



Specialists in Energy Conservation & Building Control

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Gloucestershire GL6 8HH

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Ref No	Website
Client	Mr Mark Sheehan

Address	New Dwelling
	39 The Old Common
	Chalford
	Stroud

Condensation Risk Analysis

Condensation Risk Analysis Report

Property Reference: MSBC Website

Issued on Date: 24.Jul.2014

Survey Reference: 001 Issue 1

Prop Type Ref:

Project: 39, The Old Common, Chalford, STROUD, Gloucestershire, GL6 8HH

SAP Rating: 80 C	CO2 Emissions (t/year): 0.98	DER: 39.08 Pass	TER: 39.08	Percentage DER<TER:
Environmental: 82 B	General Requirements Compliance: Pass	DFEE:	TFEE:	Percentage DFEE<TFEE:

CfSH Results **Version:** **ENE1 Credits:** N/A **ENE2 Credits:** N/A **ENE7 Credits:** N/A **CfSH Level:** N/A

Surveyor: Mark Sheehan, Tel: 07779-341875	Surveyor ID: A102-0001
Address: Chalford, Stroud, Gloucestershire, GL6 8HH	
Client: Dan Stewart	

Software Version: Elmhurst Energy Systems SAP2012 Calculator (Design System) version 1.02r36
SAP version: , Regs Region: England (Part L1A 2013), Calculation Type: New Dwelling As Designed

Roof - Sloping Ceilings

Environmental conditions:

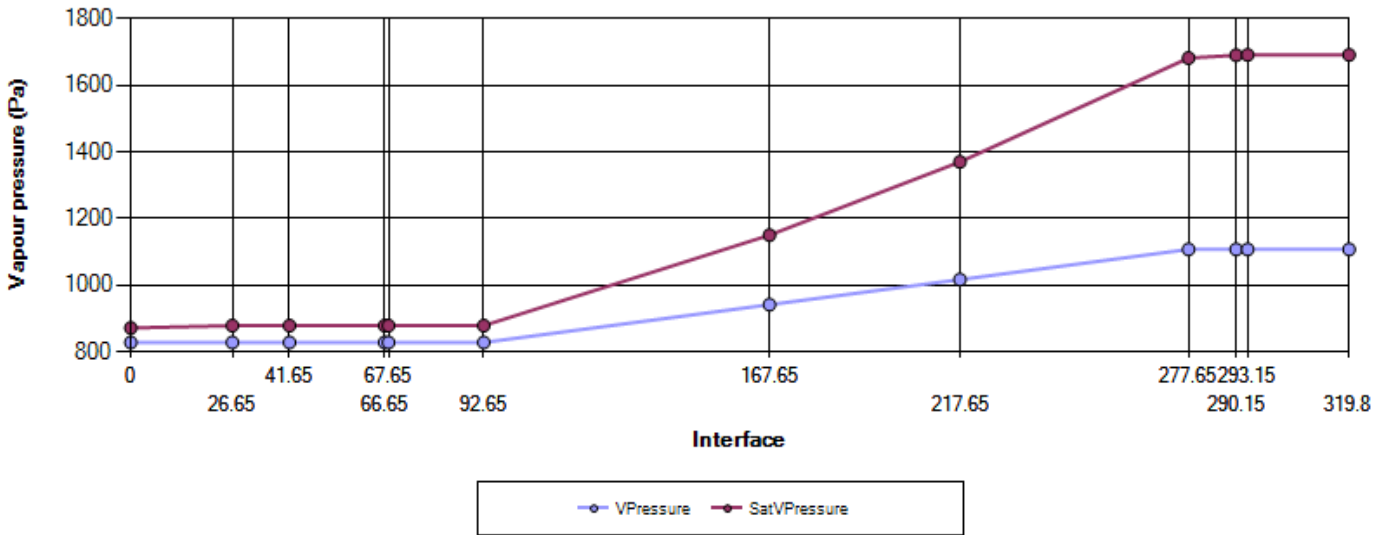
External conditions:	Temperature: 5°C	Relative Humidity: 95 %
Internal conditions:	Temperature: 15°C	Relative Humidity: 65 %

Table of layers:

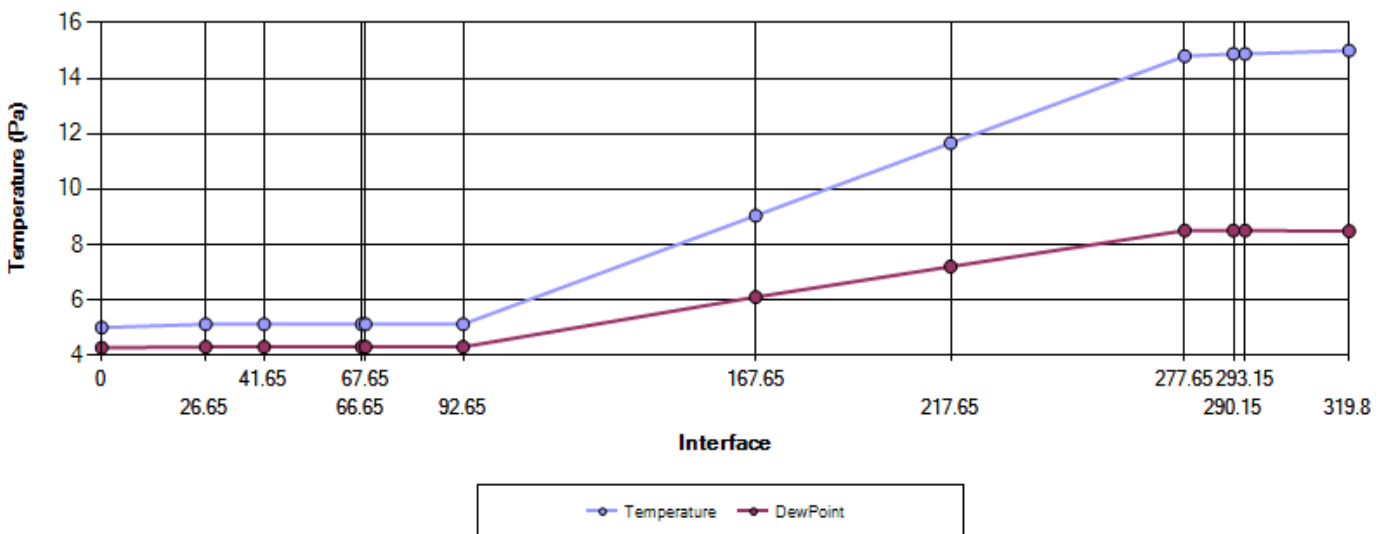
Layer	Thickness	Thermal conduct.	Thermal resistance	Cumulative thermal resistance	Vapour resistivity	Vapour resistance	Cumulative vapour resistance
	mm	W/m.K	m2.K/W	m2.K/W	GN.s/kg.m	GN.s/kg.m	GN.s/kg.m
External surface	-	0.000	0.100	0.100	0.0	0.00	0.00
1.Tiles, clay	15.0	1.000	0.000	0.100	270.0	4.05	4.05
2.Air layer ventilated	25.0	0.000	0.000	0.100	0.0	0.00	4.05
3.Tyvek	1.0	0.000	0.000	0.100	0.0	0.00	4.05
4.Cavity	25.0	0.000	0.000	0.100	0.0	0.00	4.05
5.Celotex GA4000	75.0	0.022	3.409	3.509	43373.0	3252.98	3257.03
6.Celotex GA4000	50.0	0.022	2.273	5.782	43373.0	2168.65	5425.68
7.Celotex GA4000	60.0	0.022	2.727	8.509	43373.0	2602.38	8028.06
8.Gyproc Wallboard (12.5mm)	12.5	0.190	0.066	8.575	60.0	0.75	8028.81
9.Plaster, standard	3.0	0.400	0.008	8.582	60.0	0.18	8028.99
Internal surface	-	0.000	0.100	8.582	0.0	0.00	8028.99

Vapour pressure table:

Interface - between layers	Interface temp. °C	Vapour pressure Pa	Satur. vapour pressure Pa	Dew point °C	Cond. rate g/m2 h	Cond. rate 60 days g/m2 h	Cond. risk Y/N
External surface	5.00	828.3	871.9	4.27	0.00	0.00	No
1. External surface / Tiles, clay	5.12	828.3	878.9	4.3	0.00	0.00	No
2. Tiles, clay / Air layer ventilated	5.12	828.4	878.9	4.3	0.00	0.00	No
3. Air layer ventilated / Tyvek	5.12	828.4	878.9	4.3	0.00	0.00	No
4. Tyvek / Cavity	5.12	828.4	878.9	4.3	0.00	0.00	No
5. Cavity / Celotex GA4000	5.12	828.4	878.9	4.3	0.00	0.00	No
6. Celotex GA4000 / Celotex GA4000	9.04	941.7	1150.7	6.1	0.00	0.00	No
7. Celotex GA4000 / Celotex GA4000	11.66	1017.2	1370.6	7.2	0.00	0.00	No
8. Celotex GA4000 / Gyproc Wallboard (12.5mm)	14.80	1107.8	1682.6	8.5	0.00	0.00	No
9. Gyproc Wallboard (12.5mm) / Plaster, standard	14.88	1107.9	1690.9	8.5	0.00	0.00	No
Plaster, standard / Internal surface	14.88	1107.9	1691.8	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1691.8	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation:



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Environmental: 82 B	General Requirements Compliance: Pass	DFEE:	TFEE:	Percentage DFEE<TFEE:

CfSH Results **Version:** **ENE1 Credits:** N/A **ENE2 Credits:** N/A **ENE7 Credits:** N/A **CfSH Level:** N/A

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Software Version: Elmhurst Energy Systems SAP2012 Calculator (Design System) version 1.02r36
SAP version: , Regs Region: England (Part L1A 2013), Calculation Type: New Dwelling As Designed

Roof - Flat Ceilings

Environmental conditions:

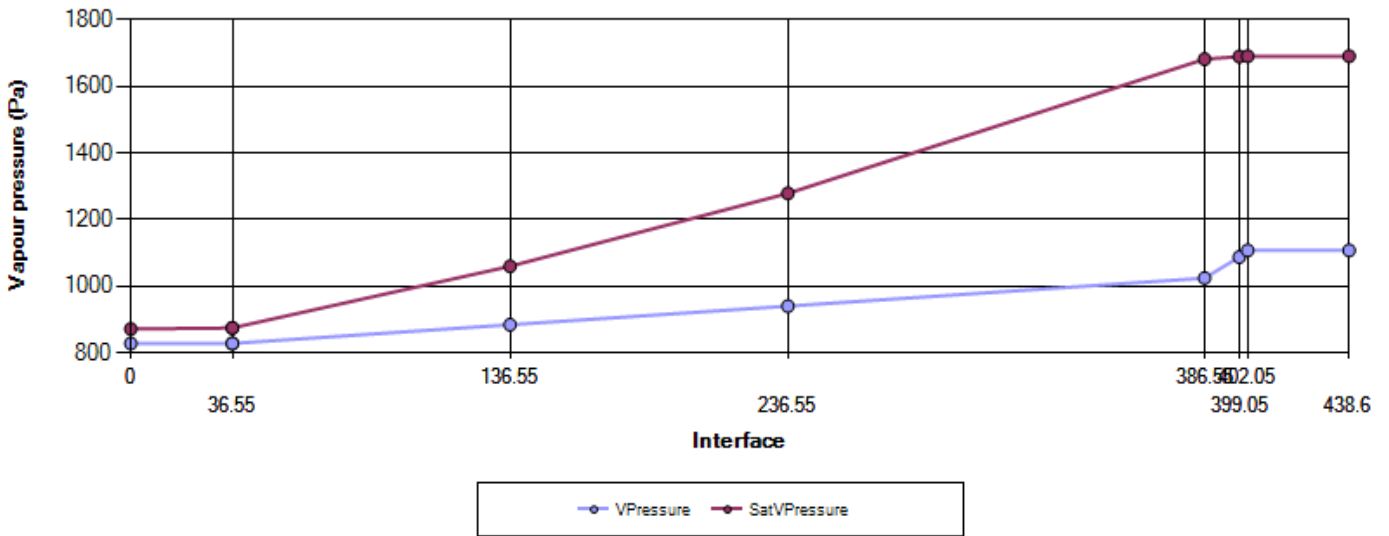
External conditions:	Temperature: 5°C	Relative Humidity: 95 %
Internal conditions:	Temperature: 15°C	Relative Humidity: 65 %

Table of layers:

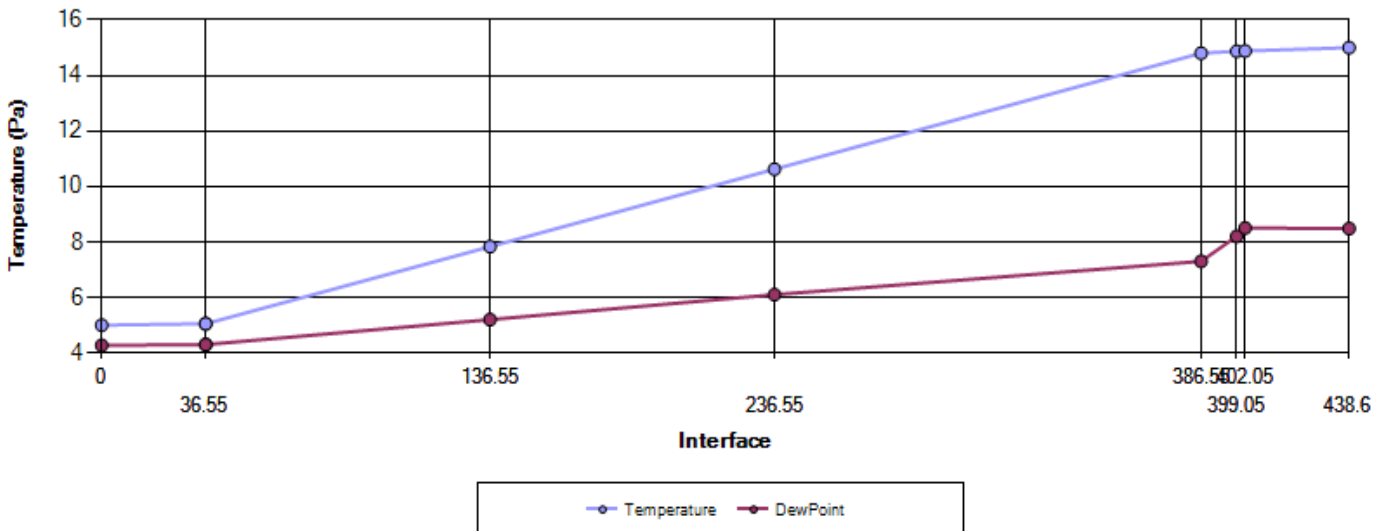
Layer	Thickness	Thermal conduct.	Thermal resistance	Cumulative thermal resistance	Vapour resistivity	Vapour resistance	Cumulative vapour resistance
	mm	W/m.K	m2.K/W	m2.K/W	GN.s/kg.m	GN.s/kg.m	GN.s/kg.m
External surface	-	0.000	0.040	0.040	0.0	0.00	0.00
1.Roof space	-	0.000	0.000	0.040	0.0	0.00	0.00
2.ROCKWOOL ROLL	100.0	0.044	2.273	2.313	5.0	0.50	0.50
3.ROCKWOOL ROLL	100.0	0.044	2.273	4.585	5.0	0.50	1.00
4.ROCKWOOL ROLL	150.0	0.044	3.409	7.995	5.0	0.75	1.75
5.Plasterboard, standard	12.5	0.210	0.060	8.054	45.0	0.56	2.31
6.Plaster, standard	3.0	0.400	0.008	8.062	60.0	0.18	2.49
Internal surface	-	0.000	0.100	8.062	0.0	0.00	2.49

Vapour pressure table:

Interface - between layers	Interface temp. °C	Vapour pressure Pa	Satur. vapour pressure Pa	Dew point °C	Cond. rate g/m2 h	Cond. rate 60 days g/m2 h	Cond. risk Y/N
External surface	5.00	828.3	871.9	4.27	0.00	0.00	No
1. External surface / Roof space	5.05	828.3	874.9	4.3	0.00	0.00	No
2. Roof space / ROCKWOOL ROLL	5.05	828.3	874.9	4.3	0.40	581.51	No
3. ROCKWOOL ROLL / ROCKWOOL ROLL	7.83	884.4	1060.1	5.2	0.00	0.00	No
4. ROCKWOOL ROLL / ROCKWOOL ROLL	10.62	940.4	1279.1	6.1	0.00	0.00	No
5. ROCKWOOL ROLL / Plasterboard, standard	14.80	1024.6	1682.1	7.3	0.00	0.00	No
6. Plasterboard, standard / Plaster, standard	14.87	1087.7	1690.0	8.2	0.00	0.00	No
Plaster, standard / Internal surface	14.88	1107.9	1691.0	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1691.0	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation:



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SAP version: , Regs Region: England (Part L1A 2013), Calculation Type: New Dwelling As Designed

Wall - External Walls

Environmental conditions:

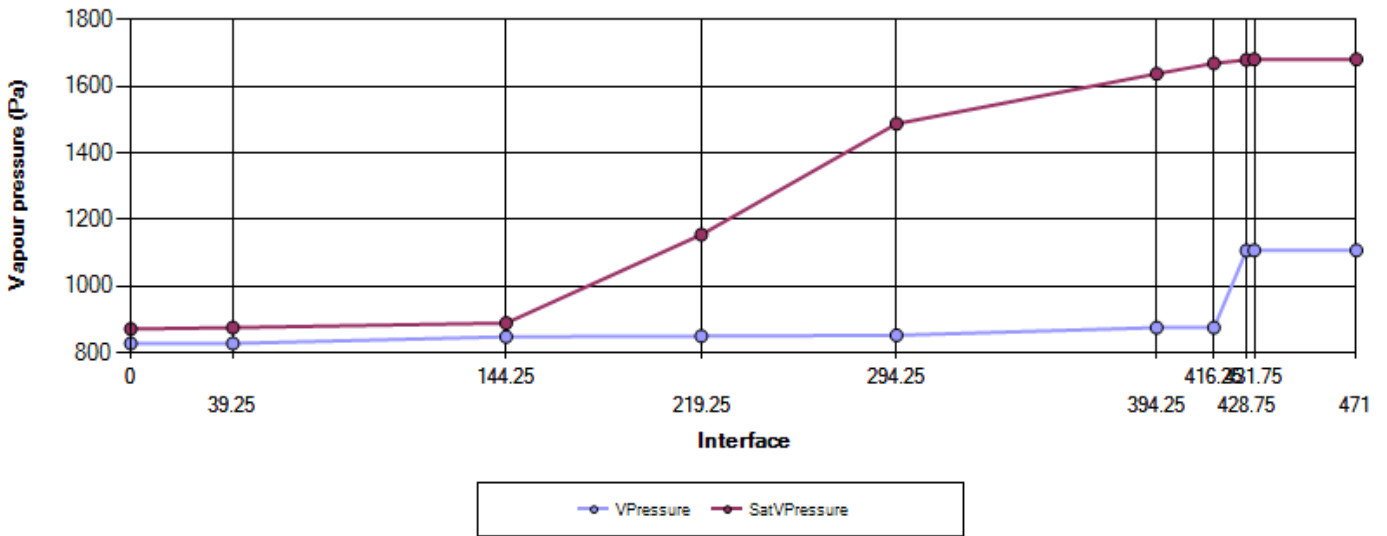
External conditions:	Temperature: 5°C	Relative Humidity: 95 %
Internal conditions:	Temperature: 15°C	Relative Humidity: 65 %

Table of layers:

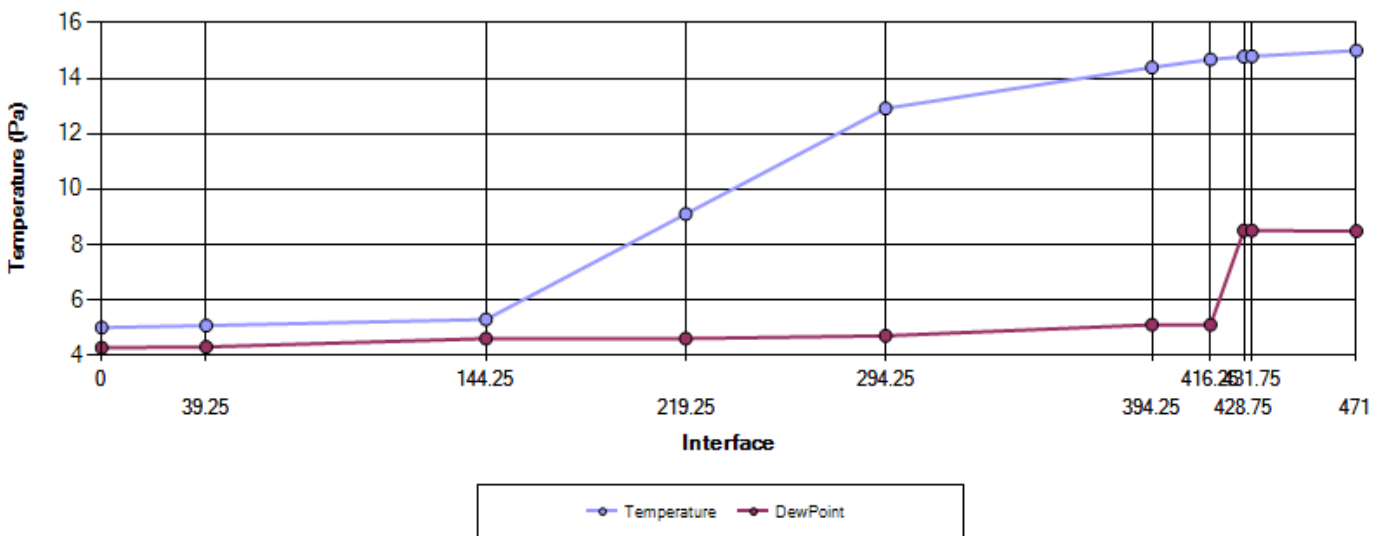
Layer	Thickness	Thermal conduct.	Thermal resistance	Cumulative thermal resistance	Vapour resistivity	Vapour resistance	Cumulative vapour resistance
	mm	W/m.K	m2.K/W	m2.K/W	GN.s/kg.m	GN.s/kg.m	GN.s/kg.m
External surface	-	0.000	0.040	0.040	0.0	0.00	0.00
1.Brick, outer leaf	105.0	0.770	0.136	0.176	50.0	5.25	5.25
2.Earthwool Dritherm 32 Ultimate	75.0	0.032	2.344	2.520	7.0	0.53	5.78
3.Earthwool Dritherm 32 Ultimate	75.0	0.032	2.344	4.864	7.0	0.53	6.30
4.Celcon Solar - Normal - Trad joint 10mm	100.0	0.110	0.909	5.773	60.0	6.00	12.30
5.airspace/timber battens	22.0	0.122	0.180	5.953	0.0	0.00	12.30
6.Plasterboard (standard wallboard)	12.5	0.210	0.060	6.013	0.000	60.00	72.30
7.Plaster, standard	3.0	0.400	0.008	6.020	60.0	0.18	72.48
Internal surface	-	0.000	0.130	6.020	0.0	0.00	72.48

Vapour pressure table:

Interface - between layers	Interface temp. °C	Vapour pressure Pa	Satur. vapour pressure Pa	Dew point °C	Cond. rate g/m2 h	Cond. rate 60 days g/m2 h	Cond. risk Y/N
External surface	5.00	828.3	871.9	4.27	0.00	0.00	No
1. External surface / Brick, outer leaf	5.07	828.3	875.8	4.3	0.00	0.00	No
2. Brick, outer leaf / Earthwool Dritherm 32 Ultimate	5.29	848.5	889.5	4.6	0.00	0.00	No
3. Earthwool Dritherm 32 Ultimate / Earthwool Dritherm 32 Ultimate	9.10	850.5	1155.0	4.6	0.00	0.00	No
4. Earthwool Dritherm 32 Ultimate / Celcon Solar - Normal - Trad joint 10mm	12.91	852.6	1488.0	4.7	0.00	0.00	No
5. Celcon Solar - Normal - Trad joint 10mm / airspace/timber battens	14.39	875.7	1638.2	5.1	0.00	0.00	No
6. airspace/timber battens / Plasterboard (standard wallboard)	14.68	875.7	1669.6	5.1	0.00	0.00	No
7. Plasterboard (standard wallboard) / Plaster, standard	14.78	1107.2	1680.0	8.5	0.00	0.00	No
Plaster, standard / Internal surface	14.79	1107.9	1681.4	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1681.4	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation:



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SAP version: , Regs Region: England (Part L1A 2013), Calculation Type: New Dwelling As Designed

Wall - Retaining Wall

Environmental conditions:

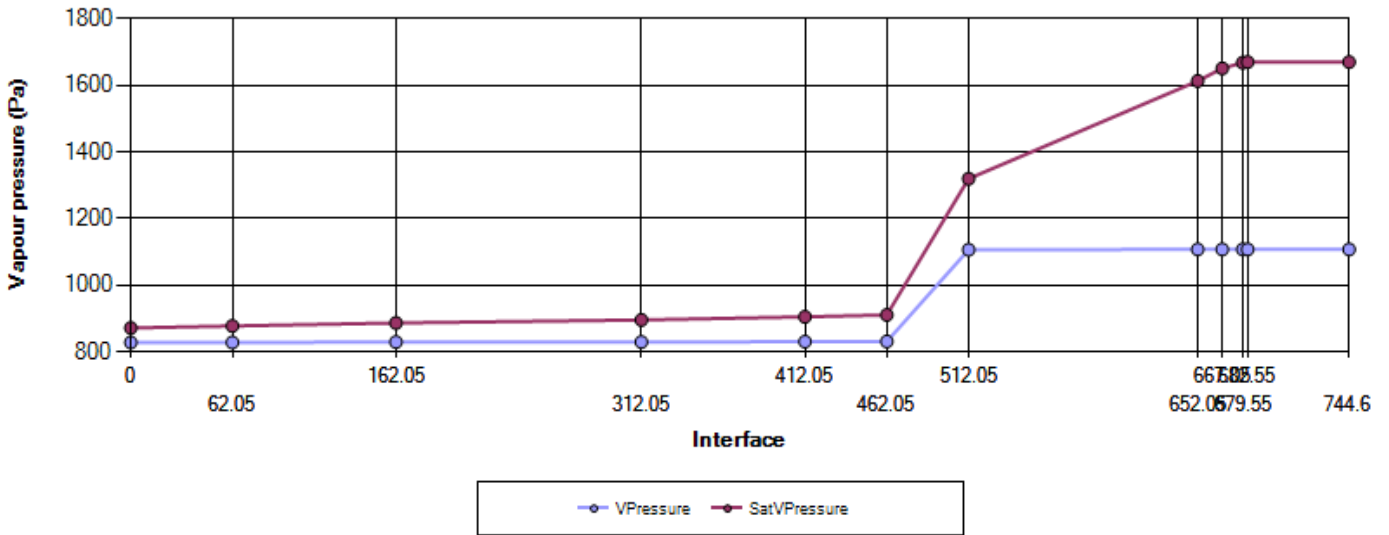
External conditions:	Temperature: 5°C	Relative Humidity: 95 %
Internal conditions:	Temperature: 15°C	Relative Humidity: 65 %

Table of layers:

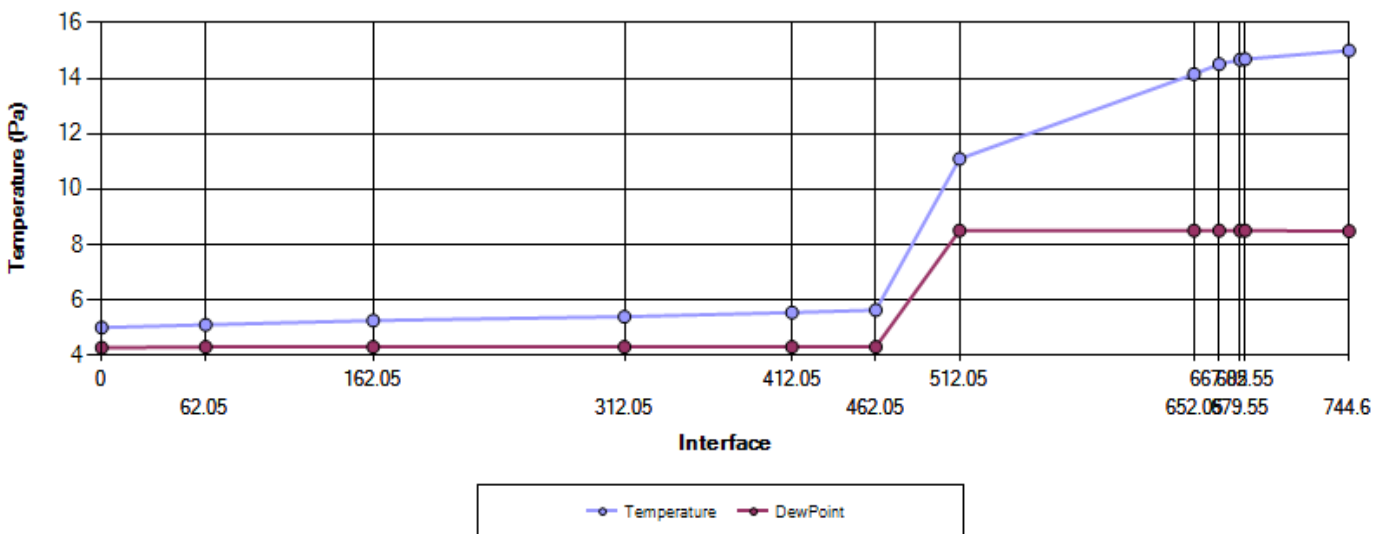
Layer	Thickness	Thermal conduct.	Thermal resistance	Cumulative thermal resistance	Vapour resistivity	Vapour resistance	Cumulative vapour resistance
	mm	W/m.K	m2.K/W	m2.K/W	GN.s/kg.m	GN.s/kg.m	GN.s/kg.m
External surface	-	0.000	0.040	0.040	0.0	0.00	0.00
1.Blockwork, dense	100.0	1.590	0.063	0.103	100.0	10.00	10.00
2.Concrete, reinforced (2% steel)	150.0	2.500	0.060	0.163	0.0	0.00	10.00
3.Blockwork, dense	100.0	1.590	0.063	0.226	100.0	10.00	20.00
4.Concrete, medium density	50.0	1.350	0.037	0.263	100.0	5.00	25.00
5.Celotex GA4000	50.0	0.022	2.273	2.536	43373.0	2168.65	2193.65
6.Celcon Solar - Normal - Trad joint 10mm	140.0	0.110	1.273	3.808	60.0	8.40	2202.05
7.airspace/plaster dabs	15.0	0.100	0.150	3.958	0.0	0.00	2202.05
8.Gyproc Wallboard (12.5mm)	12.5	0.190	0.066	4.024	60.0	0.75	2202.80
9.Plaster, standard	3.0	0.400	0.008	4.032	60.0	0.18	2202.98
Internal surface	-	0.000	0.130	4.032	0.0	0.00	2202.98

Vapour pressure table:

Interface - between layers	Interface temp. °C	Vapour pressure Pa	Satur. vapour pressure Pa	Dew point °C	Cond. rate g/m2 h	Cond. rate 60 days g/m2 h	Cond. risk Y/N
External surface	5.00	828.3	871.9	4.27	0.00	0.00	No
1. External surface / Blockwork, dense	5.10	828.3	877.7	4.3	0.00	0.00	No
2. Blockwork, dense / Concrete, reinforced (2% steel)	5.25	829.5	887.0	4.3	0.00	0.00	No
3. Concrete, reinforced (2% steel) / Blockwork, dense	5.39	829.5	896.0	4.3	0.00	0.00	No
4. Blockwork, dense / Concrete, medium density	5.54	830.8	905.4	4.3	0.00	0.00	No
5. Concrete, medium density / Celotex GA4000	5.63	831.4	911.1	4.3	0.00	0.00	No
6. Celotex GA4000 / Celcon Solar - Normal - Trad joint 10mm	11.09	1106.7	1320.1	8.5	0.00	0.00	No
7. Celcon Solar - Normal - Trad joint 10mm / airspace/plaster dabs	14.15	1107.7	1613.5	8.5	0.00	0.00	No
8. airspace/plaster dabs / Gyproc Wallboard (12.5mm)	14.51	1107.7	1651.5	8.5	0.00	0.00	No
9. Gyproc Wallboard (12.5mm) / Plaster, standard	14.67	1107.8	1668.5	8.5	0.00	0.00	No
Plaster, standard / Internal surface	14.69	1107.9	1670.4	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1670.4	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation:



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Floor - Ground Floor

Environmental conditions:

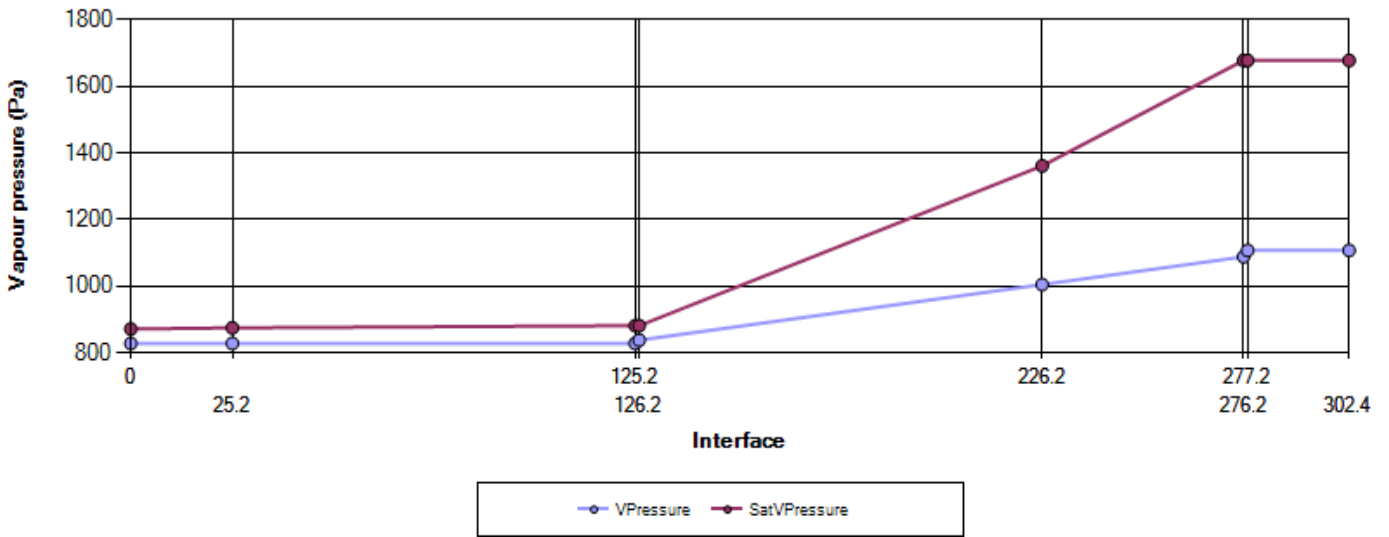
External conditions:	Temperature: 5°C	Relative Humidity: 95 %
Internal conditions:	Temperature: 15°C	Relative Humidity: 65 %

Table of layers:

Layer	Thickness	Thermal conduct.	Thermal resistance	Cumulative thermal resistance	Vapour resistivity	Vapour resistance	Cumulative vapour resistance
	mm	W/m.K	m2.K/W	m2.K/W	GN.s/kg.m	GN.s/kg.m	GN.s/kg.m
External surface	-	0.000	0.040	0.040	0.0	0.00	0.00
1.Concrete, medium density	100.0	1.350	0.074	0.114	100.0	10.00	10.00
2.Polythene, 500 gauge	1.0	0.000	0.000	0.114	0.000	250.00	260.00
3.Celotex GA4000	100.0	0.022	4.545	4.660	43373.0	4337.30	4597.30
4.Celotex GA4000	50.0	0.022	2.273	6.932	43373.0	2168.65	6765.95
5.Polythene,1000 gauge	1.0	0.000	0.000	6.932	0.000	500.00	7265.95
Internal surface	-	0.000	0.170	6.932	0.0	0.00	7265.95

Vapour pressure table:

Interface - between layers	Interface temp. °C	Vapour pressure Pa	Satur. vapour pressure Pa	Dew point °C	Cond. rate g/m2 h	Cond. rate 60 days g/m2 h	Cond. risk Y/N
External surface	5.00	828.3	871.9	4.27	0.00	0.00	No
1. External surface / Concrete, medium density	5.06	828.3	875.3	4.3	0.00	0.00	No
2. Concrete, medium density / Polythene, 500 gauge	5.16	828.7	881.7	4.3	0.00	0.00	No
3. Polythene, 500 gauge / Celotex GA4000	5.16	838.3	881.7	4.4	0.00	0.00	No
4. Celotex GA4000 / Celotex GA4000	11.56	1005.2	1361.7	7.1	0.00	0.00	No
5. Celotex GA4000 / Polythene,1000 gauge	14.76	1088.6	1678.3	8.2	0.00	0.00	No
Polythene,1000 gauge / Internal surface	14.76	1107.9	1678.3	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1678.3	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation:

