal Bridging



Property Ref	erence	sc100091 P8 Forme	r Odeon				ls	sued on Dat	e 1	6/05/2023
Assessment	Reference	001				Prop Type Re	ef End	l-Terrace Hou	lse	
Property		Former Odeon, Plot	6 , 92-96 Lond	lon Road, F	Portsmouth, H	ampshire, PO	2 0LZ			
SAP Rating			81 B		DER	4.11		TER		9.94
Environmen	tal		96 A		% DER < T	ER				58.65
CO ₂ Emissio			0.39		DFEE	32.57		TFEE		33.25
Compliance			See BRE	EL.	% DFEE <					2.04
% DPER < TI	PER		16.93		DPER	43.12		TPER		51.90
Assessor De	otails	Mr. Mark Rogers						Assesso	or ID	A320-0001
Client		Vivid Design Studio, Phili	p Dudley							
	Junction of	details		Sour	се Туре	Psi (W/mK)	Length (m)	Result		Reference
External wall	E2 Other li	ntels (including other	steel lintels)	ass	endently essed	0.050	8.10	0.41		r Keystone Hi herm + Lint
External wall	E2 Other li	intels (including other	steel lintels)	ass	endently essed	0.061	1.14	0.07		toPSI Detail
External wall	E3 Sill			ass	endently essed	0.032	7.15	0.23	LAB	C Construction Detail
External wall	E3 Sill				endently essed	0.046	1.14	0.05		toPSI Detail
External wall	E4 Jamb				endently essed	0.034	17.40	0.59	LAB	C Construction Detail
External wall	E4 Jamb				endently essed	0.062	2.40	0.15		toPSI Detail
External wall	E5 Ground	l floor (normal)			endently essed	0.062	10.44	0.65		C Construction Detail
External wall	E6 Interme	ediate floor within a dw	velling		endently essed	0.002	15.62	0.03		C Construction Detail
External wall	E11 Eaves	(insulation at rafter le	vel)		endently essed	0.007	9.00	0.06		C Construction Detail
External wall	E12 Gable	(insulation at ceiling l	evel)		endently essed	0.058	3.00	0.17		C Construction Detail
External wall	E13 Gable	(insulation at rafter le	vel)		endently essed	0.057	9.00	0.51	LAB	C Construction Detail
External wall	E14 Flat ro	oof		Table K	1 - Default	0.160	3.00	0.48		
External wall	E16 Corne			ass	endently essed	0.053	12.69	0.67		C Construction Detail
External wall	E17 Corne than exterr	er (inverted – internal a nal area)	area greater	ass	endently essed	-0.096	2.39	-0.23		C Construction Detail
External wall	E18 Party	wall between dwelling	S	ass	endently essed	0.044	10.30	0.45	LAB	C Construction Detail
Party wall		all - Ground floor			endently essed	0.060	10.32	0.62	Au	toPSI Detail
Party wall	dwelling	all - Intermediate floor			1 - Default	0.000	10.32	0.00		
Party wall	level)	all - Roof (insulation a		ass	endently essed	0.043	3.00	0.13		C Construction Detail
Party wall	P5 Party w level)	all - Roof (insulation a	at rafter		endently essed	0.043	9.00	0.39	LAB	C Construction Detail
External roof	R6 Flat cei	iling		Table K	1 - Default	0.120	6.77	0.81		
External roof	R7 Flat cei	iling (inverted)		Table K	1 - Default	0.120	1.36	0.16		
External roof	R9 Roof to	wall (flat ceiling)		Table K	1 - Default	0.320	1.36	0.44		

Total: 154.90

W/mK:

Thermal Bridging

elmhurst energy

Y-Value: 0.00

W/m²K:



Property Re	eference	sc121688				Issu	ed on Date	16/05/2023
Assessment	Reference	001			Prop Type	e Ref New	Dwelling Part L	2021
Project		Former Odeon, Plot 8, 92-	-96 London Ro	ad, North Er	nd, Portsmou	th, Hamps	hire, PO2 OLZ	
Calculation	Туре	New Build (As Designed)						
SAP Rating			87 B	DER	13	3.78 Т	ER	23.50
Environmer	ntal		88 B	% DER <te< td=""><td>R</td><td></td><td>41.35</td><td></td></te<>	R		41.35	
CO ₂ Emissio	ons (t/year)		1.27	DFEE	38	8.58 T	FEE	48.70
General Red	quirements	Compliance	Pass	% DFEE <t< td=""><td>FEE</td><td></td><td>20.77</td><td></td></t<>	FEE		20.77	
Assessor De	etails Mr.	Mark Rogers, Surecalc Lim	ited, Tel: 0124	3572695, m	ark@surecal	c.co.uk	Assessor ID	A320-0001
Client	Vivi	id Design Studio, Vivid Desi	gn Studio					
Building Ele	ement <u>s</u>							
		Roof Insulated Ceiling Vivio	d					
		f, insulated flat ceiling						
	Description			Thickness	Conductivity	Resistance	Fraction	
Layer	Description			(mm)	(W/m²K)	(m²K/W)	(%)	
Ext surface						0.0400		
Layer 1	Loft Space							
	Main const			0	0.0600	0.0600	100.00	
Layer 2		l Loft Roll 44						
	Main const			100	0.0440	2.2727	100.00	
	Corre plastic	ections - Air Gap: Level 1, Faste	ners: None or					
Layer 3	Mineral w	vool						
Layer o	Main const			250	0.0440	5.6818	100.00	
		ections - Air Gap: Level 0, Faste	ners: None or	250	0.0440	5.0010	100.00	
	plastic	, ,						
Layer 4	Mineral w	vool quilt						
	Main const	truction		150	0.0440	3.4091	91.67	
	Main const	truction		150	0.1300	1.1538	8.33	
	Corre plastic	ections - Air Gap: Level 0, Faste	ners: None or					
Layer 5	Plasterbo	ard, standard						
	Main const	truction		12.5	0.2100	0.0595	100.00	
Int surface						0.1000		
Total resistan	ce: Uppe	r limit = 11.395 m ² K/W	Lower limit	= 11.146 m ²	K/W	Average =	11.270 m² K/V	V
	Total	correction = 0.0034 m ² K/W		U-value (ι	unrounded) =	0.09 W/m ²	2 K	
Unheated s	space: Nor	ne						
Tot	al thicknes	s: 513 mm	U-value: 0.09	W/m² K	Ка	ppa: n/a		





Property Re	ference	sc121688					ed on Da		/05/2023
Assessment I	Reference	001			Prop Type	e Ref New	Dwelling P	art L 2021	
Project		Former Odeon, Plot 8, 92-	-96 London Roa	ad, North Er	nd, Portsmou	ith, Hampsl	hire, PO2	OLZ	
Calculation	Туре	New Build (As Designed)							
SAP Rating			87 B	DER	13	3.78 Т	ER		23.50
Environmer	ital		88 B	% DER <te< th=""><th>R</th><th></th><th>41.35</th><th></th><th></th></te<>	R		41.35		
CO₂ Emissio	ns (t/year)		1.27	DFEE	38	3.58 Т	FEE		48.70
General Rec	quirements	Compliance	Pass	% DFEE <t< th=""><th>EE</th><th></th><th>20.77</th><th></th><th></th></t<>	EE		20.77		
Assessor De	tails Mr	. Mark Rogers, Surecalc Lim	ited, Tel: 0124	3572695 <i>,</i> m	ark@surecal	c.co.uk	ssessor I	D A3	20-0001
Client	Viv	id Design Studio, Vivid Desi	gn Studio						
Building Ele	ments								
Roof 00000	4 - vivid ski	lling							
Roof Type: P	itched Roc	of, insulated sloping ceiling							
Layer	Descriptio	n		Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)	Density (kg/m³)	Heat Cap. (J/kgK)
Ext surface						0.0400			
Layer 1	Tiles, clay	1							
	Main cons			15	1.0000	0.0150	100.00		
Layer 2	-	timber battens							
	Main cons			25	0.1000	0.2500	87.33		
	Main cons Corre Normal	ections - Cavity Unventilated, E	missivity:	25	0.1563	0.1600	12.67		
Layer 3	Breather	membrane							
-	Main cons	truction		0.5	0.0000	0.0000	100.00		
Layer 4	Air layer	unventilated							
	Main cons	truction		30	0.0624	0.4806	92.17		
	Main cons	truction		30	0.1300	0.2308	7.83		
		ections - Cavity Unventilated, E	missivity: Low						
Layer 5	Emissivity Thermap								
Layer 5	Main cons			120	0.0220	5.4545	92.17		
	Main cons			120	0.1300	0.9231	7.83		
		ections - Air Gap: Level 1, Faste	ners: None or	120	0.1300	0.5251	7.05		
	plastic								
Layer 6		n K18 Insulated Plasterboa	rd (62.5mm)						
	Main cons			62.5	0.0245	2.5500	100.00		
		ections - Air Gap: Level 1, Faste	ners: None or						
Int surface	plastic					0.1000			
Total resistan	ce: Uppe	er limit = 8.187 m ² K/W	Lower limit	= 7.321 m ² ł	<td>Average =</td> <td>7.754 m²</td> <td>K/W</td> <td></td>	Average =	7.754 m ²	K/W	
	Total	correction = 0.0037 m ² K/W			inrounded) =	0			
Unheated s	pace: Nor	ne							
Tot	al thicknes	s: 253 mm	U-value: 0.13	W/m² K	Ka	appa: 0.00	kJ/m² K		
100		. 200 mm	S TUINCI VILJ		Kc		Nalue V		





Property R								4 - 1-
		sc121688			1		ed on Date	16/05/
Assessment	Reference	001			Prop Type	e Ref New	Dwelling Part	L 2021
Project		Former Odeon, Plot 8, 92	-96 London Ro	ad, North Er	nd, Portsmou	ith, Hampsl	hire, PO2 OLZ	7
Calculation	Туре	New Build (As Designed)						
SAP Rating			87 B	DER	1	3.78 Т	ER	23
Environme	ntal		88 B	% DER <te< td=""><td>R</td><td></td><td>41.35</td><td></td></te<>	R		41.35	
CO₂ Emissio	ons (t/year)		1.27	DFEE	38	3.58 Т	FEE	48
General Re	quirements	Compliance	Pass	% DFEE <tf< td=""><td>EE</td><td></td><td>20.77</td><td></td></tf<>	EE		20.77	
Assessor D	etails Mr.	Mark Rogers, Surecalc Lim	ited, Tel: 0124	3572695, m	ark@surecal	c.co.uk	ssessor ID	A320-
Client		d Design Studio, Vivid Desi		,				
Building Ele	ements							
Roof 00000	8 - Flat roo	f hybrid warm deck						
Roof Type: I	lat Roof sta	andard (no precipitation)						
Layer	Description	ı		Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)	
Ext surface						0.0400		
Layer 1	EPDM							
	Main const	ruction		1.5	0.0300	0.0500	100.00	
Layer 2	Plywood							
	Main const			18	0.1300	0.1385	100.00	
Layer 3	Celotex X							
	Main const Corre	ruction ections - Air Gap: Level 1, Faste	eners: None or	120	0.0220	5.4545	100.00	
	plastic	. , ,						
Layer 4	Plywood							
	Main const	ruction		18	0.1300	0.1385	100.00	
Layer 5	Celotex G	A4000						
	Main const	ruction		70	0.0220	3.1818	87.50	
	Main const	ruction					12.50	
				70	0.1300	0.5385	12.00	
	Corre	ections - Air Gap: Level 1, Faste	eners: None or	70	0.1300	0.5385	12.00	
	Corre plastic	ections - Air Gap: Level 1, Faste	eners: None or	70	0.1300	0.5385	12.00	
Layer 6	Corre plastic Standard	ctions - Air Gap: Level 1, Faste	eners: None or					
Layer 6	Corre plastic Standard Main const	cctions - Air Gap: Level 1, Faste cavity cruction	eners: None or	80	0.1763	0.4538	87.50	
Layer 6	Corre plastic Standard Main const Main const	cctions - Air Gap: Level 1, Faste cavity cruction cruction						
Layer 6	Corre plastic Standard Main const Main const Corre	cctions - Air Gap: Level 1, Faste cavity cruction		80	0.1763	0.4538	87.50	
-	Corre plastic Standard Main const Main const Corre Normal	cavity cruction cruction cruction cruction cruction cructions - Cavity Unventilated, E		80	0.1763	0.4538	87.50	
Layer 6 Layer 7	Corre plastic Standard Main const Main const Corre Normal	ections - Air Gap: Level 1, Faste cavity cruction cruction ections - Cavity Unventilated, E ard, standard		80	0.1763	0.4538	87.50	

Unheated space: None Total thickness: 320 mm

U-value: 0.12 W/m² K

Kappa: n/a





Property Re		sc121688			_		ied on Date	16/05/2023
Assessment	Reference	001			Prop Type	e Ref New	Dwelling Part L	2021
Project		Former Odeon, Plot 8	8, 92-96 London Ro	oad, North E	nd, Portsmou	ith, Hamps	hire, PO2 OLZ	
Calculation	Туре	New Build (As Design	ed)					
SAP Rating			87 B	DER	1	3.78	TER	23.50
Environme	ntal		88 B	% DER <te< td=""><td>R</td><td></td><td>41.35</td><td></td></te<>	R		41.35	
CO₂ Emissic	ons (t/yea	ar)	1.27	DFEE	38	8.58	FEE	48.70
General Re	quiremer	its Compliance	Pass	% DFEE <t< td=""><td>FEE</td><td></td><td>20.77</td><td></td></t<>	FEE		20.77	
Assessor De	etails N	Ar. Mark Rogers, Surecald	Limited, Tel: 0124	43572695 <i>,</i> m	ark@surecal	c.co.uk	Assessor ID	A320-0001
Client		ivid Design Studio, Vivid						
Building Ele	ements							
Wall 00000	1 - Vivid (Cavity Wall 125 Knauf Su	pafil 34					
Wall Type: S		-						
.ayer	Descript			Thickness (mm)	Conductivity (W/m²K)	Resistance (m²K/W)	Fraction (%)	
Ext surface						0.0400		
ayer 1	Brick/S	tone						
	Main co	nstruction		102	0.7700	0.1325	82.81	
	Main co	nstruction		102	0.9407	0.1084	17.19	
ayer 2	Knauf S	upafil 34 blown Cavity Fi						
	Main co	nstruction		125	0.0340	3.6765	100.00	
	Со	rrections - Air Gap: Level 0,	Fasteners: Wall ties,					
		ctional area: 12.50 mm², Lar	mbda: 17.000 W/m.	К,				
	per m²: 2	2.500						
Layer 3	Therma	lite Hi-Strength 7						
	Main co	nstruction		100	0.1900	0.5263	93.43	
	Main co	nstruction		100	0.8803	0.1136	6.57	
	Со	rrections - Air Gap: Level 1,	Fasteners: None or					
	plastic							
Layer 4	airspac	e/plaster dabs						
	Main co	nstruction		15	0.1000	0.1500	80.00	
	Main co	nstruction		15	0.0882	0.1700	20.00	
	Со	rrections - Cavity Unventilat	ed, Emissivity:					
	Normal							
Layer 5	Plaster	board, standard						
	Main co	nstruction		12.5	0.2100	0.0595	100.00	
nt surface						0.1300		
Total resistan	ice: Up	per limit = 4.685 m ² K/W	Lower limi	t = 4.612 m ²	K/W	Average =	4.649 m² K/W	/
	Tot	tal correction = 0.0017 m ² l	<td>U-value (</td> <td>unrounded) =</td> <td>0.22 W/m²</td> <td>2 K</td> <td></td>	U-value (unrounded) =	0.22 W/m ²	2 K	
Unheated s	space: N	one						
	-							





		-							
Property Re	ference	sc121688				Issu	ied on Dat	.e 16,	/05/2023
Assessment I	Reference	001			Prop Type	e Ref New	Dwelling P	art L 2021	
Project		Former Odeon, Plot 8, 92	-96 London Roa	ad, North Er	nd, Portsmou	ith, Hamps	hire, PO2	OLZ	
Calculation	Туре	New Build (As Designed)							
SAP Rating			87 B	DER	13	3.78	ſER		23.50
Environmer	ntal		88 B	% DER <te< td=""><td>R</td><td></td><td>41.35</td><td></td><td></td></te<>	R		41.35		
CO₂ Emissio	ns (t/year)		1.27	DFEE	38	3.58	FEE		48.70
General Red	quirements	S Compliance	Pass	% DFEE <ti< td=""><td>FEE</td><td></td><td>20.77</td><td></td><td></td></ti<>	FEE		20.77		
Assessor De	tails Mr	. Mark Rogers, Surecalc Lim	ited, Tel: 0124	3572695 <i>,</i> m	ark@surecal	c.co.uk	Assessor II	D A3	20-0001
Client	Viv	id Design Studio, Vivid Desi	gn Studio						
Building Ele	ments								
Wall 00000	2 - TF Dorm	ner							
Wall Type: S	tandard W	all							
Layer	Descriptio	n		Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)	Density (kg/m³)	Heat Cap (J/kgK)
Ext surface				()	() /	0.0400		(0, ,	(7 0 7
Layer 1	Single Ply	v Membrane							
	Main cons	truction		1.5	0.1600	0.0094	100.00		
Layer 2	Plywood Main cons	truction		10	0.1300	0.1385	100.00		
Layer 3	Celotex X			18	0.1300	0.1385	100.00		
Layer J	Main cons			150	0.0220	6.8182	87.50	30	1400
	Main cons			150	0.1300	1.1538	12.50	30	1400
	Corre	ections - Air Gap: Level 1, Faste	ners: None or						
	plastic								
Layer 4		m K18 Insulated Plasterboa	rd (32.5mm)						
	Main cons			32.5	0.0361	0.9000	100.00		
	Corre plastic	ections - Air Gap: Level 1, Faste	eners: None or						
Int surface	plastic					0.1300			
Total resistan	ce: Uppe	er limit = 6.189 m ² K/W	Lower limit	= 5.443 m ² l	K/W	Average =	5.816 m ²	K/W	
		correction = 0.0055 m ² K/W		U-value (ι	unrounded) =	0		-	
Unheated s	pace: Nor	ne							
Tot	al thicknes	s: 202 mm	U-value: 0.18	W/m² K	Ka	appa: 0.00	kJ/m² K		
100			- Tuluci Vi10	••/··· ··	IXC.	·rpu. 0.00			





Assessment Re Project	ference	001						
-					Prop T	ype Ref	ew Dwelling Part I	_ 2021
		Former Odeon, Plot 8, 92-	96 London Ro	ad, North E	nd, Portsr	nouth, Ham	pshire, PO2 OLZ	
Calculation Ty	уре	New Build (As Designed)						
SAP Rating			87 B	DER		13.78	TER	23.50
Environmenta	al		88 B	% DER <te< th=""><th>R</th><th></th><th>41.35</th><th></th></te<>	R		41.35	
CO₂ Emissions	s (t/year)		1.27	DFEE		38.58	TFEE	48.70
General Requ		Compliance	Pass	% DFEE <t< th=""><th>FEE</th><th></th><th>20.77</th><th></th></t<>	FEE		20.77	
Assessor Deta	ails Mr.	Mark Rogers, Surecalc Lim	ited, Tel: 0124	3572695, m	ark@sure	ecalc.co.uk	Assessor ID	A320-0001
Client	Vivi	d Design Studio, Vivid Desi	gn Studio					
Building Elem	ients							
Wall 000006 -	- Vivid Cav	vity Wall 125 Knauf Supafil	34					
Wall Type: Sta	ndard Wa	all						
Layer I	Descriptior	1		Thickness (mm)	Conductiv (W/m²l	,	nce Fraction V) (%)	
Ext surface						0.040	C	
	Hardie Pla							
	Main const	ruction imber battens		11	0.6000	0.0183	3 100.00	
	Main const			22	0.1222	0.180	0 91.45	
	Main const Main const			22	0.1243			
		ctions - Cavity Unventilated, E	missivity:					
	Normal							
		k, medium						
	Main const			100	0.5700			
	Main const			100	0.8803	0.113	6 6.57	
-	Knaut Sup Main const	afil 34 blown Cavity Fill		125	0.0340	3.676	5 100.00	
I		ctions - Air Gap: Level 0, Faste	ners: Wall ties	125	0.0540	5.070	5 100.00	
	Cross sectio	onal area: 12.50 mm², Lambda		,				
	per m²: 2.5							
-		e Hi-Strength 7		100		0 - 0 0		
	Main const			100	0.1900			
I	Main const Corre	ctions - Air Gap: Level 1, Faste	ners: None or	100	0.8803	0.113	6 6.57	
r	plastic							
Layer 6 a	airspace/	olaster dabs						
1	Main const	ruction		15	0.1000	0.150	0 80.00	
I	Main const			15	0.0882	0.170	20.00	
		ctions - Cavity Unventilated, E	missivity:					
	Normal Diastarba	ard, standard						
	Main const			12.5	0.2100	0.059	5 100.00	
Int surface		laction		12.5	0.2100	0.130		
Total resistance	: Uppe	r limit = 4.926 m ² K/W	Lower limit	= 4.852 m ²	K/W	Average	e = 4.889 m² K/W	
	Total	correction = 0.0016 m ² K/W		U-value (unrounded	l) = 0.21 W/	/m² K	
Unheated spa	ace: Non	е						
Total	thickness	: 386 mm	U-value: 0.21	W/m² K		Kappa: n	/a	
TOTAL			5 Value. V.21	vv/111 IX		wahhar 11	u	





Assessment	eference	sc121688				Issu	ed on Date	16/05/2023
	Reference	001			Prop Type	e Ref New	Dwelling Part L	2021
Project		Former Odeon, Plot 8, 92	-96 London Ro	ad, North Er	nd, Portsmou	ith, Hamps	hire, PO2 OLZ	
Calculation	Туре	New Build (As Designed)						
SAP Rating			87 B	DER	1	3.78 Т	ER	23.50
Environme	ntal		88 B	% DER <te< td=""><td>R</td><td></td><td>41.35</td><td></td></te<>	R		41.35	
CO₂ Emissiq	ons (t/year)		1.27	DFEE	38	3.58 Т	FEE	48.70
General Re	quirements	Compliance	Pass	% DFEE <ti< td=""><td>EE</td><td></td><td>20.77</td><td></td></ti<>	EE		20.77	
Assessor De	etails Mr.	Mark Rogers, Surecalc Lim	nited, Tel: 0124	3572695, m	ark@surecal	c.co.uk	Assessor ID	A320-0001
Client	Vivi	d Design Studio, Vivid Desi	ign Studio					
Building Ele	ements							
Floor <u>0000</u>	05 - Vivid GF	Beam & Block						
/lean wind	openings pe speed:v = 5	er perimeter length:e = 0.0	015 %					
Resistance o	on solum:Rg	.000 m/s g = 0.000 m²K/W		Thislasse		Desistence	Frenching	
	on solum:Rg Descriptior	g = 0.000 m ² K/W		Thickness (mm)	Conductivity (W/m ² K)	Resistance (m²K/W)	Fraction (%)	
ayer Ext surface	Description	g = 0.000 m²K/W						
ayer xt surface	Description Celcon Flo	g = 0.000 m ² K/W n poring -		(mm)	(W/m²K)	(m²K/W) 0.1700	(%)	
ayer Ext surface	Description Celcon Flo Main const	g = 0.000 m ² K/W n Doring - arruction		(mm) 100	(W/m²K)	(m ² K/W) 0.1700 0.6667	(%) 90.91	
ayer ixt surface ayer 1	Description Celcon Flo Main const Main const	s = 0.000 m ² K/W n poring - cruction cruction		(mm)	(W/m²K)	(m²K/W) 0.1700	(%)	
ayer ixt surface ayer 1	Celcon Flo Main const Main const Kingspan Main const	s = 0.000 m ² K/W n poring - arruction fruction Kooltherm K103 arruction		(mm) 100	(W/m²K)	(m ² K/W) 0.1700 0.6667	(%) 90.91	
ayer ixt surface ayer 1	Celcon Flo Main const Main const Kingspan Main const Corre	s = 0.000 m ² K/W n poring - truction truction Kooltherm K103	eners: None or	(mm) 100 100	(W/m ² K) 0.1500 1.0000	(m²K/W) 0.1700 0.6667 0.1000	(%) 90.91 9.09	
Resistance o ayer Ext surface ayer 1 ayer 2 ayer 3	Celcon Flo Main const Main const Kingspan Main const	s = 0.000 m ² K/W n poring - arruction fruction Kooltherm K103 arruction	eners: None or	(mm) 100 100	(W/m ² K) 0.1500 1.0000	(m²K/W) 0.1700 0.6667 0.1000	(%) 90.91 9.09	
ayer Ext surface ayer 1 ayer 2 ayer 3	Description Celcon Flo Main const Main const Kingspan Main const Corre plastic	g = 0.000 m ² K/W pooring - pruction pruction Kooltherm K103 pruction	eners: None or	(mm) 100 100	(W/m ² K) 0.1500 1.0000	(m ² K/W) 0.1700 0.6667 0.1000 8.3333 0.0565	(%) 90.91 9.09	
ayer xt surface ayer 1 ayer 2 ayer 3	Description Celcon Flo Main const Main const Kingspan Main const Corre plastic Screed	g = 0.000 m ² K/W pooring - pruction pruction Kooltherm K103 pruction	eners: None or	(mm) 100 100 150	(W/m²К) 0.1500 1.0000 0.0180	(m ² K/W) 0.1700 0.6667 0.1000 8.3333	(%) 90.91 9.09 100.00	
ayer xt surface ayer 1 ayer 2 ayer 3 nt surface	Description Celcon Flo Main const Main const Kingspan Main const Corre plastic Screed Main const	g = 0.000 m ² K/W pooring - pruction pruction Kooltherm K103 pruction		(mm) 100 100 150	(W/m²K) 0.1500 1.0000 0.0180 1.1500	(m ² K/W) 0.1700 0.6667 0.1000 8.3333 0.0565 0.1700	(%) 90.91 9.09 100.00	
ayer Ext surface ayer 1 ayer 2	Description Celcon Flo Main const Main const Corre plastic Screed Main const	s = 0.000 m ² K/W poring - cruction Kooltherm K103 cruction actions - Air Gap: Level 1, Faster cruction		(mm) 100 100 150 65 = 9.170 m ² f	(W/m²K) 0.1500 1.0000 0.0180 1.1500	(m²K/W) 0.1700 0.6667 0.1000 8.3333 0.0565 0.1700 Average =	(%) 90.91 9.09 100.00 100.00 9.256 m ² K/W	
ayer xt surface ayer 1 ayer 2 ayer 3 nt surface	Description Celcon Flo Main const Main const Kingspan Main const Corre plastic Screed Main const Main const	s = 0.000 m ² K/W pooring - struction truction Kooltherm K103 struction rections - Air Gap: Level 1, Faste struction r limit = 9.342 m ² K/W correction = 0.0081 m ² K/W		(mm) 100 100 150 65 = 9.170 m ² f	(W/m²K) 0.1500 1.0000 0.0180 1.1500	(m²K/W) 0.1700 0.6667 0.1000 8.3333 0.0565 0.1700 Average =	(%) 90.91 9.09 100.00 100.00 9.256 m ² K/W	

