

CONDENSATION RISK ANALYSIS

Users Ref: MSBC

Issued on: 19.December.2008

Prop Type Ref:

Property: The Old Common, Chalford, Stroud, Gloucestershire, GL6 8HH

TER: 18.21

DER: 16.09

SAP Rating: 82 B

SAP Energy Cost: £486

CO2 Emissions: 4.20 t/year

EI Rating: 82 B

Energy used: 94 kWh/m2/year

Enel: 0

ZC: 0.00

Surveyor: A102-0001, Mark Sheehan, Tel: 07779 341875, Fax: None

Address: 39 The Old Common, Chalford, Stroud, Gloucestershire

Client:

Software Version: EES SAP 2005.015.build.0019, April 2008 (Design System), BRE SAP Worksheet 9.81

Regs Type: SAP 2005, Regs Region: England and Wales (Part L1A 2006), Construction Type: New Build

Calculation method: BS EN ISO 6946, BS EN ISO 13370, BS 5250

Wall Main - Masonry-full cavity fill: slabs

Environmental conditions:

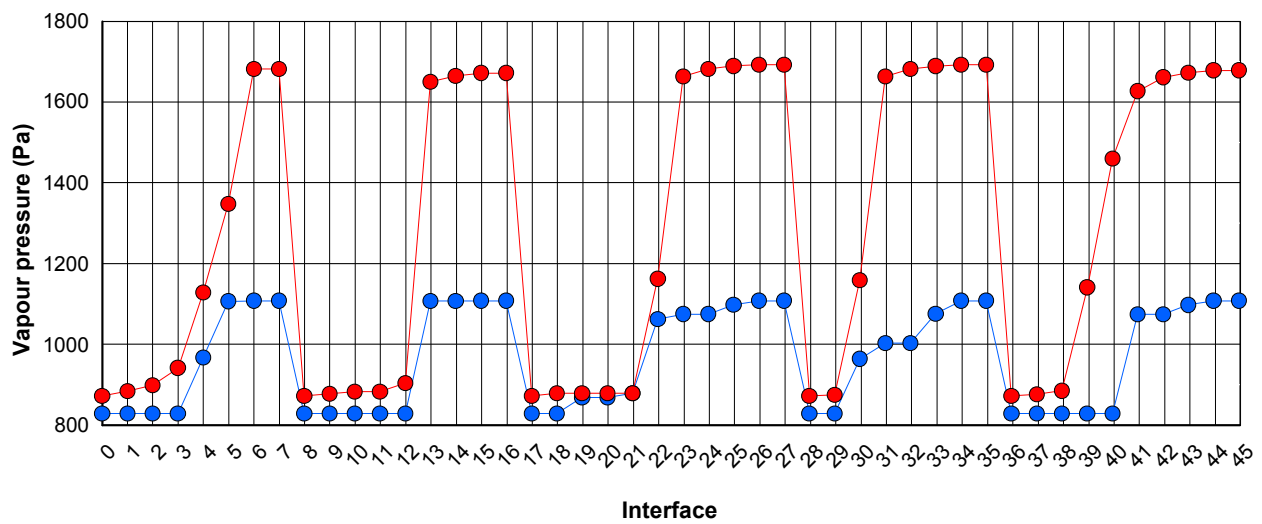
External conditions:	Temperature: 5 °C	Relative Humidity: 95 %
Internal conditions:	Temperature: 15 °C	Relative Humidity: 65 %

Table of layers:

Layer	Width mm	Thermal conduct. W/m.K	Thermal resistance m ² .K/W	Cumulative thermal resistance m ² .K/W	Vapour resistivity GN.s/kg.m	Vapour resistance GN.s/kg	Cumulative vapour resistance GN.s/kg
External surface	-	0.000	0.170	0.170	0.000	0.000	0.00
1. Screed	75.0	0.410	0.183	0.353	0.000	0.000	0.00
2. Blockwork, light	100.0	0.180	0.556	0.908	30.0	3.00	3.00
3. Tuff-RTM Zero GA3000Z	50.0	0.023	2.174	3.082	43,373.0	2,168.65	2,171.65
4. Tuff-RTM Zero GA3000Z	50.0	0.023	2.174	5.256	43,373.0	2,168.65	4,340.30
5. Jablite board EPS 100	100.0	0.036	2.778	8.034	200.0	20.00	4,360.30
Internal surface	-	0.000	0.170	8.034	0.000	0.000	4,360.30
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Render	22.0	0.570	0.039	0.079	100.0	2.20	2.20
2. Breather membrane	1.0	0.000	0.000	0.079	0.000	0.40	2.60
3. Plywood	19.0	0.130	0.146	0.225	450.0	8.55	11.15
4. Tuff-RTM Zero GA3000Z	90.0	0.023	3.913	4.138	43,373.0	3,903.57	3,914.72
5. Plasterboard, standard	12.5	0.210	0.060	4.197	45.0	0.56	3,915.28
6. Plaster, lightweight	5.0	0.180	0.028	4.225	50.0	0.25	3,915.53
Internal surface	-	0.000	0.130	4.225	0.000	0.000	3,915.53
External surface	-	0.000	0.100	0.100	0.000	0.000	0.00
1. Tiling, clay	15.0	1.000	0.000	0.100	250.0	3.75	3.75
2. Standard cavity	25.0	0.000	0.000	0.100	0.000	0.000	3.75
3. Sarking felt	1.0	0.190	0.005	0.105	1,000.0	1.00	4.75
4. Crown Wool	150.0	0.040	3.750	3.855	7.0	1.05	5.80
5. Tri-Iso Actis 10 (Tri-Iso figures)	30.0	0.000	5.000	8.855	0.000	0.30	6.10
6. airspace/timber battens	22.0	0.000	0.160	9.015	0.000	0.000	6.10
7. Plasterboard, standard	12.5	0.210	0.060	9.075	45.0	0.56	6.66
8. Plaster, lightweight	5.0	0.180	0.028	9.103	50.0	0.25	6.91
Internal surface	-	0.000	0.100	9.103	0.000	0.000	6.91
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Crown Wool	150.0	0.040	3.750	3.790	7.0	1.05	1.05
2. Tri-Iso Actis 10 (Tri-Iso figures)	30.0	0.000	5.000	8.790	0.000	0.30	1.35
3. airspace/timber battens	50.0	0.000	0.160	8.950	0.000	0.000	1.35
4. Plasterboard, standard	12.5	0.210	0.060	9.010	45.0	0.56	1.91
5. Plaster, lightweight	5.0	0.180	0.028	9.037	50.0	0.25	2.16
Internal surface	-	0.000	0.100	9.037	0.000	0.000	2.16
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Artificial stone	100.0	1.300	0.077	0.117	0.000	0.000	0.00
2. Dritherm 65-100mm	75.0	0.037	2.027	2.144	0.000	0.000	0.00
3. Dritherm 65-100mm	75.0	0.037	2.027	4.171	0.000	0.000	0.00
4. Celcon Solar - Normal - Trad joint 10mm	100.0	0.110	0.909	5.080	60.0	6.00	6.00
5. airspace/timber battens	22.0	0.000	0.177	5.257	0.000	0.000	6.00
6. Plasterboard, standard	12.5	0.210	0.060	5.317	45.0	0.56	6.56
7. Plaster, lightweight	5.0	0.180	0.028	5.344	50.0	0.25	6.81
Internal surface	-	0.000	0.130	5.344	0.000	0.000	6.81

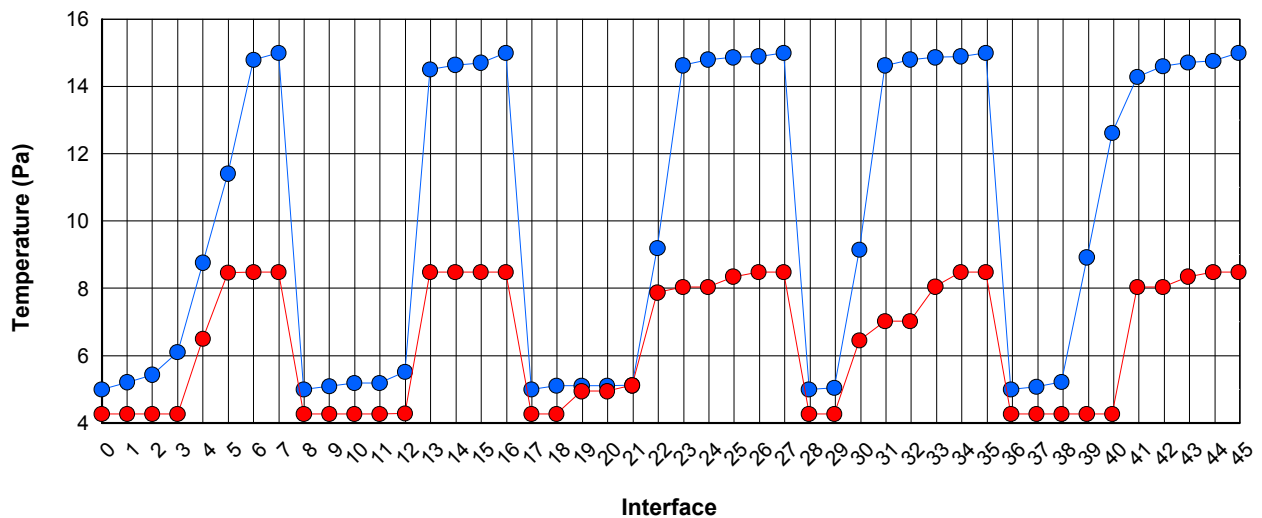
Vapour pressure table:

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 / Artificial stone	5.07	828.3	876.3	4.27	0.00	0.00	No
2. Artificial stone / Dritherm 65-100mm	5.21	828.3	884.9	4.27	0.15	212.76	No
3. Dritherm 65-100mm / Dritherm 65-100mm	8.92	828.3	1 141.0	4.27	0.15	212.76	No
4. Dritherm 65-100mm / Celcon Solar - Normal - Trad joint 10mm	12.62	828.3	1 460.1	4.27	0.15	212.76	No
5. Celcon Solar - Normal - Trad joint 10mm / airspace/timber battens	14.28	1 074.5	1 627.0	8.03	0.00	0.00	No
6. airspace/timber battens / Plasterboard, standard	14.60	1 074.5	1 661.3	8.03	0.00	0.00	No
7. Plasterboard, standard / Plaster, lightweight	14.71	1 097.6	1 673.0	8.34	0.00	0.00	No
8. Plaster, lightweight / Internal surface	14.76	1 107.9	1 678.5	8.48	0.00	0.00	No
Internal surface	15.00	1 107.9	1 678.5	8.48	0.00	0.00	No



● VPressure ● SatVPressure

Interface temperature / Dew point graphical representation:



● Temperature ● DewPoint

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Calculation method: BS EN ISO 6946, BS EN ISO 13370, BS 5250

Roof Plane 1 - Pitched roof - insulated ceiling

Environmental conditions:

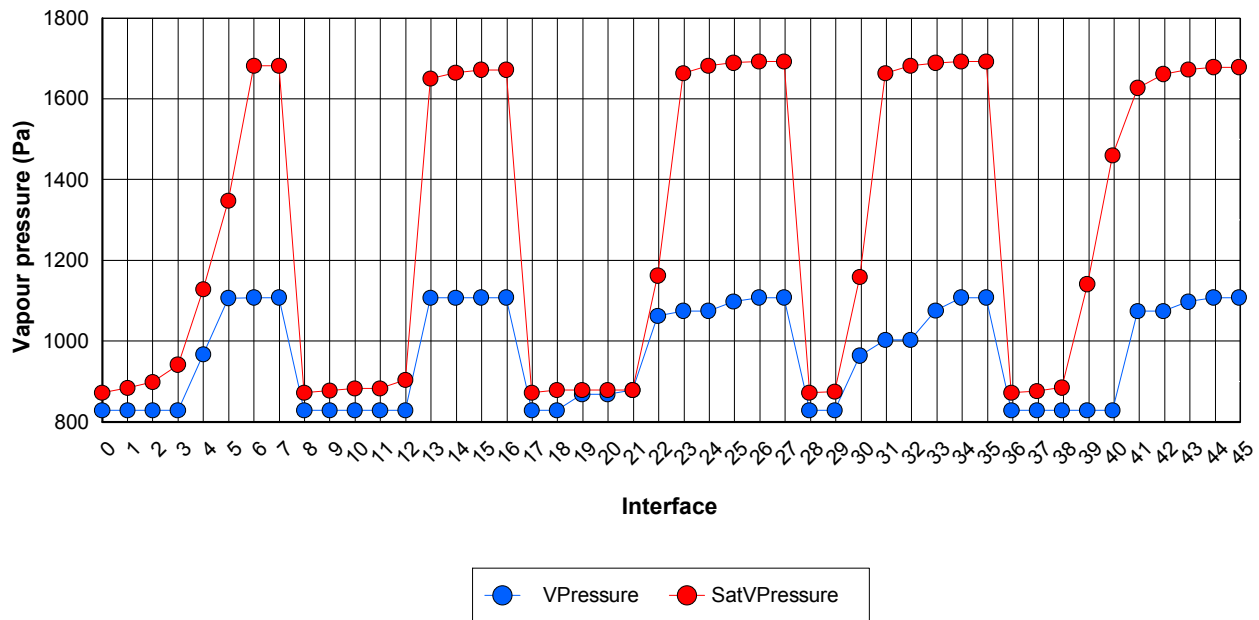
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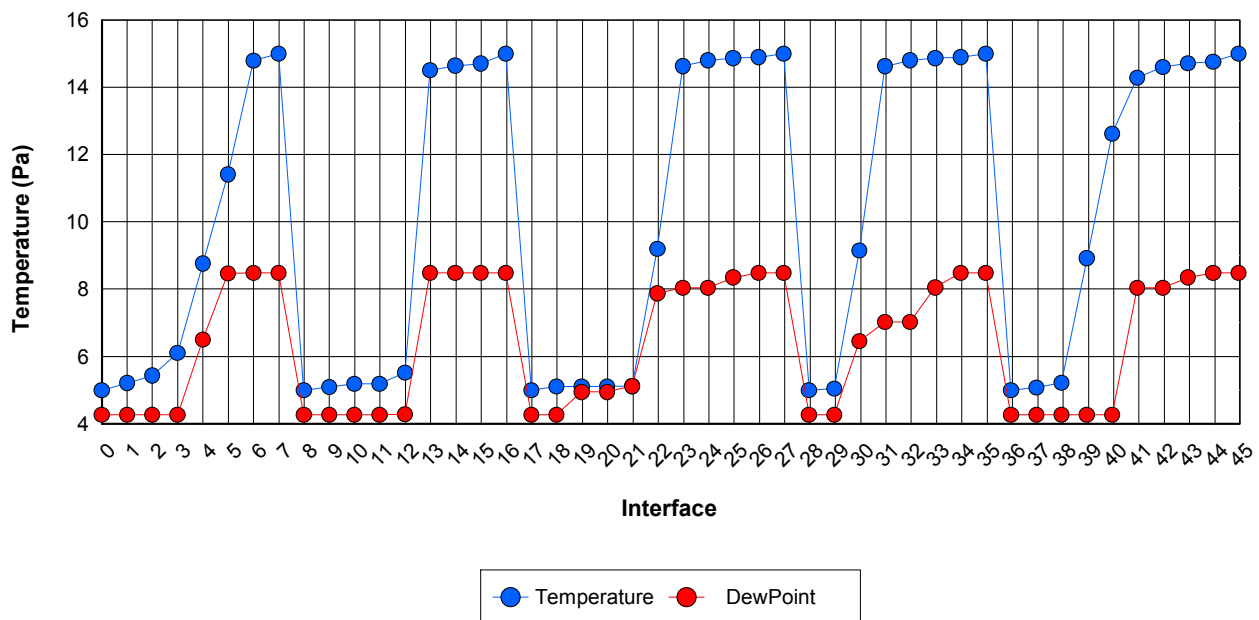
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2. Standard cavity	25.0	0.000	0.000	0.100	0.000	0.000	3.75
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4. Crown Wool	150.0	0.040	3.750	3.855	7.0	1.05	5.80
5. Tri-Iso Actis 10 (Tri-Iso figures)	30.0	0.000	5.000	8.855	0.000	0.30	6.10
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External surface	5.00	828.3	871.9	4.27	0.00	0.00	No
1. External surface / Crown Wool	5.04	828.3	874.5	4.27	0.00	0.00	No
2. Crown Wool / Tri-Iso Actis 10 (Tri-Iso figures)	9.15	964.0	1 159.0	6.45	0.00	0.00	No
3. Tri-Iso Actis 10 (Tri-Iso figures) / airspace/timber battens	14.62	1 002.8	1 663.1	7.02	0.00	0.00	No
4. airspace/timber battens / Plasterboard, standard	14.80	1 002.8	1 682.0	7.02	0.00	0.00	No
5. Plasterboard, standard / Plaster, lightweight	14.86	1 075.5	1 689.1	8.05	0.00	0.00	No
6. Plaster, lightweight / Internal surface	14.89	1 107.9	1 692.4	8.48	0.00	0.00	No
Internal surface	15.00	1 107.9	1 692.4	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation:



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Roof Slope 1 - Pitched roof - insulated slope, sloping ceiling

Environmental conditions:

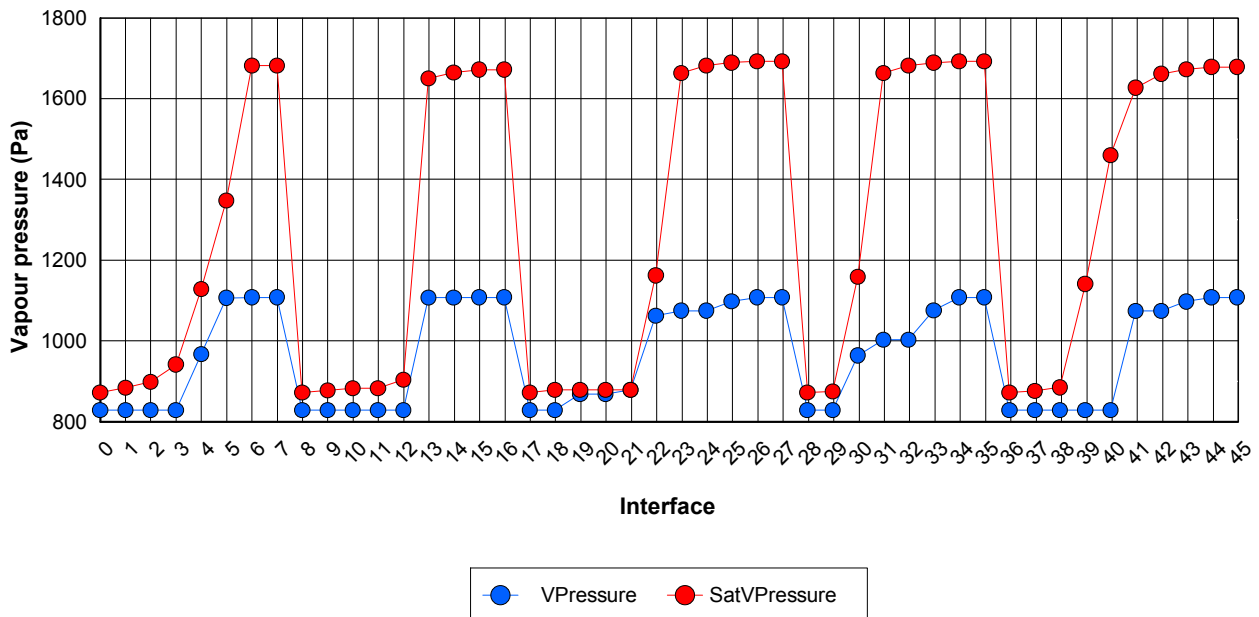
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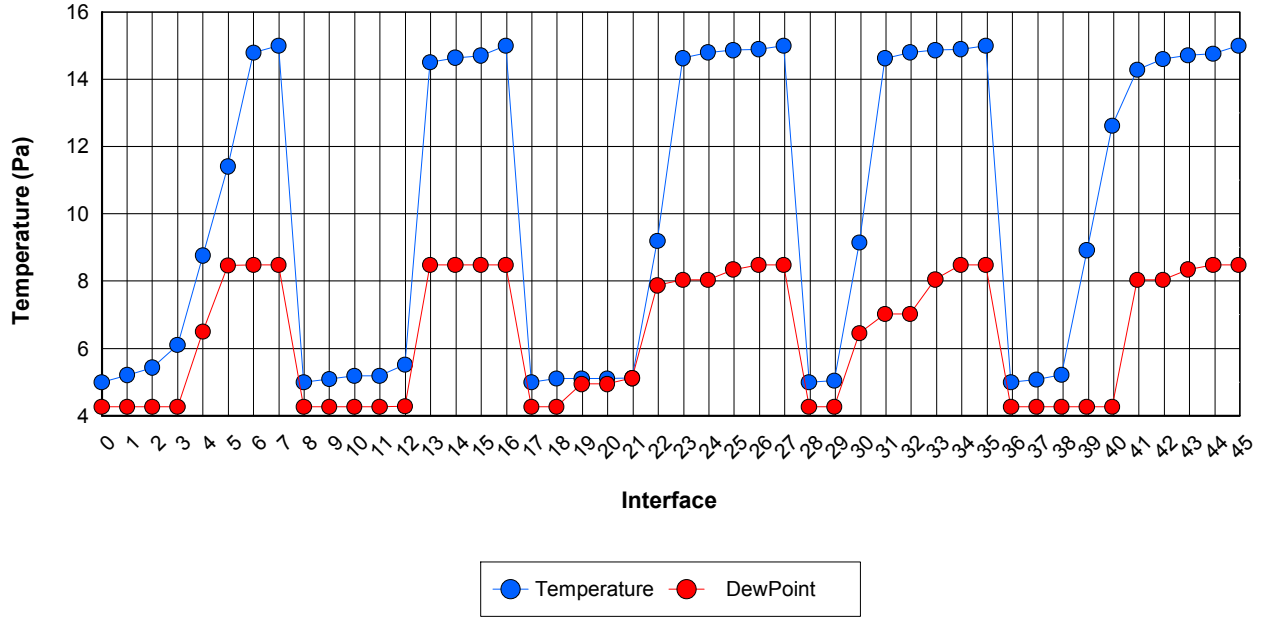
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1. Tiling, clay	15.0	1.000	0.000	0.100	250.0	3.75	3.75
2. Standard cavity	25.0	0.000	0.000	0.100	0.000	0.000	3.75
3. Sarking felt	1.0	0.190	0.005	0.105	1,000.0	1.00	4.75
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Internal surface	-	0.000	0.100	9.037	0.000	0.000	2.16
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Artificial stone	100.0	1.300	0.077	0.117	0.000	0.000	0.00
2. Dritherm 65-100mm	75.0	0.037	2.027	2.144	0.000	0.000	0.00
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External surface	5.00	828.3	871.9	4.27	0.00	0.00	No
1. External surface / Tiling, clay	5.11	828.3	878.5	4.27	0.00	0.00	No
2. Tiling, clay / Standard cavity	5.11	868.2	878.5	4.94	0.23	337.66	No
3. Standard cavity / Sarking felt	5.11	868.2	878.5	4.94	0.23	337.66	No
4. Sarking felt / Crown Wool	5.11	878.9	878.9	5.11	0.34	493.80	Yes
5. Crown Wool / Tri-Iso Actis 10 (Tri-Iso figures)	9.19	1 062.9	1 162.2	7.87	0.00	0.00	No
6. Tri-Iso Actis 10 (Tri-Iso figures) / airspace/timber battens	14.62	1 075.0	1 663.4	8.04	0.00	0.00	No
7. airspace/timber battens / Plasterboard, standard	14.80	1 075.0	1 682.2	8.04	0.00	0.00	No
8. Plasterboard, standard / Plaster, lightweight	14.86	1 097.8	1 689.2	8.35	0.00	0.00	No
9. Plaster, lightweight / Internal surface	14.89	1 107.9	1 692.5	8.48	0.00	0.00	No
Internal surface	15.00	1 107.9	1 692.5	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation:



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Wall Type 2 - Timber framed-insulation between studs

Environmental conditions:

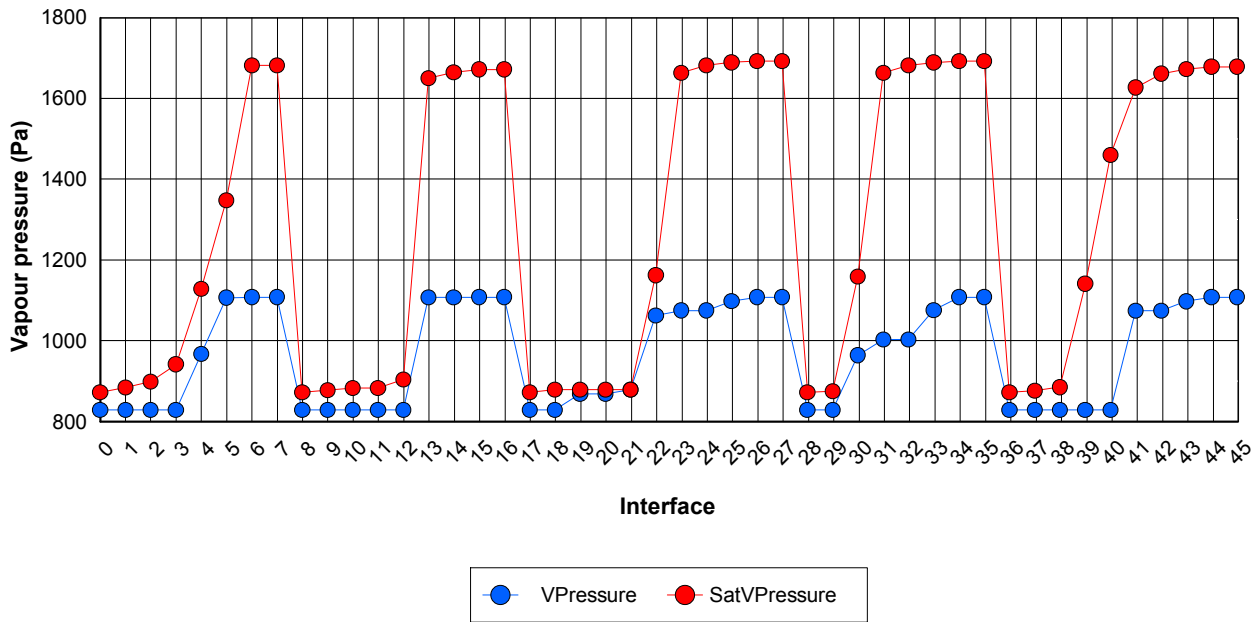
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Internal conditions:	Temperature: 15 °C	Relative Humidity: 65 %

Table of layers:

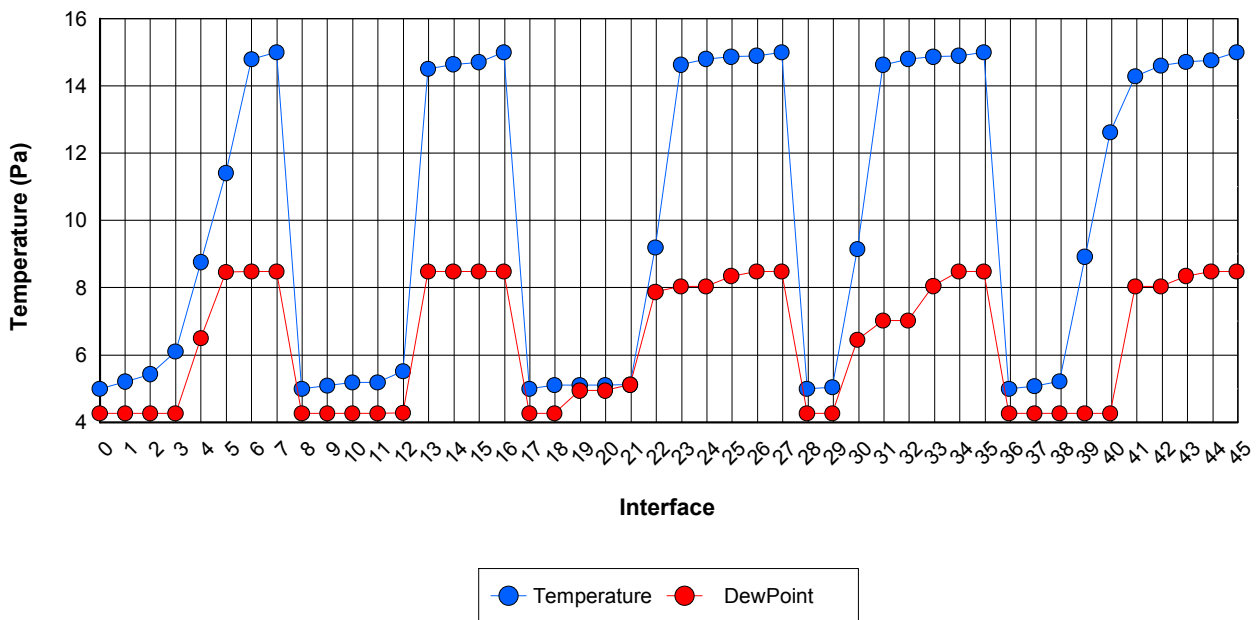
Layer	Width mm	Thermal conduct. W/m.K	Thermal resistance m ² .K/W	Cumulative thermal resistance m ² .K/W	Vapour resistivity GN.s/kg.m	Vapour resistance GN.s/kg	Cumulative vapour resistance GN.s/kg
External surface	-	0.000	0.170	0.170	0.000	0.000	0.00
1. Screed	75.0	0.410	0.183	0.353	0.000	0.000	0.00
2. Blockwork, light	100.0	0.180	0.556	0.908	30.0	3.00	3.00
3. Tuff-RTM Zero GA3000Z	50.0	0.023	2.174	3.082	43,373.0	2,168.65	2,171.65
4. Tuff-RTM Zero GA3000Z	50.0	0.023	2.174	5.256	43,373.0	2,168.65	4,340.30
5. Jablite board EPS 100	100.0	0.036	2.778	8.034	200.0	20.00	4,360.30
Internal surface	-	0.000	0.170	8.034	0.000	0.000	4,360.30
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Render	22.0	0.570	0.039	0.079	100.0	2.20	2.20
2. Breather membrane	1.0	0.000	0.000	0.079	0.000	0.40	2.60
3. Plywood	19.0	0.130	0.146	0.225	450.0	8.55	11.15
4. Tuff-RTM Zero GA3000Z	90.0	0.023	3.913	4.138	43,373.0	3,903.57	3,914.72
5. Plasterboard, standard	12.5	0.210	0.060	4.197	45.0	0.56	3,915.28
6. Plaster, lightweight	5.0	0.180	0.028	4.225	50.0	0.25	3,915.53
Internal surface	-	0.000	0.130	4.225	0.000	0.000	3,915.53
External surface	-	0.000	0.100	0.100	0.000	0.000	0.00
1. Tiling, clay	15.0	1.000	0.000	0.100	250.0	3.75	3.75
2. Standard cavity	25.0	0.000	0.000	0.100	0.000	0.000	3.75
3. Sarking felt	1.0	0.190	0.005	0.105	1,000.0	1.00	4.75
4. Crown Wool	150.0	0.040	3.750	3.855	7.0	1.05	5.80
5. Tri-Iso Actis 10 (Tri-Iso figures)	30.0	0.000	5.000	8.855	0.000	0.30	6.10
6. airspace/timber battens	22.0	0.000	0.160	9.015	0.000	0.000	6.10
7. Plasterboard, standard	12.5	0.210	0.060	9.075	45.0	0.56	6.66
8. Plaster, lightweight	5.0	0.180	0.028	9.103	50.0	0.25	6.91
Internal surface	-	0.000	0.100	9.103	0.000	0.000	6.91
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Crown Wool	150.0	0.040	3.750	3.790	7.0	1.05	1.05
2. Tri-Iso Actis 10 (Tri-Iso figures)	30.0	0.000	5.000	8.790	0.000	0.30	1.35
3. airspace/timber battens	50.0	0.000	0.160	8.950	0.000	0.000	1.35
4. Plasterboard, standard	12.5	0.210	0.060	9.010	45.0	0.56	1.91
5. Plaster, lightweight	5.0	0.180	0.028	9.037	50.0	0.25	2.16
Internal surface	-	0.000	0.100	9.037	0.000	0.000	2.16
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Artificial stone	100.0	1.300	0.077	0.117	0.000	0.000	0.00
2. Dritherm 65-100mm	75.0	0.037	2.027	2.144	0.000	0.000	0.00
3. Dritherm 65-100mm	75.0	0.037	2.027	4.171	0.000	0.000	0.00
4. Celcon Solar - Normal - Trad joint 10mm	100.0	0.110	0.909	5.080	60.0	6.00	6.00
5. airspace/timber battens	22.0	0.000	0.177	5.257	0.000	0.000	6.00
6. Plasterboard, standard	12.5	0.210	0.060	5.317	45.0	0.56	6.56
7. Plaster, lightweight	5.0	0.180	0.028	5.344	50.0	0.25	6.81
Internal surface	-	0.000	0.130	5.344	0.000	0.000	6.81

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 / Render	5.09	828.3	877.5	4.27	0.00	0.00	No
2. Render / Breather membrane	5.18	828.4	882.9	4.27	0.00	0.00	No
3. Breather membrane / Plywood	5.18	828.5	882.9	4.27	0.00	0.00	No
4. Plywood / Tuff-RTM Zero GA3000Z	5.52	829.1	903.8	4.28	0.00	0.00	No
5. Tuff-RTM Zero GA3000Z / Plasterboard, standard	14.50	1 107.8	1 650.4	8.48	0.00	0.00	No
6. Plasterboard, standard / Plaster, lightweight	14.64	1 107.8	1 665.1	8.48	0.00	0.00	No
7. Plaster, lightweight / Internal surface	14.70	1 107.9	1 671.9	8.48	0.00	0.00	No
Internal surface	15.00	1 107.9	1 671.9	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation:



CONDENSATION RISK ANALYSIS

Users Ref: MSBC

Issued on: 19.December.2008

Prop Type Ref:

Property: The Old Common, Chalford, Stroud, Gloucestershire, GL6 8HH

TER: 18.21

DER: 16.09

SAP Rating: 82 B

SAP Energy Cost: £486

CO2 Emissions: 4.20 t/year

EI Rating: 82 B

Energy used: 94 kWh/m2/year

Enel: 0

ZC: 0.00

Surveyor: A102-0001, Mark Sheehan, Tel: 07779 341875, Fax: None

Address: 39 The Old Common, Chalford, Stroud, Gloucestershire

Client:

Software Version: EES SAP 2005.015.build.0019, April 2008 (Design System), BRE SAP Worksheet 9.81

Regs Type: SAP 2005, Regs Region: England and Wales (Part L1A 2006), Construction Type: New Build

Calculation method: BS EN ISO 6946, BS EN ISO 13370, BS 5250

Floor 1 - Suspended beam and block floor

Environmental conditions:

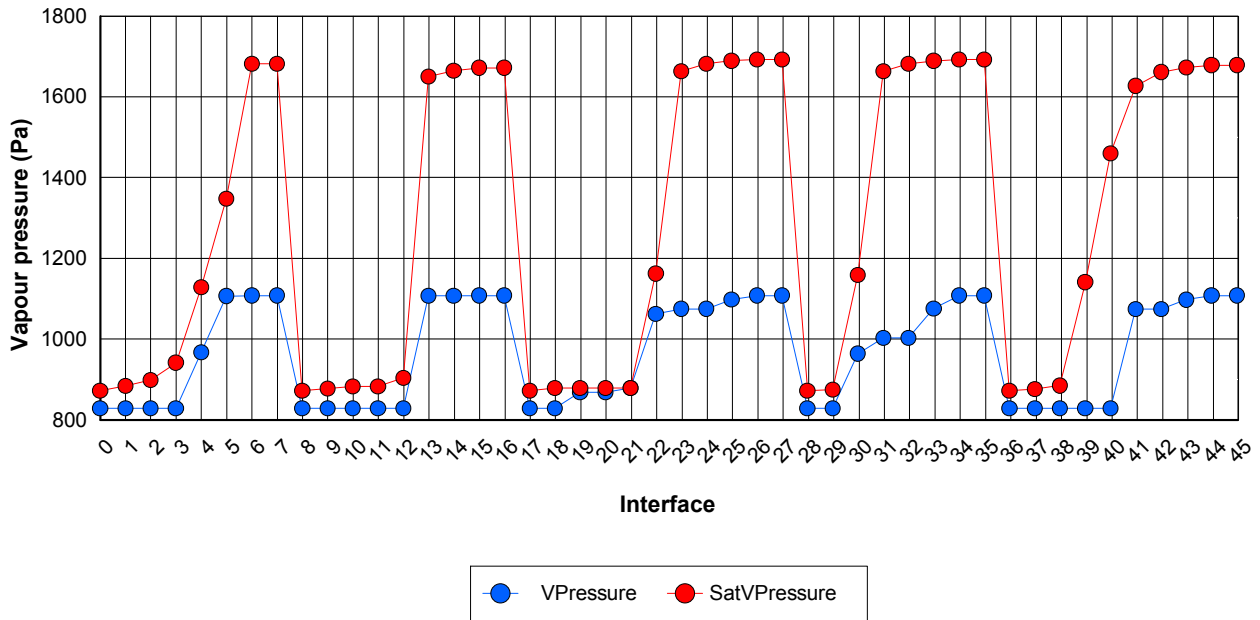
External conditions:	Temperature: 5 °C	Relative Humidity: 95 %
Internal conditions:	Temperature: 15 °C	Relative Humidity: 65 %

Table of layers:

Layer	Width mm	Thermal conduct. W/m.K	Thermal resistance m ² .K/W	Cumulative thermal resistance m ² .K/W	Vapour resistivity GN.s/kg.m	Vapour resistance GN.s/kg	Cumulative vapour resistance GN.s/kg
External surface	-	0.000	0.170	0.170	0.000	0.000	0.00
1. Screed	75.0	0.410	0.183	0.353	0.000	0.000	0.00
2. Blockwork, light	100.0	0.180	0.556	0.908	30.0	3.00	3.00
3. Tuff-RTM Zero GA3000Z	50.0	0.023	2.174	3.082	43,373.0	2,168.65	2,171.65
4. Tuff-RTM Zero GA3000Z	50.0	0.023	2.174	5.256	43,373.0	2,168.65	4,340.30
5. Jablite board EPS 100	100.0	0.036	2.778	8.034	200.0	20.00	4,360.30
Internal surface	-	0.000	0.170	8.034	0.000	0.000	4,360.30
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Render	22.0	0.570	0.039	0.079	100.0	2.20	2.20
2. Breather membrane	1.0	0.000	0.000	0.079	0.000	0.40	2.60
3. Plywood	19.0	0.130	0.146	0.225	450.0	8.55	11.15
4. Tuff-RTM Zero GA3000Z	90.0	0.023	3.913	4.138	43,373.0	3,903.57	3,914.72
5. Plasterboard, standard	12.5	0.210	0.060	4.197	45.0	0.56	3,915.28
6. Plaster, lightweight	5.0	0.180	0.028	4.225	50.0	0.25	3,915.53
Internal surface	-	0.000	0.130	4.225	0.000	0.000	3,915.53
External surface	-	0.000	0.100	0.100	0.000	0.000	0.00
1. Tiling, clay	15.0	1.000	0.000	0.100	250.0	3.75	3.75
2. Standard cavity	25.0	0.000	0.000	0.100	0.000	0.000	3.75
3. Sarking felt	1.0	0.190	0.005	0.105	1,000.0	1.00	4.75
4. Crown Wool	150.0	0.040	3.750	3.855	7.0	1.05	5.80
5. Tri-Iso Actis 10 (Tri-Iso figures)	30.0	0.000	5.000	8.855	0.000	0.30	6.10
6. airspace/timber battens	22.0	0.000	0.160	9.015	0.000	0.000	6.10
7. Plasterboard, standard	12.5	0.210	0.060	9.075	45.0	0.56	6.66
8. Plaster, lightweight	5.0	0.180	0.028	9.103	50.0	0.25	6.91
Internal surface	-	0.000	0.100	9.103	0.000	0.000	6.91
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Crown Wool	150.0	0.040	3.750	3.790	7.0	1.05	1.05
2. Tri-Iso Actis 10 (Tri-Iso figures)	30.0	0.000	5.000	8.790	0.000	0.30	1.35
3. airspace/timber battens	50.0	0.000	0.160	8.950	0.000	0.000	1.35
4. Plasterboard, standard	12.5	0.210	0.060	9.010	45.0	0.56	1.91
5. Plaster, lightweight	5.0	0.180	0.028	9.037	50.0	0.25	2.16
Internal surface	-	0.000	0.100	9.037	0.000	0.000	2.16
External surface	-	0.000	0.040	0.040	0.000	0.000	0.00
1. Artificial stone	100.0	1.300	0.077	0.117	0.000	0.000	0.00
2. Dritherm 65-100mm	75.0	0.037	2.027	2.144	0.000	0.000	0.00
3. Dritherm 65-100mm	75.0	0.037	2.027	4.171	0.000	0.000	0.00
4. Celcon Solar - Normal - Trad joint 10mm	100.0	0.110	0.909	5.080	60.0	6.00	6.00
5. airspace/timber battens	22.0	0.000	0.177	5.257	0.000	0.000	6.00
6. Plasterboard, standard	12.5	0.210	0.060	5.317	45.0	0.56	6.56
7. Plaster, lightweight	5.0	0.180	0.028	5.344	50.0	0.25	6.81
Internal surface	-	0.000	0.130	5.344	0.000	0.000	6.81

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 / Screed	5.21	828.3	884.6	4.27	0.00	0.00	No
2. Screed / Blockwork, light	5.43	828.3	898.4	4.27	0.00	0.33	No
3. Blockwork, light / Tuff-RTM Zero GA3000Z	6.11	828.5	941.6	4.27	0.00	0.00	No
4. Tuff-RTM Zero GA3000Z / Tuff-RTM Zero GA3000Z	8.76	967.5	1 128.8	6.50	0.00	0.00	No
5. Tuff-RTM Zero GA3000Z / Jablite board EPS 100	11.41	1 106.6	1 347.9	8.46	0.00	0.00	No
6. Jablite board EPS 100 / Internal surface	14.79	1 107.9	1 681.8	8.48	0.00	0.00	No
Internal surface	15.00	1 107.9	1 681.8	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation:

