

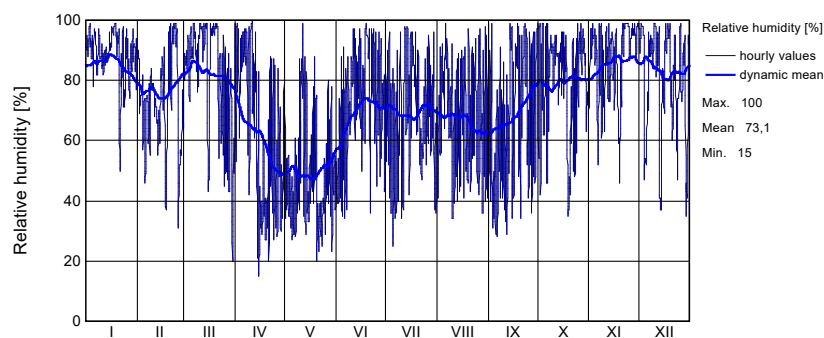
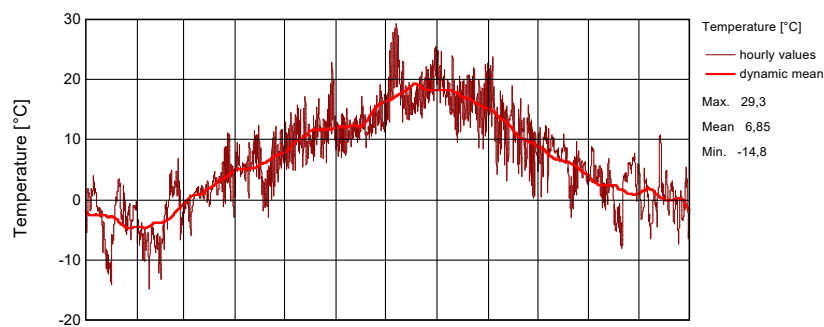
Project data

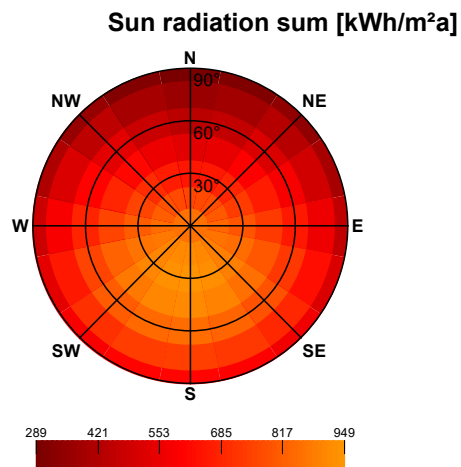
| | |
|----------------|-----------|
| Client | |
| Surname & Name | |
| Locality | |
| Postal code | |
| Street | |
| Tel. | |
| e-mail | |
| Building | |
| Name/Type | |
| Locality | |
| Postal code | |
| Street | |
| Country | |
| Owner | |
| Surname & Name | |
| Locality | |
| Postal code | |
| Street | |
| Responsible | |
| Surname & Name | |
| Locality | |
| Postal code | |
| Street | |
| Tel. | |
| e-mail | |
| Date | 21.5.2019 |

Climate

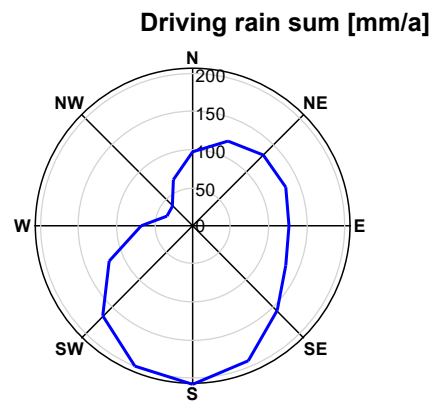
Case 1: Main climate

| | |
|-----------------------------|--------------|
| Oslo (NBI / NTNU) | |
| Latitude [°] | 59,9 |
| Longitude [°] | 10,7 |
| Height NN [m] | 94 |
| Time zone [Hours from UTC] | 1 |
| Additional data | |
| Albedo | User defined |
| Ground reflectance short | 0,2 |
| Ground reflectance long | 0,1 |
| Ground emission | 0,9 |
| Cloud index (only WET-file) | 0,7 |
| CO2-concentration [mg/m³] | 350 |





Counterradiation sum [kWh/m²a]: 2641,4
Mean cloud index [-]: 0,67



Normal rain sum [mm/a]: 604,7
Mean wind speed [m/s]: 2,71

Conditioned zones

Case 1/Zone 1: General data

| | |
|--|----------------------|
| Name | Soverom Sør |
| Geometry | |
| Gross volume (User defined) [m³] | |
| Net volume (User defined) [m³] | 19,53 |
| Floor area (From visualized geometry) [m²] | 7,268 |
| Other parameters | |
| Initial temperature [°C] | 20 |
| Initial rel. humidity [%] | 55 |
| Initial CO2-concentration [ppmv] | 400 |
| Distribution of solar gains on interior surfaces | Proportional to area |
| Solar radiation direct to interior air [-] | 0,1 |

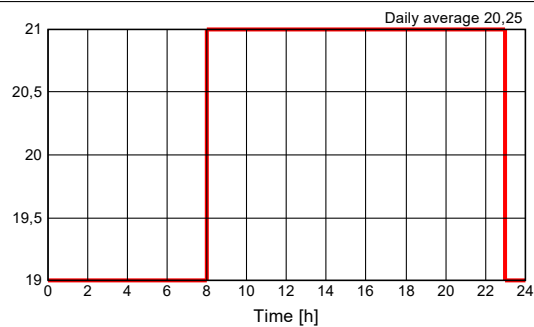
Case 1/Zone 1: Design conditions

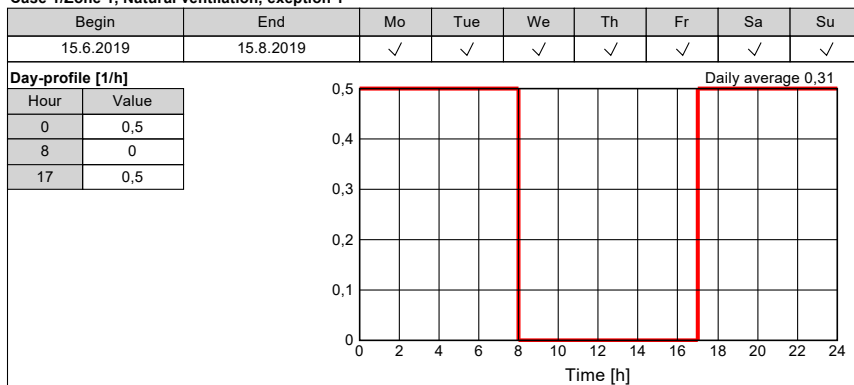
| | |
|---|------|
| Max. temperature (cooling) [°C] | 26 |
| Min. relative humidity (humidification) [%] | 20 |
| Max. relative humidity (dehumidification) [%] | 60 |
| Max. CO2-concentration [ppmv] | 900 |
| Natural ventilation [1/h] | 0 |
| Mechanical ventilation [m³/h] | 38 |
| Infiltration ACH [1/h] | 0.03 |

Case 1/Zone 1, Minimal temperature

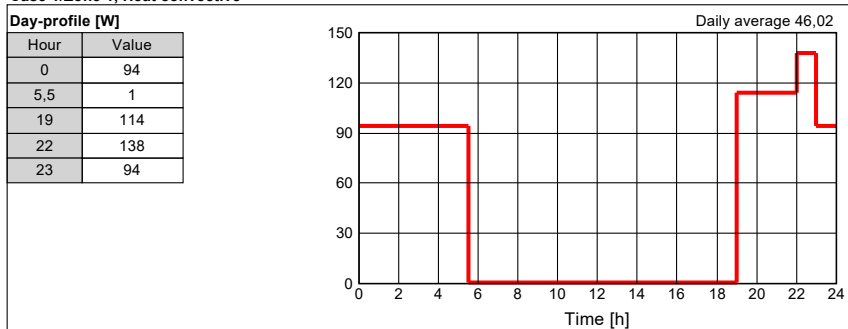
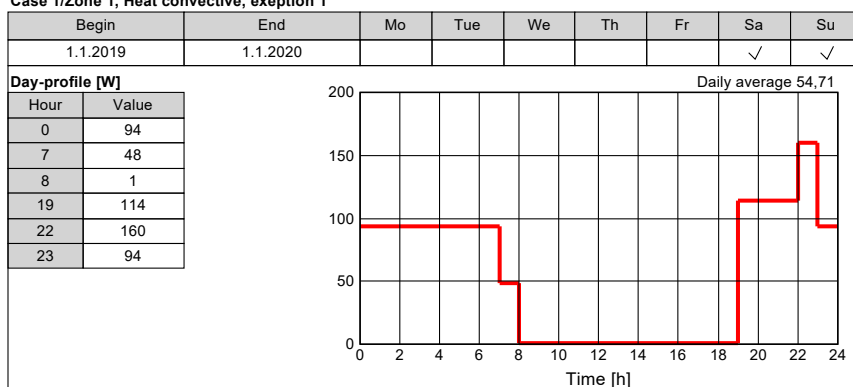
Day-profile [°C]

| Hour | Value |
|------|-------|
| 0 | 19 |
| 8 | 21 |
| 23 | 19 |



Case 1/Zone 1, Natural ventilation, exeption 1

Case 1/Zone 1: Loads/Occupancy

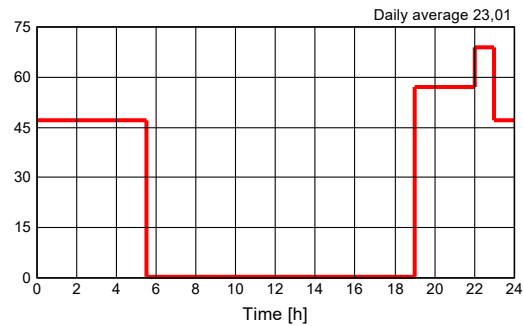
| | |
|--------------------|-----|
| Clothing [clo] | 0,7 |
| Air velocity [m/s] | 0,1 |

Case 1/Zone 1, Heat convective

Case 1/Zone 1, Heat convective, exeption 1


Case 1/Zone 1, Heat radiant

Day-profile [W]

| Hour | Value |
|------|-------|
| 0 | 47 |
| 5,5 | 0,5 |
| 19 | 57 |
| 22 | 69 |
| 23 | 47 |

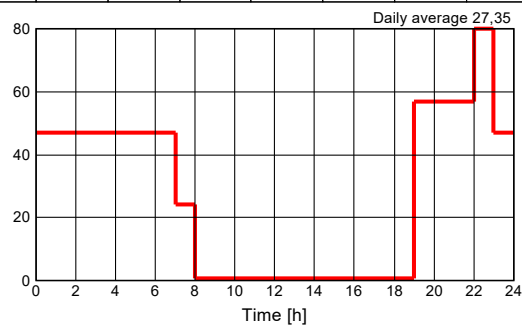


Case 1/Zone 1, Heat radiant, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

Day-profile [W]

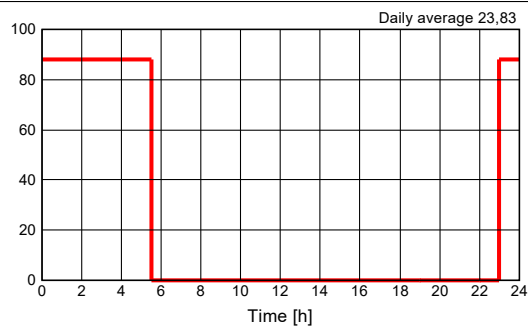
| Hour | Value |
|------|-------|
| 0 | 47 |
| 7 | 24 |
| 8 | 0,5 |
| 19 | 57 |
| 22 | 80 |
| 23 | 47 |



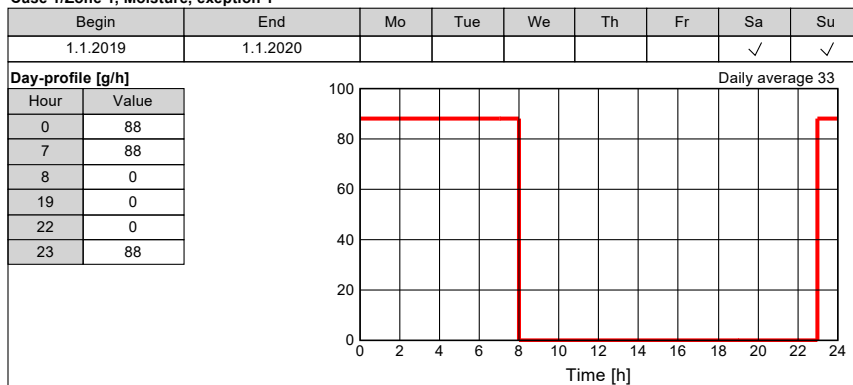
Case 1/Zone 1, Moisture

Day-profile [g/h]

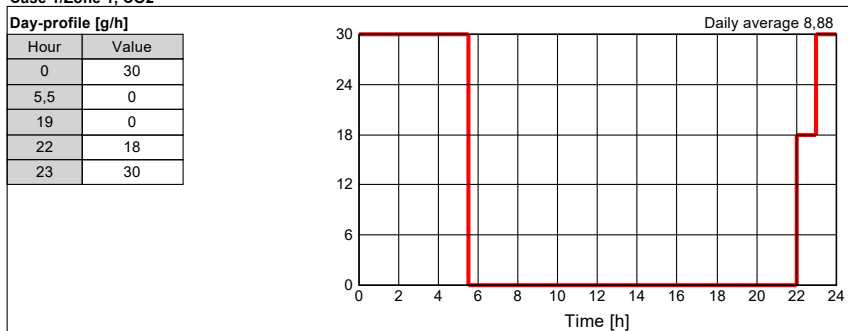
| Hour | Value |
|------|-------|
| 0 | 88 |
| 5,5 | 0 |
| 19 | 0 |
| 22 | 0 |
| 23 | 88 |



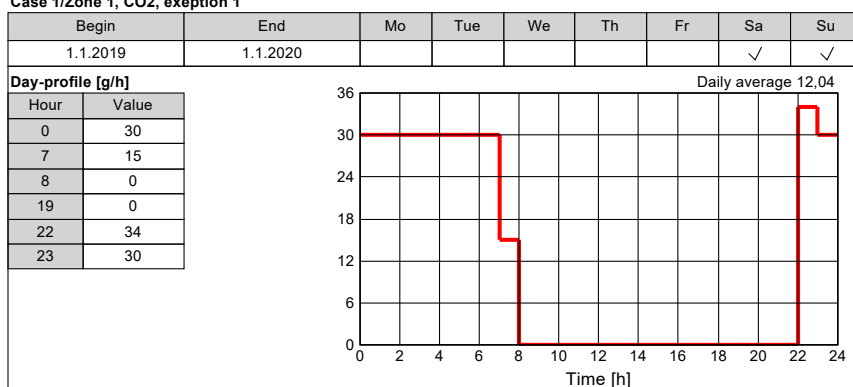
Case 1/Zone 1, Moisture, exeption 1



Case 1/Zone 1, CO2



Case 1/Zone 1, CO2, exeption 1



Case 1/Zone 1, Human activity

Day-profile [met]

| Hour | Value |
|------|-------|
| 0 | 0,8 |
| 5,5 | 0 |
| 19 | 0 |
| 22 | 1 |
| 23 | 0,8 |



Case 1/Zone 1, Human activity, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

Day-profile [met]

| Hour | Value |
|------|-------|
| 0 | 0,8 |
| 7 | 0,8 |
| 8 | 0 |
| 19 | 1 |
| 22 | 1 |
| 23 | 0,8 |



Case 1/Zone 1, Clothing, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

0,7 clo

Case 1/Zone 1, Air velocity, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

0,1 m/s

Case 1/Zone 1: Visualized components

Case 1/Zone 1/Component 1: General data

| | |
|--|---|
| Name | Yttervegg soverom sør |
| Type | Opaque |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Outer air |
| Assembly | Assembly (Id.1): Lightweight timber framed wall |
| U [W/m²K] | 0,186 |
| Geometry | |
| Area [m²] | 4,3 |
| Inclination [°] | 90 |
| Orientation | South-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,094 |
| Height above ground (User defined) [m] | |

Case 1/Zone 1/Component 2: General data

| | |
|--|-------------------------------|
| Name | Vindu Sov Sør |
| Type | Transparent |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Outer air |
| Window type | Window type (Id 1): Example 1 |
| Solar protection | Solar protection (Id 1): New |
| Uw - installed [W/m²K] | 0,79 |
| Geometry | |
| Area [m²] | 0,7 |
| Inclination [°] | 90 |
| Orientation | South-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,016 |
| Height above ground (User defined) [m] | |

Case 1/Zone 1/Component 3: General data

| | |
|--|---|
| Name | Vegg mellom leilighet |
| Type | Opaque |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Space with the same interior conditions |
| Assembly | Assembly (Id.2): Vegg mellom leilighet |
| U [W/m²K] | 0,2123 |
| Geometry | |
| Area [m²] | 11,3 |
| Inclination [°] | 90 |
| Orientation | North-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,249 |
| Height above ground (User defined) [m] | |

Case 1/Zone 1/Component 4: General data

| | |
|--|---|
| Name | Himling |
| Type | Opaque |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Space with the same interior conditions |
| Assembly | Assembly (Id.7): Himling |
| U [W/m²K] | 0,53 |
| Geometry | |
| Area [m²] | 7,3 |
| Inclination [°] | 0 |
| Orientation | Horizontal (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 5,5 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,1 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,161 |
| Height above ground (User defined) [m] | |

Case 1/Zone 1/Component 5: General data

| | |
|--|-----------------------|
| Name | Gulv |
| Type | Opaque |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Ground |
| Assembly | Assembly (Id.5): Gulv |
| U [W/m²K] | 0,0714 |
| Geometry | |
| Area [m²] | 7,3 |
| Inclination [°] | 180 |
| Orientation | Horizontal (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 99999 |
| Heat transfer coefficient radiant, extern [W/m²K] | 0 |
| Heat transfer coefficient convective, intern [W/m²K] | 2,5 |
| Heat transfer coefficient radiant, intern [W/m²K] | 3,38235 |
| Rse / Rsi (According to component type) [-] | 0 / 0,17 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,161 |
| Height above ground (User defined) [m] | |

Case 1/Zone 1/Component 6: General data

| | |
|-----------------|----------------------------|
| Name | Dør mellom sov sør og stue |
| Type | Opening |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Zone 4: Stue/ Kjøkken |
| Geometry | |
| Area [m²] | 1,9 |
| Inclination [°] | 90 |
| Orientation | South-West (100 %) |

Case 1/Zone 1/Component 7: General data

| | |
|--|--|
| Name | Vegg mellom sov sør og stue |
| Type | Opaque |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Zone 4: Stue/ Kjøkken |
| Assembly | Assembly (Id.3): Vegg mellom sov sør og stue |
| U [W/m²K] | 0,4515 |
| Geometry | |
| Area [m²] | 7,6 |
| Inclination [°] | 90 |
| Orientation | South-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,169 |
| Solar radiation on second interior surface [-] | 0,05 |
| Height above ground (User defined) [m] | |

Case 1/Zone 1/Component 8: General data

| | |
|--|---|
| Name | Vegg mellom sov sør og bad |
| Type | Opaque |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Zone 2: Bad |
| Assembly | Assembly (Id.4): Lightweight timber framed wall |
| U [W/m²K] | 0,2257 |
| Geometry | |
| Area [m²] | 2,2 |
| Inclination [°] | 90 |
| Orientation | North-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,049 |
| Solar radiation on second interior surface [-] | 0,057 |
| Height above ground (User defined) [m] | |

Case 1/Zone 1/Component 9: General data

| | |
|--|---|
| Name | Vegg mellom sov sør og bad |
| Type | Opaque |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Zone 2: Bad |
| Assembly | Assembly (Id.4): Lightweight timber framed wall |
| U [W/m²K] | 0,2257 |
| Geometry | |
| Area [m²] | 2,8 |
| Inclination [°] | 90 |
| Orientation | North-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,062 |
| Solar radiation on second interior surface [-] | 0,072 |
| Height above ground (User defined) [m] | |

Case 1/Zone 1/Component 10: General data

| | |
|--|--|
| Name | Vegg massivtre mellom sov sør og bad |
| Type | Opaque |
| Interior side | Zone 1: Soverom Sør |
| Outer side | Zone 2: Bad |
| Assembly | Assembly (Id.10): Vegg massivtre mellom sov sør og bad |
| U [W/m²K] | 0,781 |
| Geometry | |
| Area [m²] | 1,8 |
| Inclination [°] | 90 |
| Orientation | South-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,04 |
| Solar radiation on second interior surface [-] | 0,046 |
| Height above ground (User defined) [m] | |

Case 1/Zone 2: General data

| | |
|--|----------------------|
| Name | Bad |
| Geometry | |
| Gross volume (User defined) [m³] | |
| Net volume (User defined) [m³] | 13,66 |
| Floor area (From visualized geometry) [m²] | 5,479 |
| Other parameters | |
| Initial temperature [°C] | 20 |
| Initial rel. humidity [%] | 55 |
| Initial CO2-concentration [ppmv] | 400 |
| Distribution of solar gains on interior surfaces | Proportional to area |
| Solar radiation direct to interior air [-] | 0,1 |

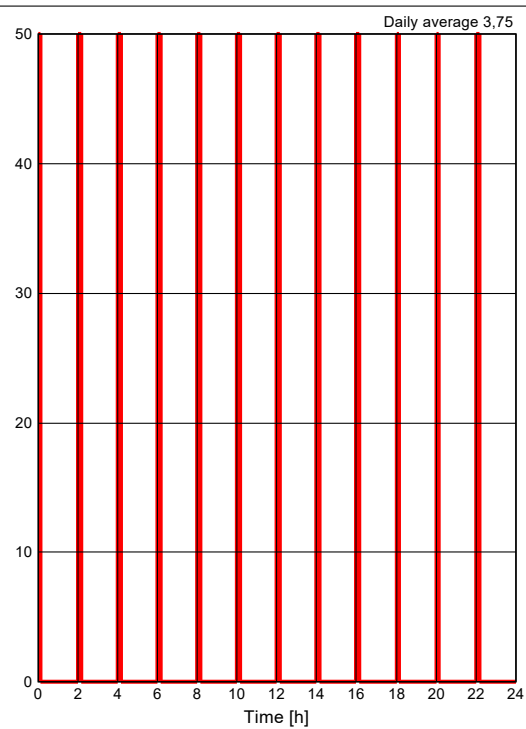
Case 1/Zone 2: Design conditions

| | |
|---|------|
| Min. temperature (heating) [°C] | 20 |
| Max. temperature (cooling) [°C] | 27 |
| Min. relative humidity (humidification) [%] | 20 |
| Max. relative humidity (dehumidification) [%] | 60 |
| Max. CO2-concentration [ppmv] | 3000 |
| Natural ventilation [1/h] | 0 |
| Infiltration ACH [1/h] | 0,00 |

Case 1/Zone 2, Mechanical ventilation

Day-profile [m³/h]

| Hour | Value |
|-------|-------|
| 0 | 50 |
| 00.15 | 0 |
| 02 | 50 |
| 02.15 | 0 |
| 04.00 | 50 |
| 04.15 | 0 |
| 06.00 | 50 |
| 06.15 | 0 |
| 08.00 | 50 |
| 08.15 | 0 |
| 10.00 | 50 |
| 10.15 | 0 |
| 12 | 50 |
| 12.15 | 0 |
| 14 | 50 |
| 14.15 | 0 |
| 16 | 50 |
| 16.15 | 0 |
| 18 | 50 |
| 18.15 | 0 |
| 20 | 50 |
| 20.15 | 0 |
| 22 | 50 |
| 22.15 | 0 |



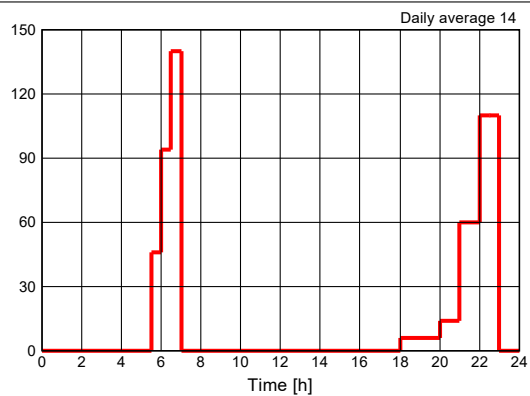
Case 1/Zone 2: Loads/Occupancy

| | |
|--------------------|-----|
| Clothing [clo] | 0,7 |
| Air velocity [m/s] | 0,1 |

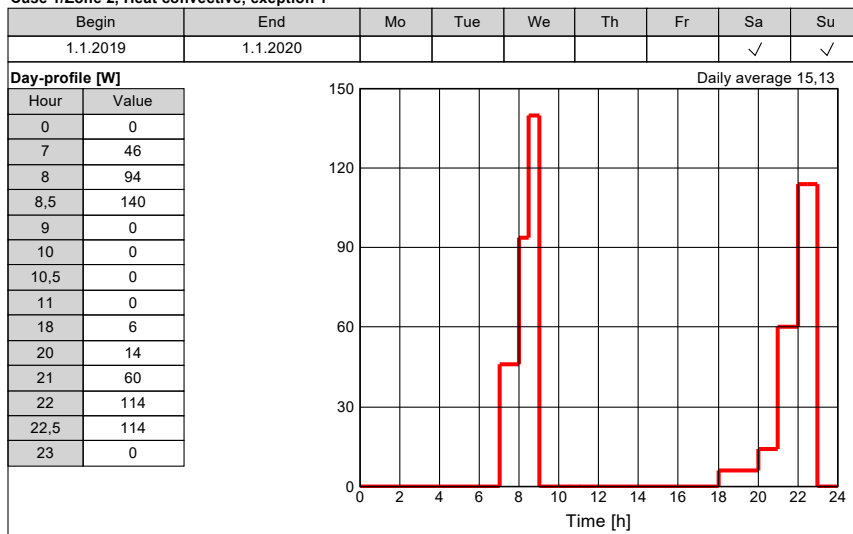
Case 1/Zone 2, Heat convective

Day-profile [W]

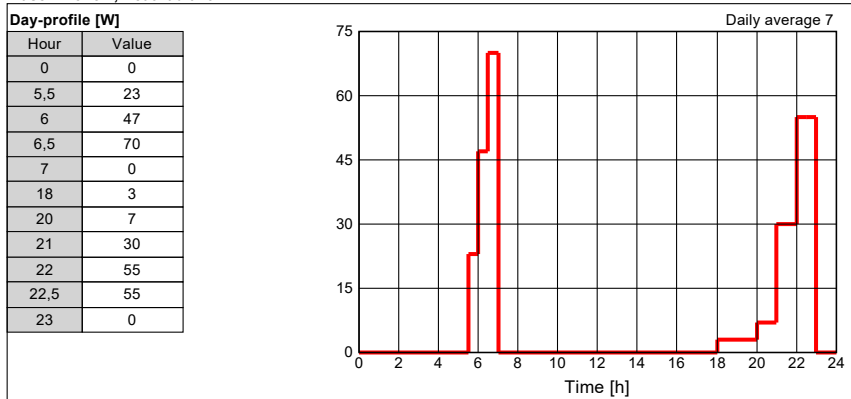
| Hour | Value |
|------|-------|
| 0 | 0 |
| 5,5 | 46 |
| 6 | 94 |
| 6,5 | 140 |
| 7 | 0 |
| 18 | 6 |
| 20 | 14 |
| 21 | 60 |
| 22 | 110 |
| 22,5 | 110 |
| 23 | 0 |



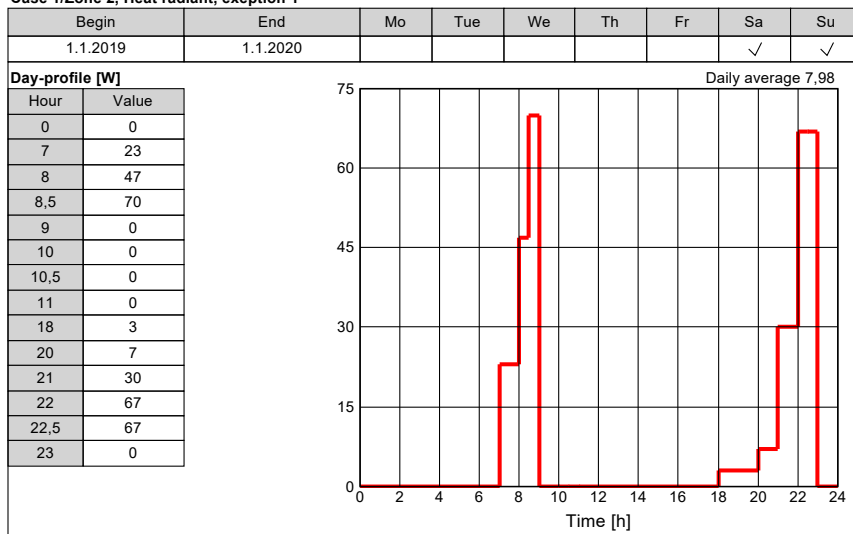
Case 1/Zone 2, Heat convective, exeption 1



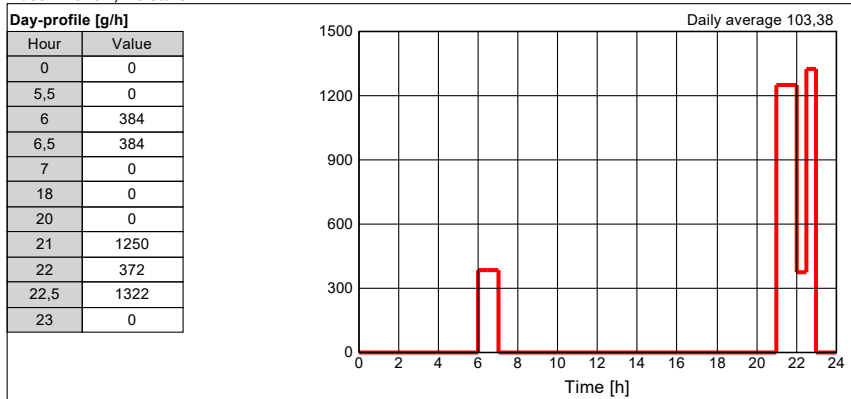
Case 1/Zone 2, Heat radiant



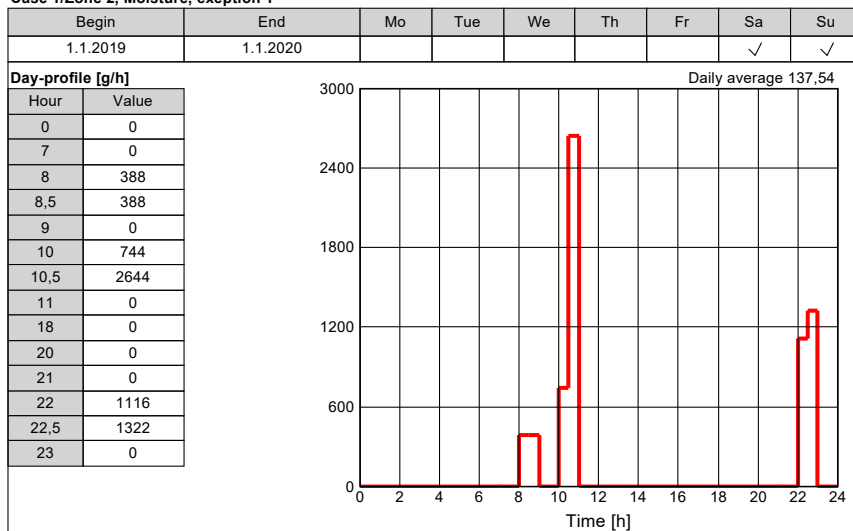
Case 1/Zone 2, Heat radiant, exeption 1



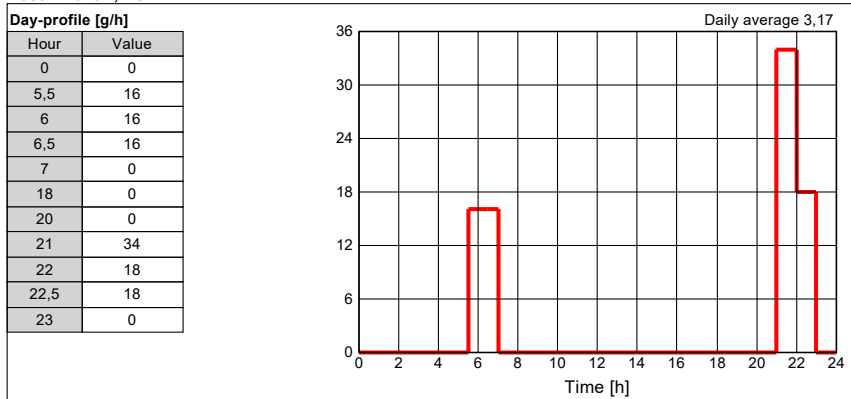
Case 1/Zone 2, Moisture



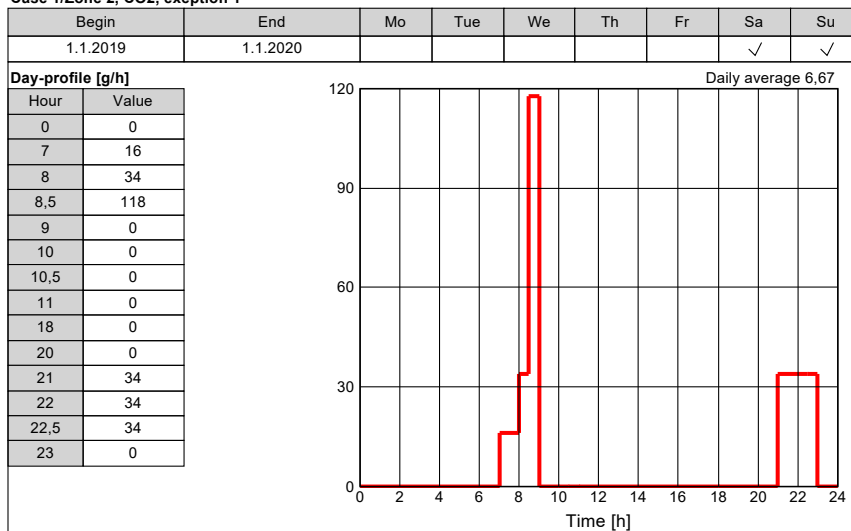
Case 1/Zone 2, Moisture, exeption 1



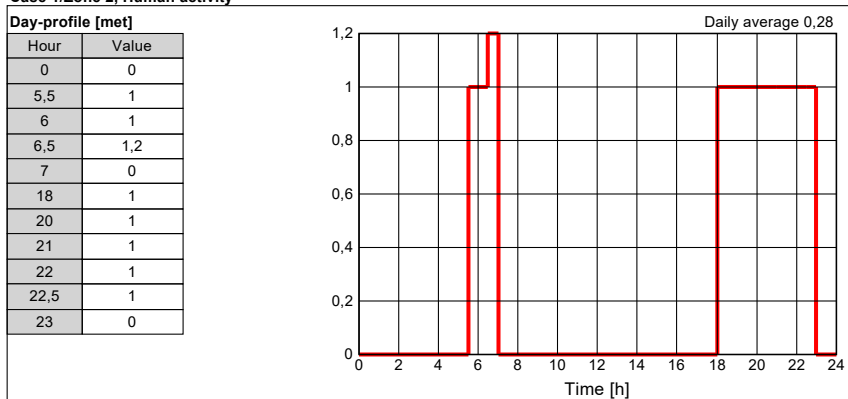
Case 1/Zone 2, CO2

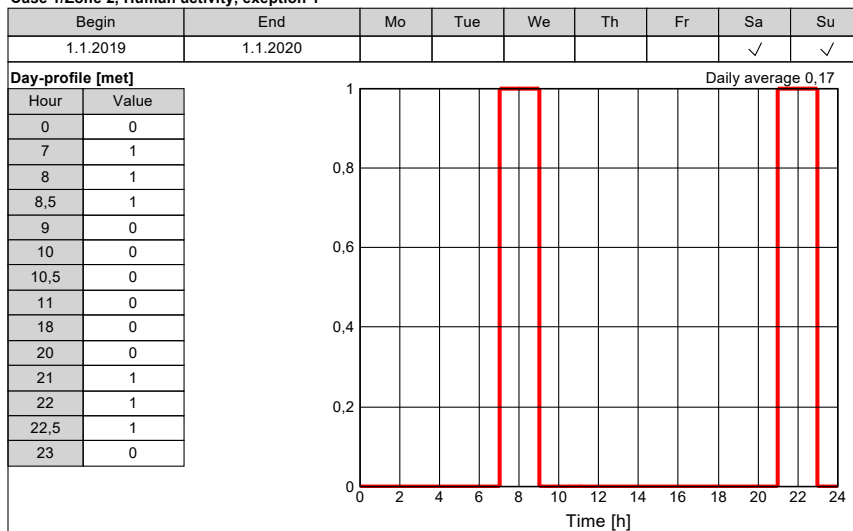


Case 1/Zone 2, CO2, exeption 1



Case 1/Zone 2, Human activity



Case 1/Zone 2, Human activity, exeption 1

Case 1/Zone 2, Clothing, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |
| 0,7 clo | | | | | | | | |

Case 1/Zone 2, Air velocity, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |
| 0,1 m/s | | | | | | | | |

Case 1/Zone 2: Visualized components

Case 1/Zone 2/Component 1: General data

| | |
|--|---|
| Name | Vegg bad mot sov nord |
| Type | Opaque |
| Interior side | Zone 2: Bad |
| Outer side | Zone 3: Soverom nord |
| Assembly | Assembly (Id.4): Lightweight timber framed wall |
| U [W/m²K] | 0,2257 |
| Geometry | |
| Area [m²] | 5,5 |
| Inclination [°] | 90 |
| Orientation | South-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,141 |
| Solar radiation on second interior surface [-] | 0,1 |
| Height above ground (User defined) [m] | |

Case 1/Zone 2/Component 2: General data

| | |
|--|---|
| Name | Vegg mellom leilighet |
| Type | Opaque |
| Interior side | Zone 2: Bad |
| Outer side | Space with the same interior conditions |
| Assembly | Assembly (Id.8): Vegg mellom leilighet |
| U [W/m²K] | 0,2123 |
| Geometry | |
| Area [m²] | 6,7 |
| Inclination [°] | 90 |
| Orientation | North-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,172 |
| Height above ground (User defined) [m] | |

Case 1/Zone 2/Component 3: General data

| | |
|--|---|
| Name | Himling |
| Type | Opaque |
| Interior side | Zone 2: Bad |
| Outer side | Space with the same interior conditions |
| Assembly | Assembly (Id.7): Himling |
| U [W/m²K] | 0,53 |
| Geometry | |
| Area [m²] | 5,5 |
| Inclination [°] | 0 |
| Orientation | Horizontal (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 5,5 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,1 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,141 |
| Height above ground (User defined) [m] | |

Case 1/Zone 2/Component 4: General data

| | |
|--|-----------------------|
| Name | Gulv |
| Type | Opaque |
| Interior side | Zone 2: Bad |
| Outer side | Ground |
| Assembly | Assembly (Id.5): Gulv |
| U [W/m²K] | 0,0714 |
| Geometry | |
| Area [m²] | 5,5 |
| Inclination [°] | 180 |
| Orientation | Horizontal (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 99999 |
| Heat transfer coefficient radiant, extern [W/m²K] | 0 |
| Heat transfer coefficient convective, intern [W/m²K] | 2,5 |
| Heat transfer coefficient radiant, intern [W/m²K] | 3,38235 |
| Rse / Rsi (According to component type) [-] | 0 / 0,17 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,141 |
| Height above ground (User defined) [m] | |

Case 1/Zone 2/Component 5: General data

| | |
|--|------------------------|
| Name | Dør bad mot stue |
| Type | Opaque |
| Interior side | Zone 2: Bad |
| Outer side | Zone 4: Stue/ Kjøkken |
| Assembly | Assembly (Id.9): Dører |
| U [W/m²K] | 1,2262 |
| Geometry | |
| Area [m²] | 1,9 |
| Inclination [°] | 90 |
| Orientation | North-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,048 |
| Solar radiation on second interior surface [-] | 0,012 |
| Height above ground (User defined) [m] | |

Case 1/Zone 2/Component 6: General data

| | |
|--|--|
| Name | vegg bad mot stue |
| Type | Opaque |
| Interior side | Zone 2: Bad |
| Outer side | Zone 4: Stue/ Kjøkken |
| Assembly | Assembly (Id.10): Vegg massivtre mellom sov sør og bad |
| U [W/m²K] | 0,781 |
| Geometry | |
| Area [m²] | 2,6 |
| Inclination [°] | 90 |
| Orientation | South-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,067 |
| Solar radiation on second interior surface [-] | 0,017 |
| Height above ground (User defined) [m] | |

Case 1/Zone 2/Component 7: General data

| | |
|--|--|
| Name | vegg bad mot stue |
| Type | Opaque |
| Interior side | Zone 2: Bad |
| Outer side | Zone 4: Stue/ Kjøkken |
| Assembly | Assembly (Id.10): Vegg massivtre mellom sov sør og bad |
| U [W/m²K] | 0,781 |
| Geometry | |
| Area [m²] | 0,5 |
| Inclination [°] | 90 |
| Orientation | North-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,013 |
| Solar radiation on second interior surface [-] | 0,003 |
| Height above ground (User defined) [m] | |

Case 1/Zone 2/Component 8: General data

| | |
|--|--|
| Name | vegg bad mot stue |
| Type | Opaque |
| Interior side | Zone 2: Bad |
| Outer side | Zone 4: Stue/ Kjøkken |
| Assembly | Assembly (Id.10): Vegg massivtre mellom sov sør og bad |
| U [W/m²K] | 0,781 |
| Geometry | |
| Area [m²] | 4 |
| Inclination [°] | 90 |
| Orientation | North-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,104 |
| Solar radiation on second interior surface [-] | 0,027 |
| Height above ground (User defined) [m] | |

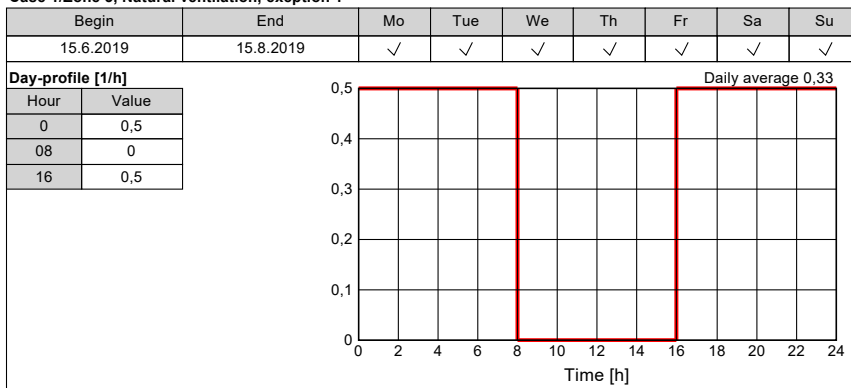
Case 1/Zone 3: General data

| | |
|--|----------------------|
| Name | Soverom nord |
| Geometry | |
| Gross volume (User defined) [m³] | |
| Net volume (User defined) [m³] | 31,36 |
| Floor area (From visualized geometry) [m²] | 9,731 |
| Other parameters | |
| Initial temperature [°C] | 20 |
| Initial rel. humidity [%] | 55 |
| Initial CO2-concentration [ppmv] | 400 |
| Distribution of solar gains on interior surfaces | Proportional to area |
| Solar radiation direct to interior air [-] | 0,1 |

Case 1/Zone 3: Design conditions

| | |
|---|------|
| Min. temperature (heating) [°C] | 20 |
| Max. temperature (cooling) [°C] | 27 |
| Min. relative humidity (humidification) [%] | 20 |
| Max. relative humidity (dehumidification) [%] | 60 |
| Max. CO2-concentration [ppmv] | 3000 |
| Natural ventilation [1/h] | 0 |
| Mechanical ventilation [m³/h] | 38 |
| Infiltration ACH [1/h] | 0,03 |

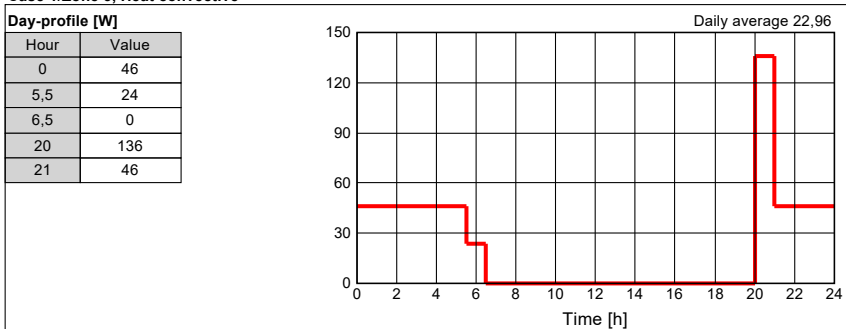
Case 1/Zone 3, Natural ventilation, exeption 1



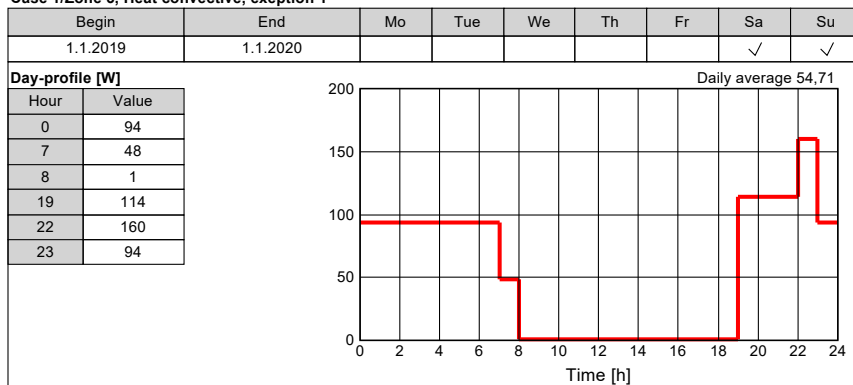
Case 1/Zone 3: Loads/Occupancy

| | |
|--------------------|-----|
| Clothing [clo] | 0,7 |
| Air velocity [m/s] | 0,1 |

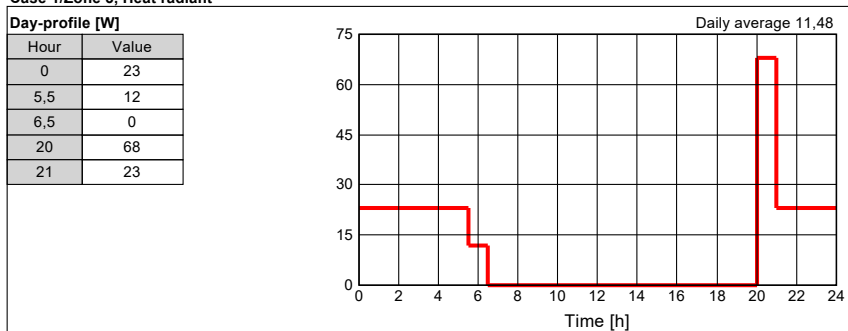
Case 1/Zone 3, Heat convective



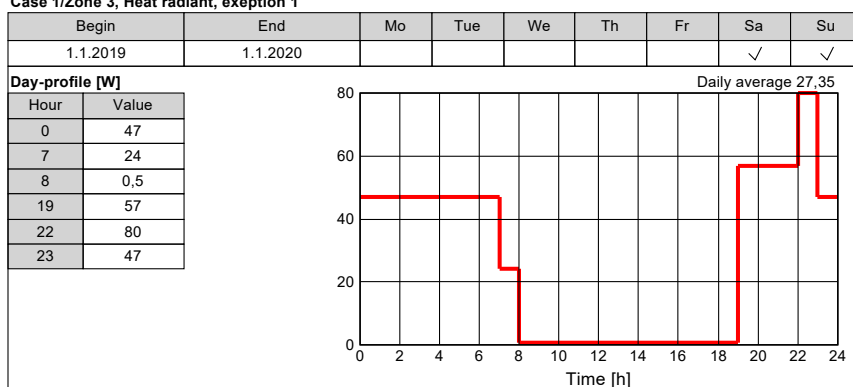
Case 1/Zone 3, Heat convective, exeption 1



Case 1/Zone 3, Heat radiant



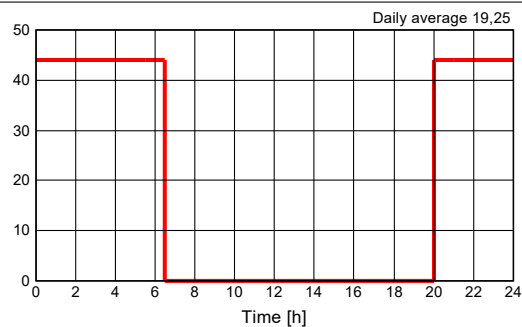
Case 1/Zone 3, Heat radiant, exeption 1



Case 1/Zone 3, Moisture

Day-profile [g/h]

| Hour | Value |
|------|-------|
| 0 | 44 |
| 5,5 | 44 |
| 6,5 | 0 |
| 20 | 44 |
| 21 | 44 |

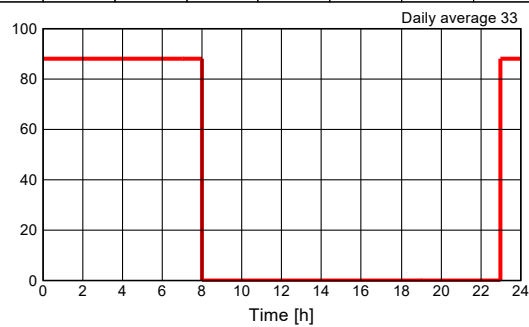


Case 1/Zone 3, Moisture, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

Day-profile [g/h]

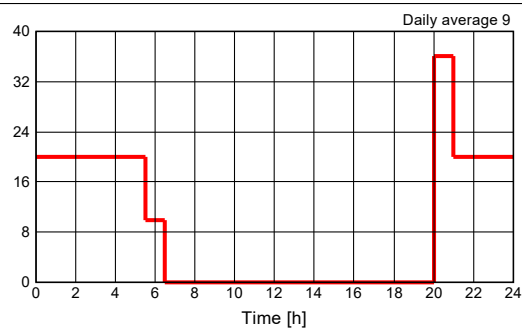
| Hour | Value |
|------|-------|
| 0 | 88 |
| 7 | 88 |
| 8 | 0 |
| 19 | 0 |
| 22 | 0 |
| 23 | 88 |

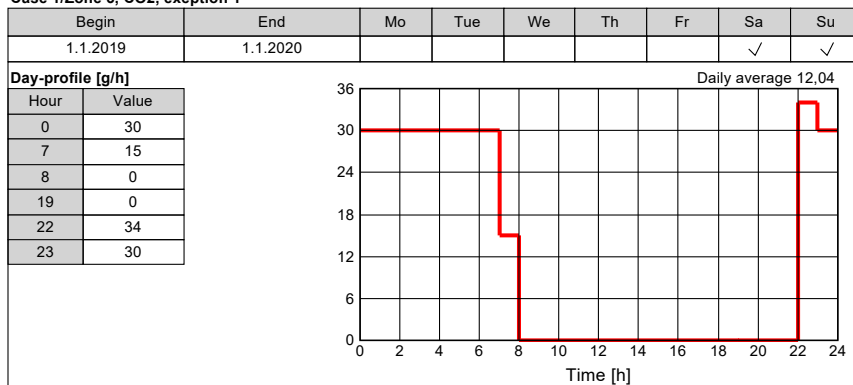
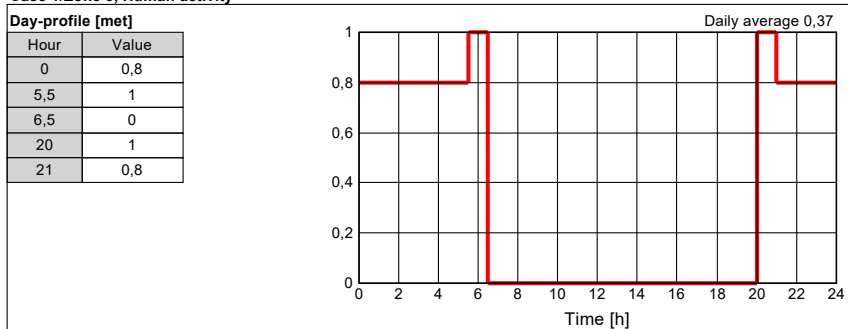
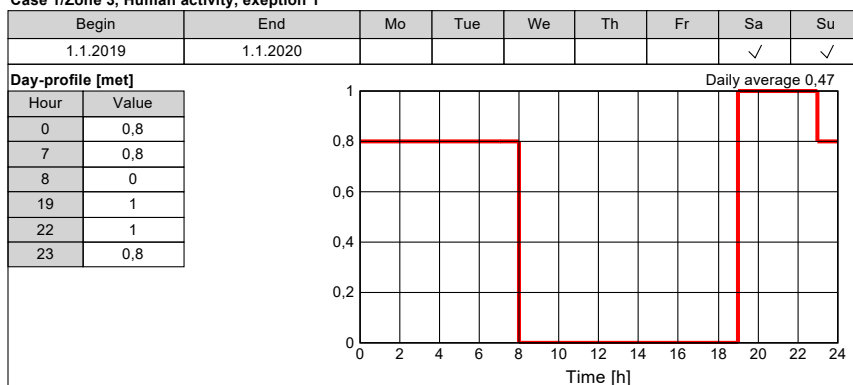


Case 1/Zone 3, CO2

Day-profile [g/h]

| Hour | Value |
|------|-------|
| 0 | 20 |
| 5,5 | 10 |
| 6,5 | 0 |
| 20 | 36 |
| 21 | 20 |



Case 1/Zone 3, CO2, exeption 1

Case 1/Zone 3, Human activity

Case 1/Zone 3, Human activity, exeption 1

Case 1/Zone 3, Clothing, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

0,7 clo

Case 1/Zone 3, Air velocity, exception 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |
| 0,1 m/s | | | | | | | | |

Case 1/Zone 3: Visualized components

Case 1/Zone 3/Component 1: General data

| | |
|--|--|
| Name | Vegg mellom sov nord og stue |
| Type | Opaque |
| Interior side | Zone 3: Soverom nord |
| Outer side | Zone 4: Stue/ Kjøkken |
| Assembly | Assembly (Id.3): Vegg mellom sov sør og stue |
| U [W/m²K] | 0,4515 |
| Geometry | |
| Area [m²] | 10,1 |
| Inclination [°] | 90 |
| Orientation | South-East (7 %), South-West (93 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,185 |
| Solar radiation on second interior surface [-] | 0,067 |
| Height above ground (User defined) [m] | |

Case 1/Zone 3/Component 2: General data

| | |
|--|---|
| Name | Vegg mellom leilighet |
| Type | Opaque |
| Interior side | Zone 3: Soverom nord |
| Outer side | Space with the same interior conditions |
| Assembly | Assembly (Id.2): Vegg mellom leilighet |
| U [W/m²K] | 0,2123 |
| Geometry | |
| Area [m²] | 11,5 |
| Inclination [°] | 90 |
| Orientation | North-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,209 |
| Height above ground (User defined) [m] | |

Case 1/Zone 3/Component 3: General data

| | |
|--|---|
| Name | Yttervegg soverom nord |
| Type | Opaque |
| Interior side | Zone 3: Soverom nord |
| Outer side | Outer air |
| Assembly | Assembly (Id.1): Lightweight timber framed wall |
| U [W/m²K] | 0,186 |
| Geometry | |
| Area [m²] | 5,2 |
| Inclination [°] | 90 |
| Orientation | North-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,095 |
| Height above ground (User defined) [m] | |

Case 1/Zone 3/Component 4: General data

| | |
|--|-------------------------------|
| Name | Vindu yttervegg soverom nord |
| Type | Transparent |
| Interior side | Zone 3: Soverom nord |
| Outer side | Outer air |
| Window type | Window type (Id 1): Example 1 |
| Solar protection | |
| Uw - installed [W/m²K] | 0,79 |
| Geometry | |
| Area [m²] | 1 |
| Inclination [°] | 90 |
| Orientation | North-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,019 |
| Height above ground (User defined) [m] | |

Case 1/Zone 3/Component 5: General data

| | |
|--|---|
| Name | Himling |
| Type | Opaque |
| Interior side | Zone 3: Soverom nord |
| Outer side | Space with the same interior conditions |
| Assembly | Assembly (Id.7): Himling |
| U [W/m²K] | 0,53 |
| Geometry | |
| Area [m²] | 9,7 |
| Inclination [°] | 0 |
| Orientation | Horizontal (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 5,5 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,1 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,177 |
| Height above ground (User defined) [m] | |

Case 1/Zone 3/Component 6: General data

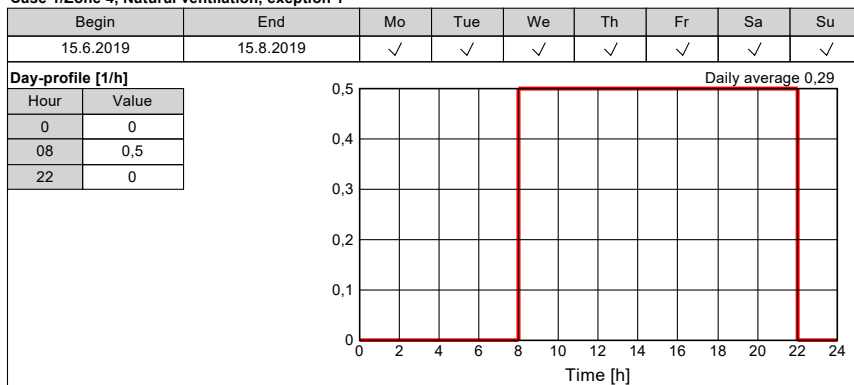
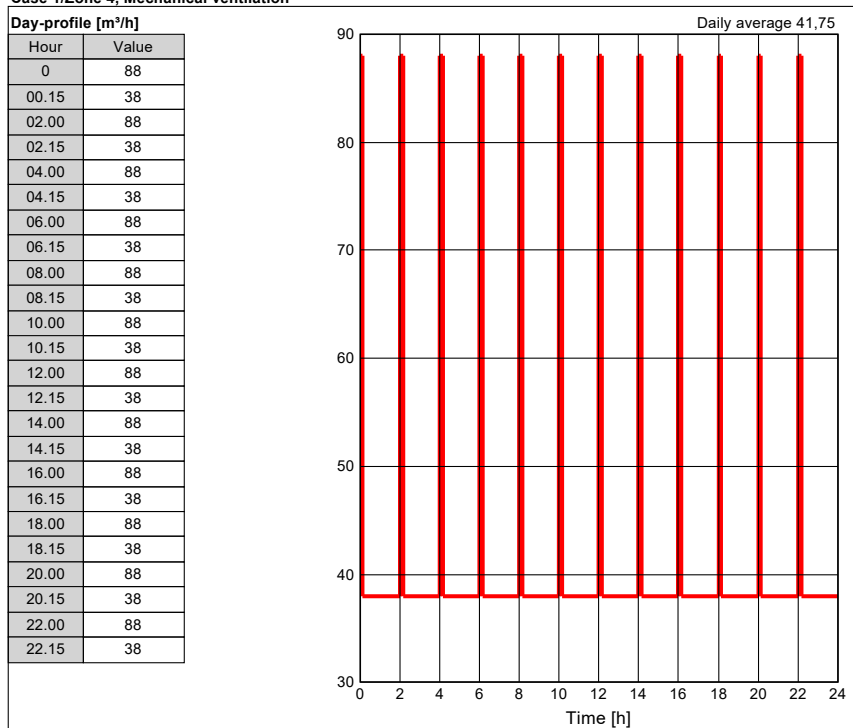
| | |
|--|-----------------------|
| Name | Gulv |
| Type | Opaque |
| Interior side | Zone 3: Soverom nord |
| Outer side | Ground |
| Assembly | Assembly (Id.5): Gulv |
| U [W/m²K] | 0,0714 |
| Geometry | |
| Area [m²] | 9,7 |
| Inclination [°] | 180 |
| Orientation | Horizontal (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 99999 |
| Heat transfer coefficient radiant, extern [W/m²K] | 0 |
| Heat transfer coefficient convective, intern [W/m²K] | 2,5 |
| Heat transfer coefficient radiant, intern [W/m²K] | 3,38235 |
| Rse / Rsi (According to component type) [-] | 0 / 0,17 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,177 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4: General data

| | |
|--|----------------------|
| Name | Stue/ Kjøkken |
| Geometry | |
| Gross volume (User defined) [m³] | |
| Net volume (User defined) [m³] | 83,6 |
| Floor area (From visualized geometry) [m²] | 33,399 |
| Other parameters | |
| Initial temperature [°C] | 20 |
| Initial rel. humidity [%] | 55 |
| Initial CO2-concentration [ppmv] | 400 |
| Distribution of solar gains on interior surfaces | Proportional to area |
| Solar radiation direct to interior air [-] | 0,1 |

Case 1/Zone 4: Design conditions

| | |
|---|------|
| Min. temperature (heating) [°C] | 20 |
| Max. temperature (cooling) [°C] | 27 |
| Min. relative humidity (humidification) [%] | 20 |
| Max. relative humidity (dehumidification) [%] | 60 |
| Max. CO2-concentration [ppmv] | 3000 |
| Natural ventilation [1/h] | 0 |
| Infiltration ACH [1/h] | 0,03 |

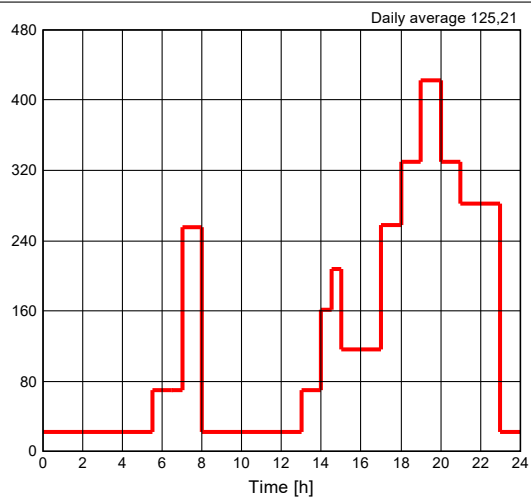
Case 1/Zone 4, Natural ventilation, exeption 1

Case 1/Zone 4, Mechanical ventilation

Case 1/Zone 4: Loads/Occupancy

| | | |
|---|--------------------|-----|
| v | Clothing [clo] | 0,7 |
| | Air velocity [m/s] | 0,1 |

Case 1/Zone 4, Heat convective

Day-profile [W]

| Hour | Value |
|------|-------|
| 0 | 22 |
| 5,5 | 70 |
| 6,5 | 70 |
| 7 | 256 |
| 8 | 22 |
| 13 | 70 |
| 14 | 162 |
| 14,5 | 208 |
| 15 | 116 |
| 17 | 258 |
| 18 | 330 |
| 19 | 422 |
| 20 | 330 |
| 21 | 282 |
| 23 | 22 |

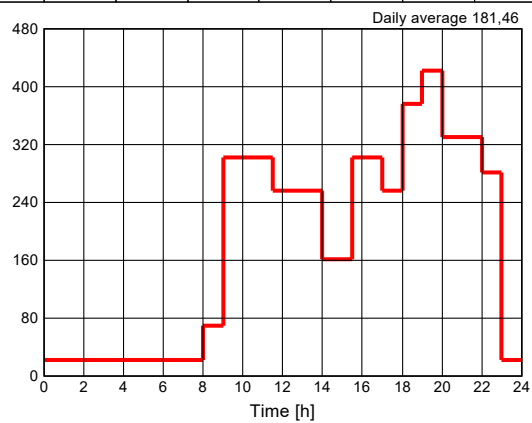


Case 1/Zone 4, Heat convective, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

Day-profile [W]

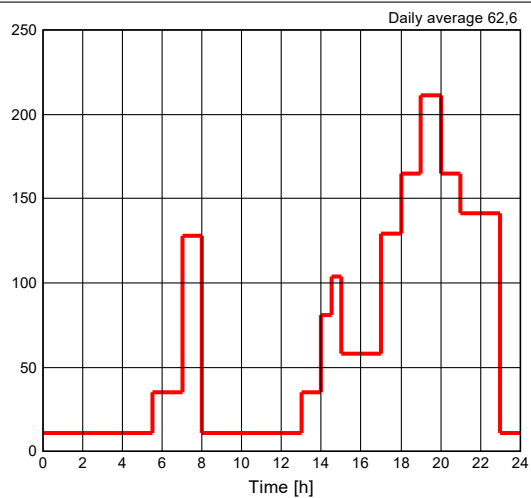
| Hour | Value |
|------|-------|
| 0 | 22 |
| 8 | 70 |
| 9 | 302 |
| 11,5 | 256 |
| 14 | 162 |
| 15,5 | 302 |
| 17 | 256 |
| 18 | 376 |
| 19 | 422 |
| 20 | 330 |
| 22 | 282 |
| 23 | 22 |



Case 1/Zone 4, Heat radiant

Day-profile [W]

| Hour | Value |
|------|-------|
| 0 | 11 |
| 5,5 | 35 |
| 6,5 | 35 |
| 7 | 128 |
| 8 | 11 |
| 13 | 35 |
| 14 | 81 |
| 14,5 | 104 |
| 15 | 58 |
| 17 | 129 |
| 18 | 165 |
| 19 | 211 |
| 20 | 165 |
| 21 | 141 |
| 23 | 11 |

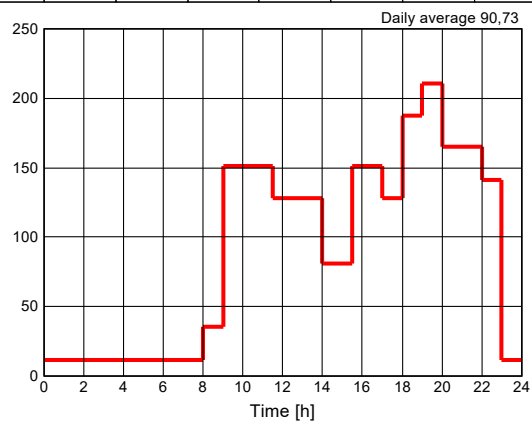


Case 1/Zone 4, Heat radiant, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

Day-profile [W]

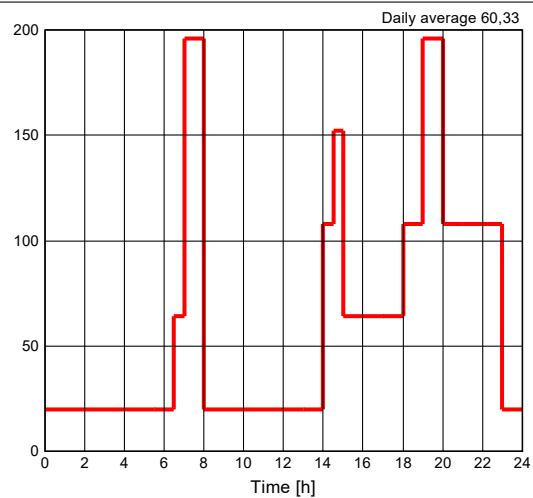
| Hour | Value |
|------|-------|
| 0 | 11 |
| 8 | 35 |
| 9 | 151 |
| 11,5 | 128 |
| 14 | 81 |
| 15,5 | 151 |
| 17 | 128 |
| 18 | 188 |
| 19 | 211 |
| 20 | 165 |
| 22 | 141 |
| 23 | 11 |



Case 1/Zone 4, Moisture

Day-profile [g/h]

| Hour | Value |
|------|-------|
| 0 | 20 |
| 5,5 | 20 |
| 6,5 | 64 |
| 7 | 196 |
| 8 | 20 |
| 13 | 20 |
| 14 | 108 |
| 14,5 | 152 |
| 15 | 64 |
| 17 | 64 |
| 18 | 108 |
| 19 | 196 |
| 20 | 108 |
| 21 | 108 |
| 23 | 20 |

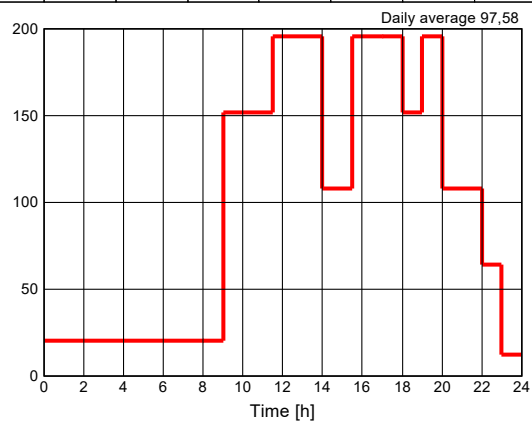


Case 1/Zone 4, Moisture, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

Day-profile [g/h]

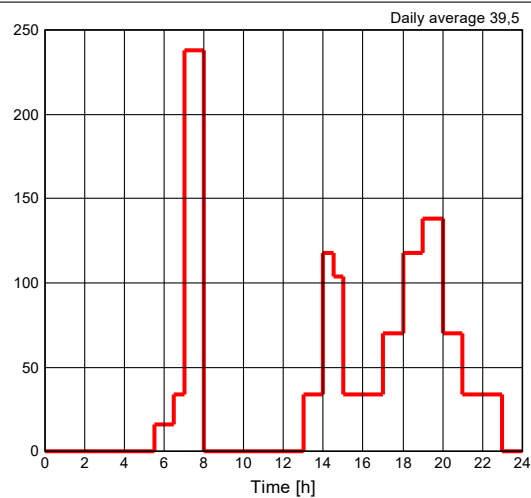
| Hour | Value |
|------|-------|
| 0 | 20 |
| 8 | 20 |
| 9 | 152 |
| 11,5 | 196 |
| 14 | 108 |
| 15,5 | 196 |
| 17 | 196 |
| 18 | 152 |
| 19 | 196 |
| 20 | 108 |
| 22 | 64 |
| 23 | 12 |



Case 1/Zone 4, CO2

Day-profile [g/h]

| Hour | Value |
|------|-------|
| 0 | 0 |
| 5,5 | 16 |
| 6,5 | 34 |
| 7 | 238 |
| 8 | 0 |
| 13 | 34 |
| 14 | 118 |
| 14,5 | 104 |
| 15 | 34 |
| 17 | 70 |
| 18 | 118 |
| 19 | 138 |
| 20 | 70 |
| 21 | 34 |
| 23 | 0 |

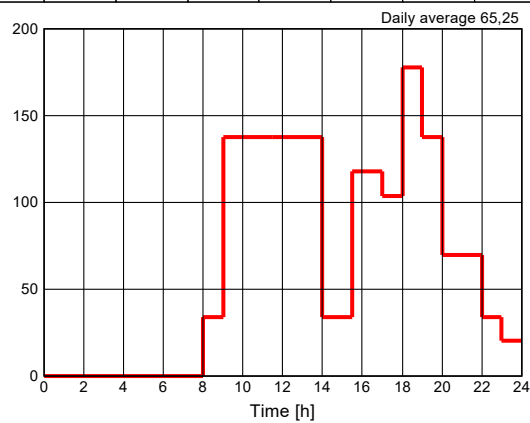


Case 1/Zone 4, CO2, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

Day-profile [g/h]

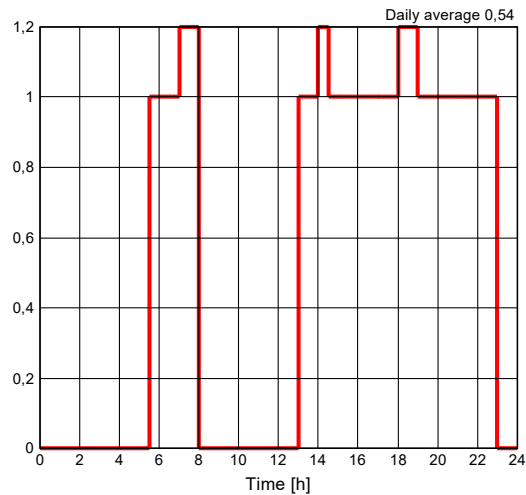
| Hour | Value |
|------|-------|
| 0 | 0 |
| 8 | 34 |
| 9 | 138 |
| 11,5 | 138 |
| 14 | 34 |
| 15,5 | 118 |
| 17 | 104 |
| 18 | 178 |
| 19 | 138 |
| 20 | 70 |
| 22 | 34 |
| 23 | 20 |



Case 1/Zone 4, Human activity

Day-profile [met]

| Hour | Value |
|------|-------|
| 0 | 0 |
| 5,5 | 1 |
| 6,5 | 1 |
| 7 | 1,2 |
| 8 | 0 |
| 13 | 1 |
| 14 | 1,2 |
| 14,5 | 1 |
| 15 | 1 |
| 17 | 1 |
| 18 | 1,2 |
| 19 | 1 |
| 20 | 1 |
| 21 | 1 |
| 23 | 0 |

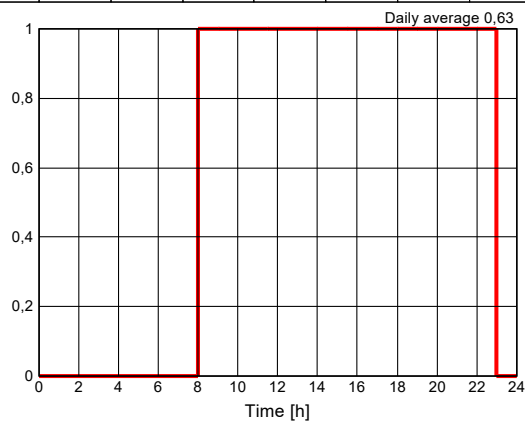


Case 1/Zone 4, Human activity, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |

Day-profile [met]

| Hour | Value |
|------|-------|
| 0 | 0 |
| 8 | 1 |
| 9 | 1 |
| 11,5 | 1 |
| 14 | 1 |
| 15,5 | 1 |
| 17 | 1 |
| 18 | 1 |
| 19 | 1 |
| 20 | 1 |
| 22 | 1 |
| 23 | 0 |



Case 1/Zone 4, Clothing, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |
| 0,7 clo | | | | | | | | |

Case 1/Zone 4, Air velocity, exeption 1

| Begin | End | Mo | Tue | We | Th | Fr | Sa | Su |
|----------|----------|----|-----|----|----|----|----|----|
| 1.1.2019 | 1.1.2020 | | | | | | ✓ | ✓ |
| 0,1 m/s | | | | | | | | |

Case 1/Zone 4/Component 1: General data

| | |
|--|---|
| Name | Vegg mellom leiligheter |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Space with the same interior conditions |
| Assembly | Assembly (Id.2): Vegg mellom leilighet |
| U [W/m²K] | 0,2123 |
| Geometry | |
| Area [m²] | 16,3 |
| Inclination [°] | 90 |
| Orientation | South-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,108 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 2: General data

| | |
|--|-----------------------|
| Name | Gulv |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Ground |
| Assembly | Assembly (Id.5): Gulv |
| U [W/m²K] | 0,0714 |
| Geometry | |
| Area [m²] | 33,4 |
| Inclination [°] | 180 |
| Orientation | Horizontal (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 99999 |
| Heat transfer coefficient radiant, extern [W/m²K] | 0 |
| Heat transfer coefficient convective, intern [W/m²K] | 2,5 |
| Heat transfer coefficient radiant, intern [W/m²K] | 3,38235 |
| Rse / Rsi (According to component type) [-] | 0 / 0,17 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,22 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 3: General data

| | |
|--|---|
| Name | Himling |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Space with the same interior conditions |
| Assembly | Assembly (Id.7): Himling |
| U [W/m²K] | 0,53 |
| Geometry | |
| Area [m²] | 33,4 |
| Inclination [°] | 0 |
| Orientation | Horizontal (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 5,5 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,1 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,22 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 4: General data

| | |
|--|---|
| Name | Vegg mellom stue og bod |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Attached zone 1 |
| Assembly | Assembly (Id.3): Vegg mellom sov sør og stue |
| U [W/m²K] | 0,4515 |
| Geometry | |
| Area [m²] | 15,3 |
| Inclination [°] | 90 |
| Orientation | South-East (26 %), North-East (48 %), North-West (26 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,101 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 5: General data

| | |
|--|--|
| Name | Vegg mellom stue og soverom nord |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Zone 3: Soverom nord |
| Assembly | Assembly (Id.3): Vegg mellom sov sør og stue |
| U [W/m²K] | 0,4515 |
| Geometry | |
| Area [m²] | 2,1 |
| Inclination [°] | 90 |
| Orientation | South-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, extern [W/m²K] | 4,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,13 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,014 |
| Solar radiation on second interior surface [-] | 0,038 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 6: General data

| | |
|--|-------------------------------|
| Name | Vindu yttervegg sør |
| Type | Transparent |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Outer air |
| Window type | Window type (Id 1): Example 1 |
| Solar protection | Solar protection (Id 2): New |
| Uw - installed [W/m²K] | 0,79 |
| Geometry | |
| Area [m²] | 2,8 |
| Inclination [°] | 90 |
| Orientation | South-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,019 |

Case 1/Zone 4/Component 7: General data

| | |
|--|---|
| Name | Yttervegg |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Outer air |
| Assembly | Assembly (Id.1): Lightweight timber framed wall |
| U [W/m²K] | 0,186 |
| Geometry | |
| Area [m²] | 2,2 |
| Inclination [°] | 90 |
| Orientation | South-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,014 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 8: General data

| | |
|--|---|
| Name | Yttervegg |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Outer air |
| Assembly | Assembly (Id.1): Lightweight timber framed wall |
| U [W/m²K] | 0,186 |
| Geometry | |
| Area [m²] | 5,9 |
| Inclination [°] | 90 |
| Orientation | South-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,039 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 9: General data

| | |
|--|---|
| Name | Yttervegg |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Outer air |
| Assembly | Assembly (Id.1): Lightweight timber framed wall |
| U [W/m²K] | 0,186 |
| Geometry | |
| Area [m²] | 2,5 |
| Inclination [°] | 90 |
| Orientation | South-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,016 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 10: General data

| | |
|--|---|
| Name | Yttervegg |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Outer air |
| Assembly | Assembly (Id.1): Lightweight timber framed wall |
| U [W/m²K] | 0,186 |
| Geometry | |
| Area [m²] | 3,4 |
| Inclination [°] | 90 |
| Orientation | North-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,022 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 11: General data

| | |
|--|---|
| Name | Yttervegg |
| Type | Opaque |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Outer air |
| Assembly | Assembly (Id.1): Lightweight timber framed wall |
| U [W/m²K] | 0,186 |
| Geometry | |
| Area [m²] | 2,1 |
| Inclination [°] | 90 |
| Orientation | South-East (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Absorption / Emission (User defined) [-] | 0,4 / 0,9 |
| Sd-value - outer (No coating) [m] | ---- |
| Sd-value - outer (No coating) [m] | ---- |
| Rain load R1 / R2 (No rain load) [-] | 0 / 0 |
| Rain absorption (No rain absorption) [-] | 0 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,014 |
| Height above ground (User defined) [m] | |

Case 1/Zone 4/Component 12: General data

| | |
|--|-------------------------------|
| Name | Vindu stue nord |
| Type | Transparent |
| Interior side | Zone 4: Stue/ Kjøkken |
| Outer side | Outer air |
| Window type | Window type (Id 1): Example 1 |
| Solar protection | Solar protection (Id 3): New |
| Uw - installed [W/m²K] | 0,79 |
| Geometry | |
| Area [m²] | 5,8 |
| Inclination [°] | 90 |
| Orientation | North-West (100 %) |
| Surface | |
| Heat transfer coefficient convective, extern [W/m²K] | 18,5 |
| Heat transfer coefficient radiant, extern [W/m²K] | 6,5 |
| Heat transfer coefficient convective, intern [W/m²K] | 3,19231 |
| Heat transfer coefficient radiant, intern [W/m²K] | 4,5 |
| Rse / Rsi (According to component type) [-] | 0,04 / 0,13 |
| Shading factor constant [-] | 1 |
| Solar radiation on interior surface [-] | 0,038 |
| Height above ground (User defined) [m] | |

Assemblies/window types/solar protection

Assembly (Id.1): Lightweight timber framed wall

| | | | | | | | |
|--|---------|---------------|-------|-------|------|-----|--------|
| Homogenous layers | outside | 1 | 2 | 3 | 4 | 5 | inside |
| Thermal resistance: 5,206 m²K/W (without R _{si} , R _{se}) | | | | | | | |
| Heat transfer coefficient (U-value): 0,186 W/m²K | | | | | | | |
| Thickness: 0,334 m | | 0,021 | 0,036 | 0,027 | 0,15 | 0,1 | |
| | | 1 | 6 | 27 | | | |
| | | Thickness [m] | | | | | |

| Nr. | Material/Layer (from outside to inside) | ρ [kg/m³] | c [J/kgK] | λ [W/mK] | Thickness [m] | Color |
|-----|---|-------------------|----------------|---------------------|------------------|-------|
| 1 | Scandinavian spruce transverse direction II | 390 | 1600 | 0,13 | 0,021 | |
| 2 | Air Layer 40 mm | 1,3 | 1000 | 0,23 | 0,036 | |
| 3 | Air Layer 40 mm | 1,3 | 1000 | 0,23 | 0,027 | |
| 4 | Mineral Wool (heat cond.: 0,04 W/mK) | 60 | 850 | 0,04 | 0,15 | |
| 5 | Stora Enso CLT | 410 | 1300 | 0,098 | 0,1 | |

Assembly (Id.2): Vegg mellom leilighet

| | | | | | |
|--|---------|---------------|-----|-----|--------|
| Homogenous layers | outside | 1 | 2 | 3 | inside |
| Thermal resistance: 4,541 m²K/W (without R _{si} , R _{se}) | | | | | |
| Heat transfer coefficient (U-value): 0,212 W/m²K | | | | | |
| Thickness: 0,3 m | | 0,1 | 0,1 | 0,1 | |
| | | Thickness [m] | | | |

| Nr. | Material/Layer (from outside to inside) | ρ [kg/m³] | c [J/kgK] | λ [W/mK] | Thickness [m] | Color |
|-----|--|-------------------|----------------|---------------------|------------------|-------|
| 1 | Stora Enso CLT | 410 | 1300 | 0,098 | 0,1 | |
| 2 | Mineral Wool (heat cond.: 0,04 W/mK) | 60 | 850 | 0,04 | 0,1 | |
| 3 | Stora Enso CLT | 410 | 1300 | 0,098 | 0,1 | |

Assembly (Id.7): Himling

| | | | | | | | |
|--|---------|---------------|------|------|-----|-----|--------|
| Homogenous layers | outside | 2 | 3 | 4 | 5 | 6 | inside |
| Thermal resistance: 1,747 m²K/W (without R _{si} , R _{se}) | | | | | | | |
| Heat transfer coefficient (U-value): 0,53 W/m²K | | | | | | | |
| Thickness: 0,283 m | | 0,04 | 0,02 | 0,02 | 0,1 | 0,1 | |
| | | 1 | 2 | 3 | | | |
| | | Thickness [m] | | | | | |

| Nr. | Material/Layer (from outside to inside) | ρ [kg/m³] | c [J/kgK] | λ [W/mK] | Thickness [m] | Color |
|-----|--|-------------------|----------------|---------------------|------------------|-------|
| 1 | Linoleum nach DIN 18171 | 1000 | 1500 | 0,17 | 0,003 | |
| 2 | Cement Paste w/c 0,6 | 1413 | 1000 | 1,7 | 0,04 | |
| 3 | Cement Plaster (stucco, A-value: 0.51 kg/m²h0.5) | 2000 | 850 | 1,2 | 0,02 | |
| 4 | Wood-Fibre Insulation Board | 155 | 1400 | 0,042 | 0,02 | |
| 5 | Shingle | 2000 | 1840 | 0,52 | 0,1 | |
| 6 | Stora Enso CLT | 410 | 1300 | 0,098 | 0,1 | |

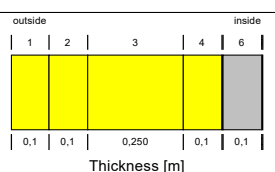
Assembly (Id.5): Gulv

Homogenous layers

Thermal resistance: 13,828 m²K/W (without R_{si}, R_{se})

Heat transfer coefficient (U-value): 0,071 W/m²K

Thickness: 0,655 m



| Nr. | Material/Layer (from outside to inside) | ρ [kg/m³] | c [J/kgK] | λ [W/mK] | Thickness [m] | Color |
|-----|--|-------------------|----------------|---------------------|------------------|-------|
| 1 | EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 30 | 1500 | 0,04 | 0,1 | |
| 2 | EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 30 | 1500 | 0,04 | 0,1 | |
| 3 | EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 30 | 1500 | 0,04 | 0,25 | |
| 4 | EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 30 | 1500 | 0,04 | 0,1 | |
| 5 | PE-Membrane 0,2 mm (sd = 87 m) | 130 | 2200 | 1,65 | 0,002 | |
| 6 | Concrete w/c 0,5 | 2308 | 850 | 1,7 | 0,1 | |
| 7 | Linoleum nach DIN 18171 | 1000 | 1500 | 0,17 | 0,003 | |

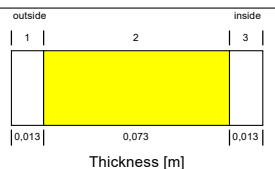
Assembly (Id.3): Vegg mellom sov sør og stue

Homogenous layers

Thermal resistance: 1,955 m²K/W (without R_{si}, R_{se})

Heat transfer coefficient (U-value): 0,451 W/m²K

Thickness: 0,099 m



| Nr. | Material/Layer (from outside to inside) | ρ [kg/m³] | c [J/kgK] | λ [W/mK] | Thickness [m] | Color |
|-----|--|-------------------|----------------|---------------------|------------------|-------|
| 1 | Gypsum Plaster | 1721 | 850 | 0,2 | 0,013 | |
| 2 | Mineral Wool (heat cond.: 0,04 W/mK) | 60 | 850 | 0,04 | 0,073 | |
| 3 | Gypsum Plaster | 1721 | 850 | 0,2 | 0,013 | |

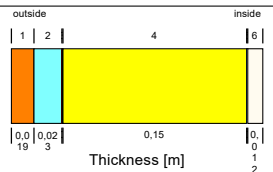
Assembly (Id.4): Lightweight timber framed wall

Homogenous layers

Thermal resistance: 4,17 m²K/W (without R_{si}, R_{se})

Heat transfer coefficient (U-value): 0,226 W/m²K

Thickness: 0,206 m



| Nr. | Material/Layer (from outside to inside) | ρ [kg/m³] | c [J/kgK] | λ [W/mK] | Thickness [m] | Color |
|-----|--|-------------------|----------------|---------------------|------------------|----------|
| 1 | Spruce, radial | 455 | 1400 | 0,09 | 0,019 | Orange |
| 2 | Air Layer 25 mm | 1,3 | 1000 | 0,155 | 0,023 | Cyan |
| 3 | 60 minute Building Paper | 280 | 1500 | 12 | 0,001 | Dark Red |
| 4 | Mineral Wool (heat cond.: 0,04 W/mK) | 60 | 850 | 0,04 | 0,15 | Yellow |
| 5 | PE-Membrane 0,15 mm (sd = 70 m) | 130 | 2200 | 2,2 | 0,001 | Blue |
| 6 | Gypsum Board | 850 | 850 | 0,2 | 0,012 | Beige |

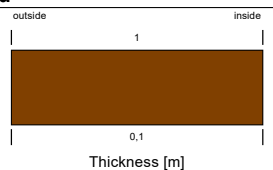
Assembly (Id.10): Vegg massivtre mellom sov sør og bad

Homogenous layers

Thermal resistance: 1,02 m²K/W (without R_{si}, R_{se})

Heat transfer coefficient (U-value): 0,781 W/m²K

Thickness: 0,1 m



| Nr. | Material/Layer (from outside to inside) | ρ [kg/m³] | c [J/kgK] | λ [W/mK] | Thickness [m] | Color |
|-----|--|-------------------|----------------|---------------------|------------------|-------|
| 1 | Stora Enso CLT | 410 | 1300 | 0,098 | 0,1 | Brown |

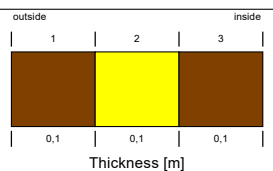
Assembly (Id.8): Vegg mellom leilighet

Homogenous layers

Thermal resistance: 4,541 m²K/W (without R_{si}, R_{se})

Heat transfer coefficient (U-value): 0,212 W/m²K

Thickness: 0,3 m



| Nr. | Material/Layer (from outside to inside) | ρ [kg/m³] | c [J/kgK] | λ [W/mK] | Thickness [m] | Color |
|-----|--|-------------------|----------------|---------------------|------------------|--------|
| 1 | Stora Enso CLT | 410 | 1300 | 0,098 | 0,1 | Brown |
| 2 | Mineral Wool (heat cond.: 0,04 W/mK) | 60 | 850 | 0,04 | 0,1 | Yellow |
| 3 | Stora Enso CLT | 410 | 1300 | 0,098 | 0,1 | Brown |

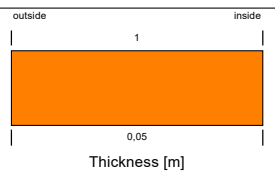
Assembly (Id.9): Dører

Homogenous layers

Thermal resistance: 0,556 m²K/W (without R_{si}, R_{se})

Heat transfer coefficient (U-value): 1,226 W/m²K

Thickness: 0,05 m



| Nr. | Material/Layer (from outside to inside) | ρ [kg/m³] | c [J/kgK] | λ [W/mK] | Thickness [m] | Color |
|-----|--|-------------------|----------------|---------------------|------------------|-------|
| 1 | Softwood | 400 | 1400 | 0,09 | 0,05 | |

Window type (Id 1): Example 1

| | |
|---|------|
| U _w - installed [W/m²K] | 0,79 |
| Frame factor [-] | 0,7 |
| SHGC (short-wave radiation average) [-] | 0,59 |
| SHGC hemispherical [-] | 0,59 |
| Long wave radiation emissivity (mean glazing/frame) [-] | 0,8 |

Solar protection (Id 1): New

| | |
|---|--------------------|
| Solar exposure for sunscreen device [-] | 0,45 |
| Thermal resistance solar protection [m²K/W] | 0 |
| Thermal resistance cavity [m²K/W] | 0 |
| Operation mode | Reduce overheating |
| Exclude weekends | No |

Solar protection (Id 2): New

| | |
|---|--------------------|
| Solar exposure for sunscreen device [-] | 0,45 |
| Thermal resistance solar protection [m²K/W] | 0 |
| Thermal resistance cavity [m²K/W] | 0 |
| Operation mode | Reduce overheating |
| Exclude weekends | No |

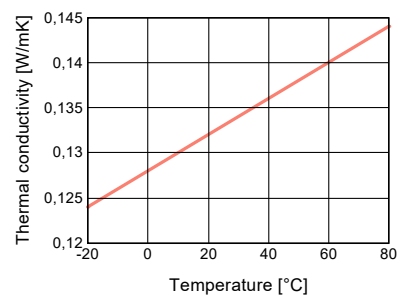
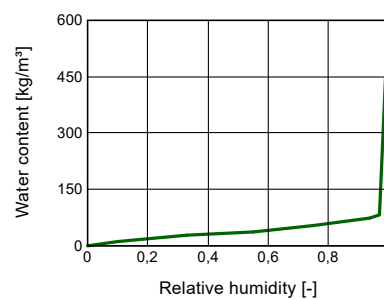
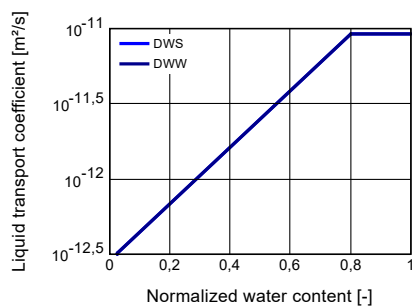
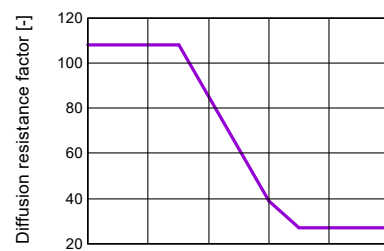
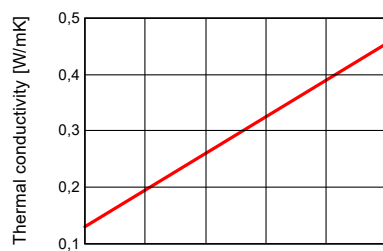
Solar protection (Id 3): New

| | |
|---|--------------------|
| Solar exposure for sunscreen device [-] | 0,45 |
| Thermal resistance solar protection [m²K/W] | 0 |
| Thermal resistance cavity [m²K/W] | 0 |
| Operation mode | Reduce overheating |
| Exclude weekends | No |

Material data

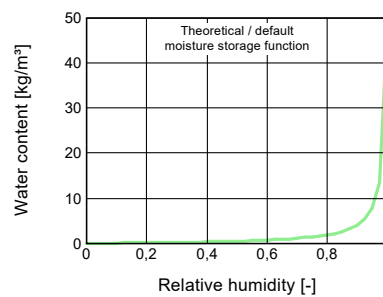
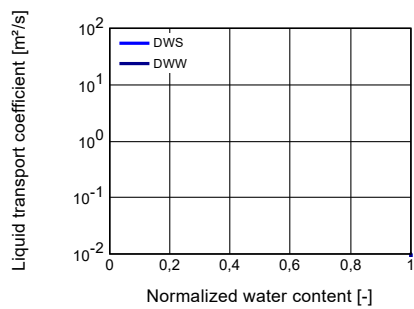
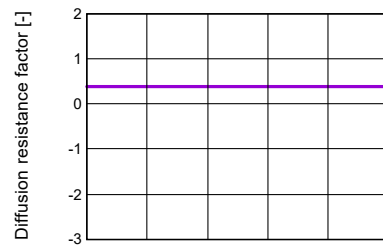
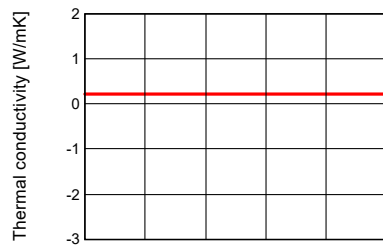
Material: Scandinavian spruce transverse direction II

| | | | |
|---|------|--|--------|
| Bulk density [kg/m³] | 390 | Typical built-in moisture [kg/m³] | 0 |
| Porosity | 0,75 | Thermal conductivity supplement [%/M.-%] | 1,3 |
| Specific heat capacity [J/kgK] | 1600 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,13 | Color | |
| Water vapor diffusion resistance factor | 108 | | |



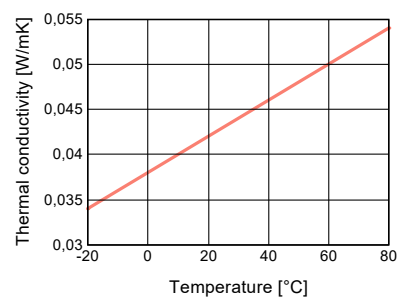
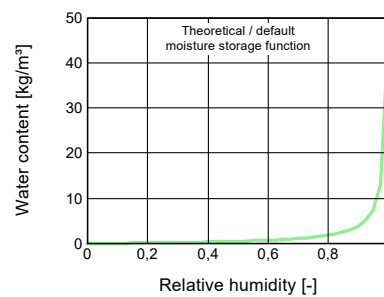
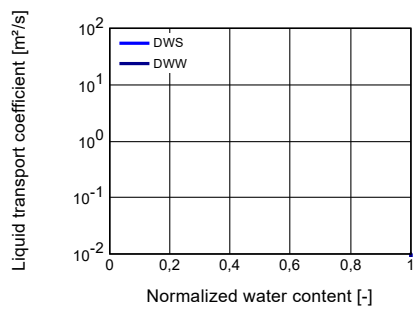
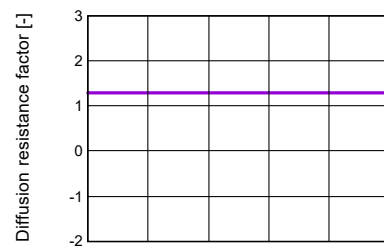
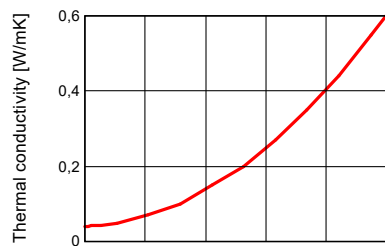
Material: Air Layer 40 mm

| | | | |
|---|-------|-----------------------------------|---|
| Bulk density [kg/m³] | 1,3 | Typical built-in moisture [kg/m³] | 0 |
| Porosity | 0,999 | Color | |
| Specific heat capacity [J/kgK] | 1000 | | |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,23 | | |
| Water vapor diffusion resistance factor | 0,38 | | |



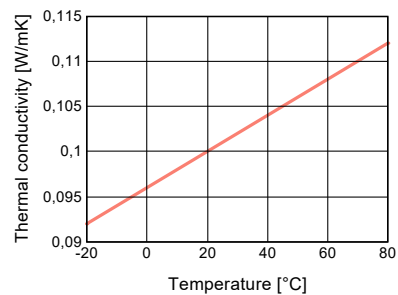
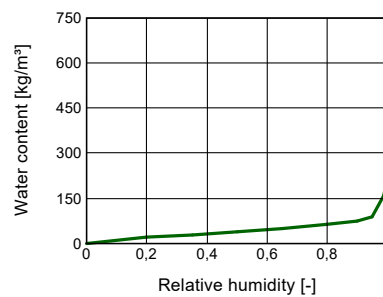
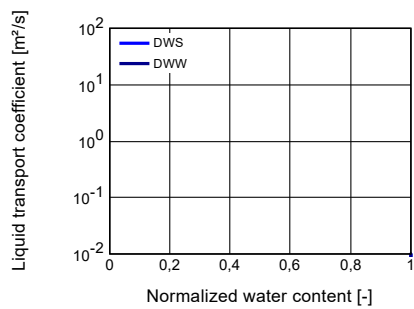
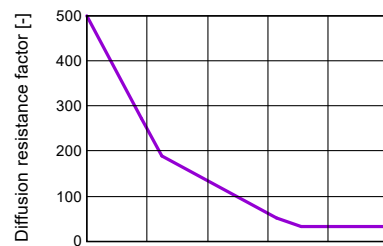
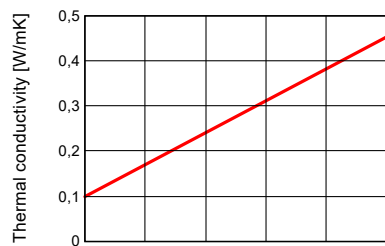
Material: Mineral Wool (heat cond.: 0,04 W/mK)

| | | | |
|---|------|--|--------|
| Bulk density [kg/m³] | 60 | Typical built-in moisture [kg/m³] | 0 |
| Porosity | 0,95 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Specific heat capacity [J/kgK] | 850 | Color | |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,04 | | |
| Water vapor diffusion resistance factor | 1,3 | | |



Material: Stora Enso CLT

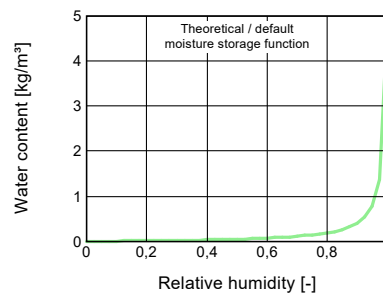
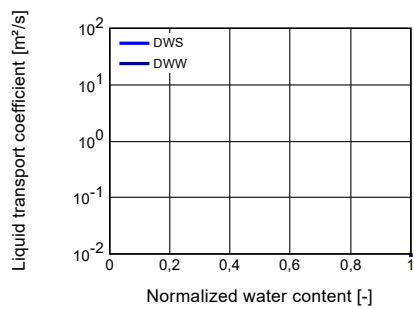
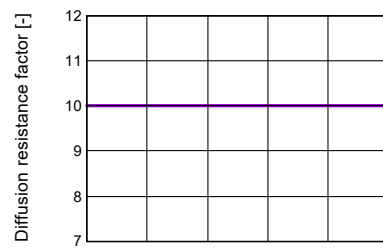
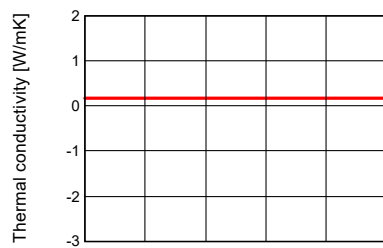
| | | | |
|---|-------|--|--------|
| Bulk density [kg/m³] | 410 | Typical built-in moisture [kg/m³] | 48 |
| Porosity | 0,74 | Thermal conductivity supplement [%/M.-%] | 2 |
| Specific heat capacity [J/kgK] | 1300 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,098 | Color | |
| Water vapor diffusion resistance factor | 500 | | |



Material: Linoleum nach DIN 18171

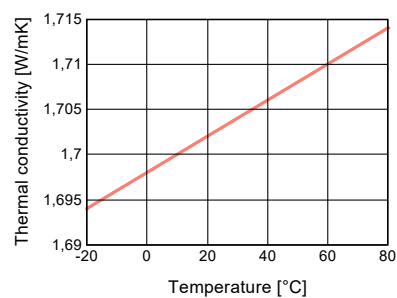
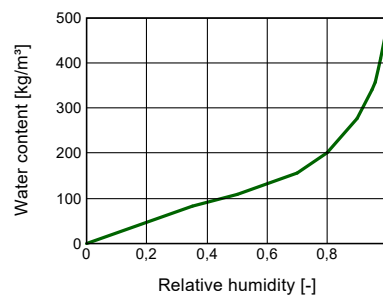
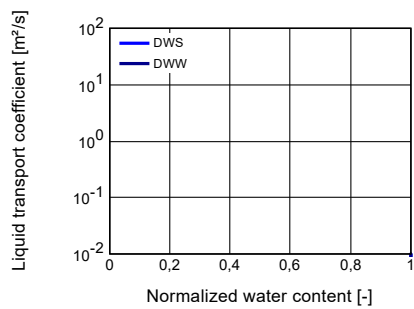
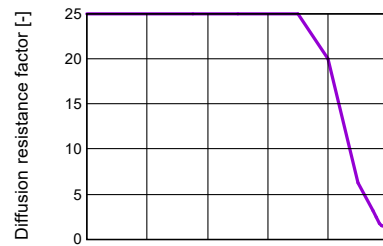
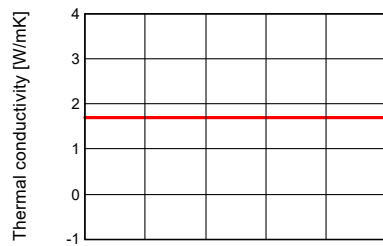
| | |
|---|------|
| Bulk density [kg/m³] | 1000 |
| Porosity | 0,1 |
| Specific heat capacity [J/kgK] | 1500 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,17 |
| Water vapor diffusion resistance factor | 10 |

| | |
|-----------------------------------|---|
| Typical built-in moisture [kg/m³] | 0 |
| Color | |



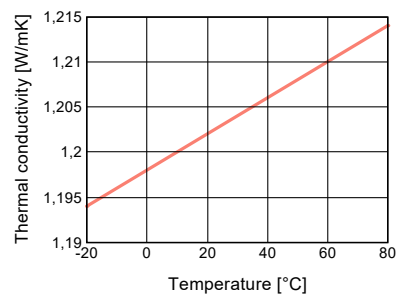
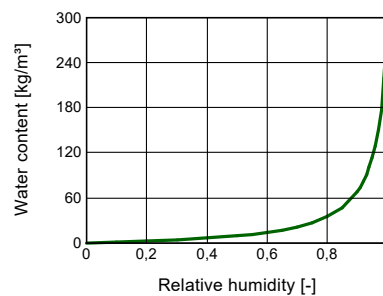
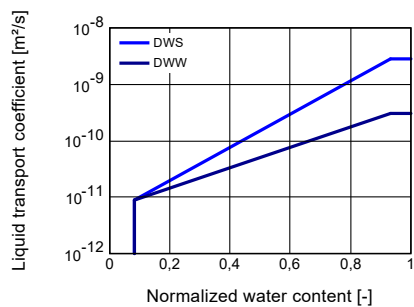
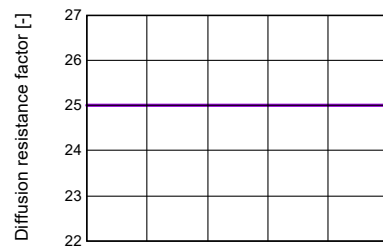
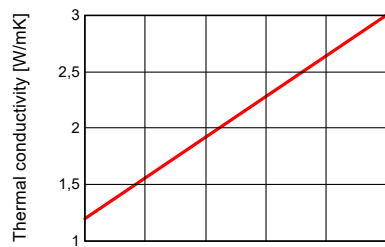
Material: Cement Paste w/c 0,6

| | | | |
|---|------|--|--------|
| Bulk density [kg/m³] | 1413 | Typical built-in moisture [kg/m³] | 100 |
| Porosity | 0,48 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Specific heat capacity [J/kgK] | 1000 | Color | |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 1,7 | | |
| Water vapor diffusion resistance factor | 25 | | |



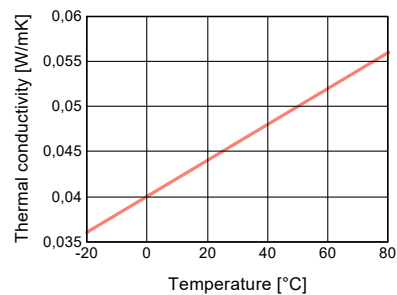
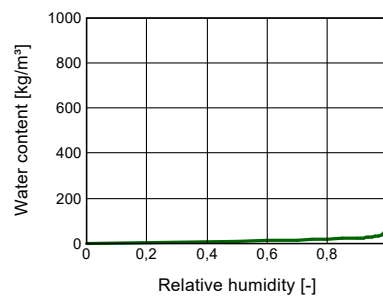
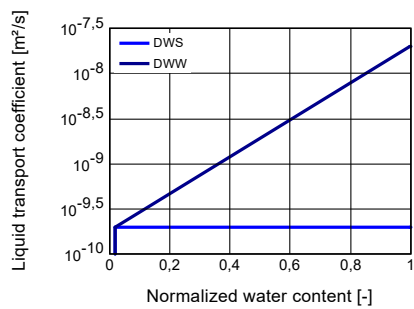
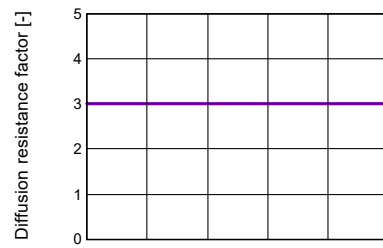
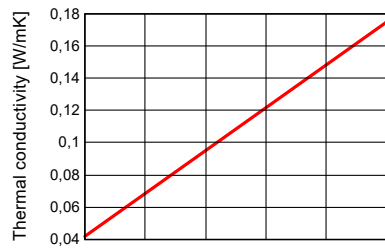
Material: Cement Plaster (stucco, A-value: 0.51 kg/m²h^{0.5})

| | | | |
|---|------|---|--------|
| Bulk density [kg/m ³] | 2000 | Typical built-in moisture [kg/m ³] | 280 |
| Porosity | 0,3 | Reference water content [kg/m ³] | 35 |
| Specific heat capacity [J/kgK] | 850 | Free water saturation [kg/m ³] | 280 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 1,2 | Thermal conductivity supplement [%/M.-%] | 10 |
| Water vapor diffusion resistance factor | 25 | Temp-dep. thermal cond. supplement [W/mK ²] | 0,0002 |
| | | Color | |



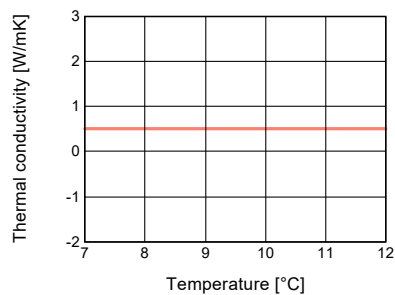
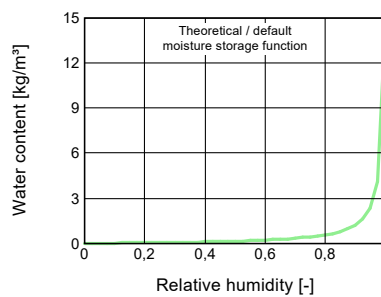
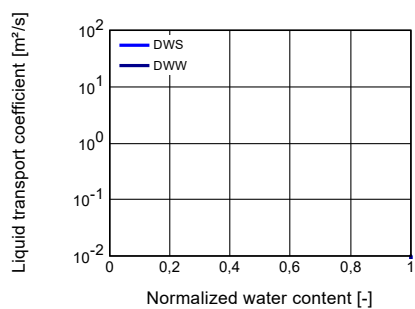
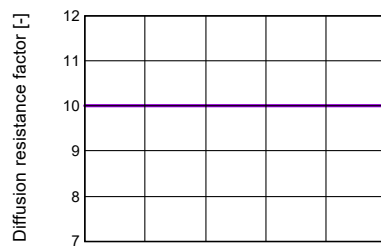
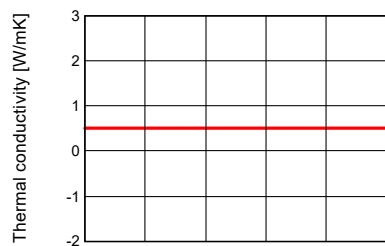
Material: Wood-Fibre Insulation Board

| | | | |
|---|-------|--|--------|
| Bulk density [kg/m³] | 155 | Typical built-in moisture [kg/m³] | 19 |
| Porosity | 0,981 | Thermal conductivity supplement [%/M.-%] | 0,5 |
| Specific heat capacity [J/kgK] | 1400 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,042 | Color | |
| Water vapor diffusion resistance factor | 3 | | |



Material: Shingle

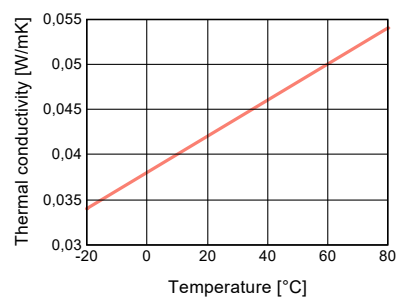
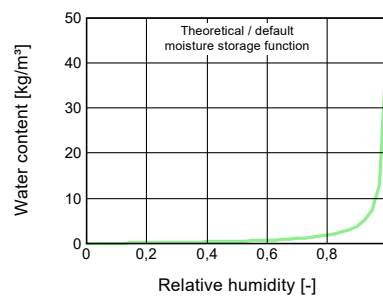
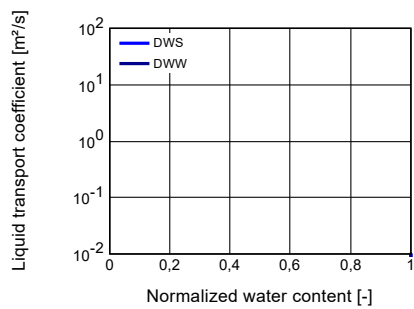
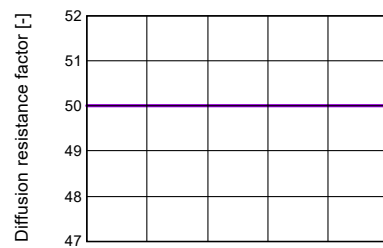
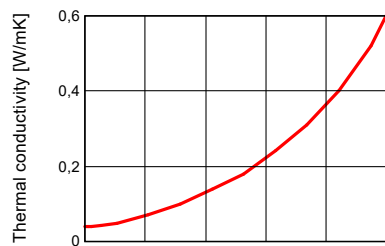
| | | | |
|---|------|-----------------------------------|---|
| Bulk density [kg/m³] | 2000 | Typical built-in moisture [kg/m³] | 0 |
| Porosity | 0,3 | Color | |
| Specific heat capacity [J/kgK] | 1840 | | |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,52 | | |
| Water vapor diffusion resistance factor | 10 | | |



Material: EPS (heat cond.: 0.04 W/mK - density: 30kg/m³)

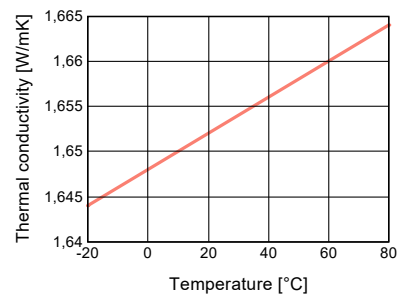
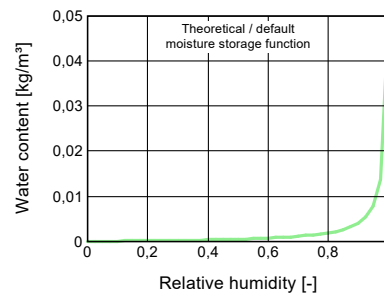
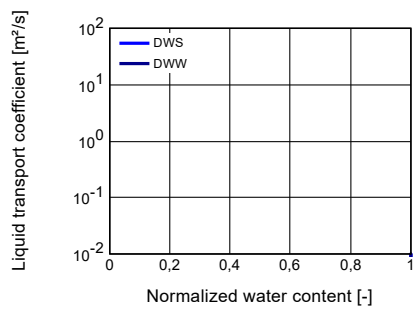
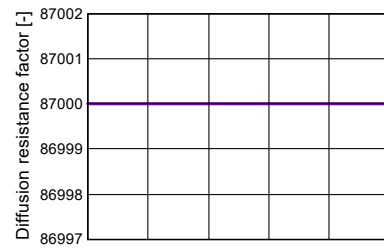
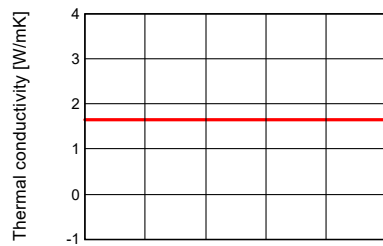
| | |
|---|------|
| Bulk density [kg/m³] | 30 |
| Porosity | 0,95 |
| Specific heat capacity [J/kgK] | 1500 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,04 |
| Water vapor diffusion resistance factor | 50 |

| | |
|--|--------|
| Typical built-in moisture [kg/m³] | 0 |
| Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Color | |



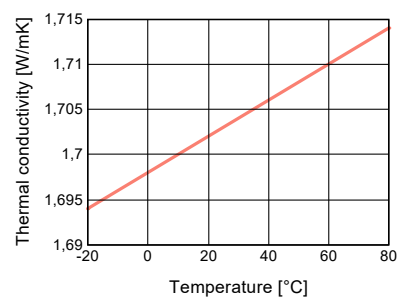
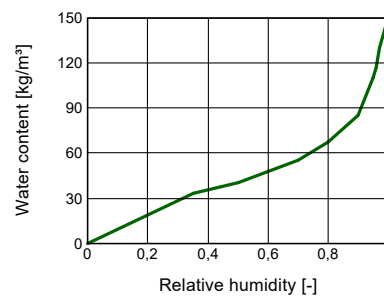
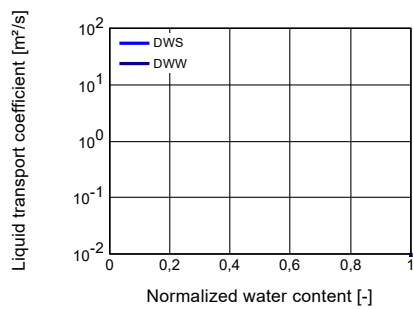
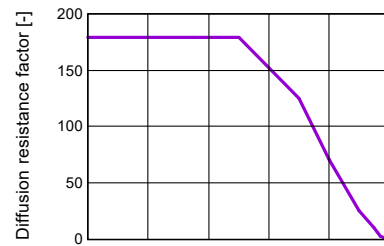
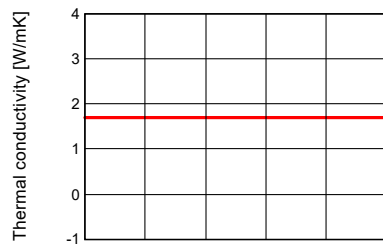
Material: PE-Membrane 0,2 mm (sd = 87 m)

| | | | |
|---|-------|--|--------|
| Bulk density [kg/m³] | 130 | Typical built-in moisture [kg/m³] | 0 |
| Porosity | 0,001 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Specific heat capacity [J/kgK] | 2200 | Color | |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 1,65 | | |
| Water vapor diffusion resistance factor | 87000 | | |



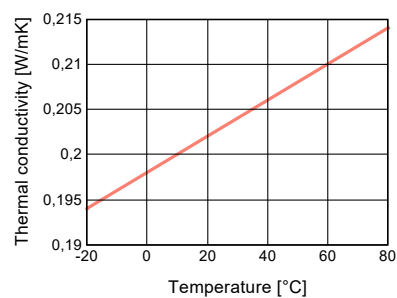
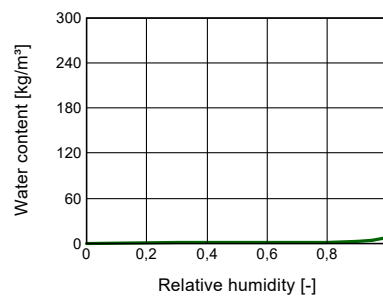
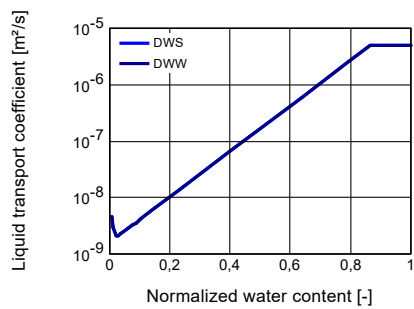
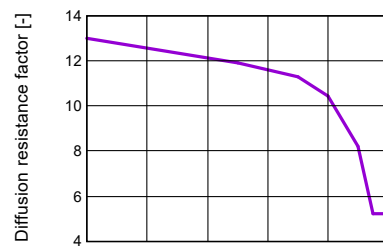
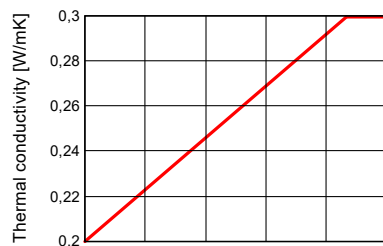
Material: Concrete w/c 0,5

| | | | |
|---|------|--|--------|
| Bulk density [kg/m³] | 2308 | Typical built-in moisture [kg/m³] | 100 |
| Porosity | 0,15 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Specific heat capacity [J/kgK] | 850 | Color | |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 1,7 | | |
| Water vapor diffusion resistance factor | 179 | | |



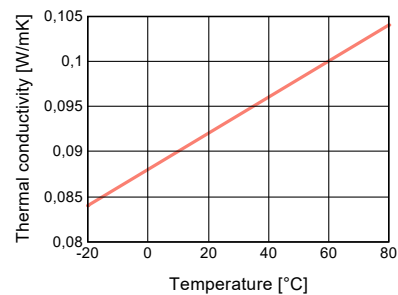
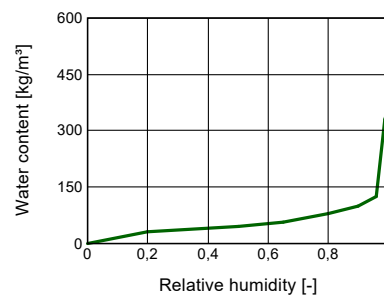
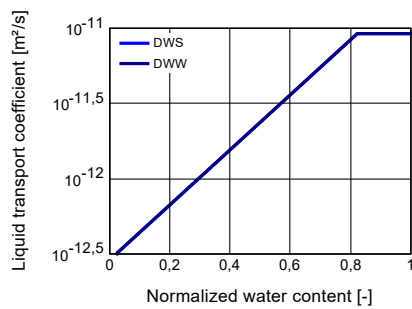
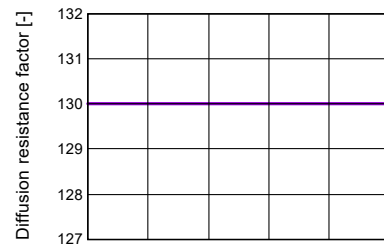
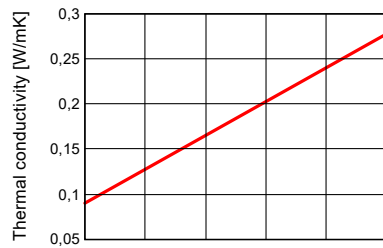
Material: Gypsum Plaster

| | | | |
|---|-------|--|--------|
| Bulk density [kg/m³] | 1721 | Typical built-in moisture [kg/m³] | 264,27 |
| Porosity | 0,305 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Specific heat capacity [J/kgK] | 850 | Color | |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,2 | | |
| Water vapor diffusion resistance factor | 13 | | |



Material: Spruce, radial

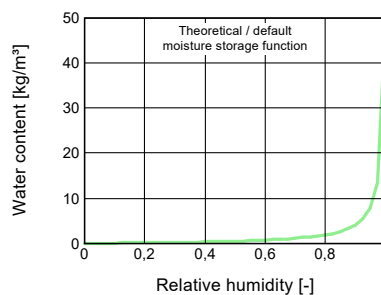
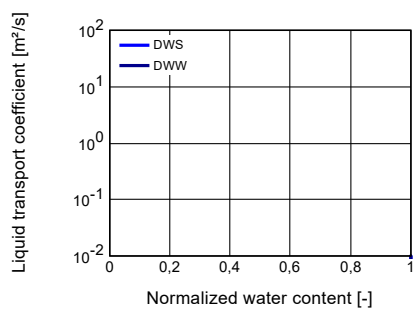
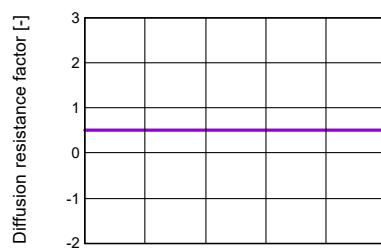
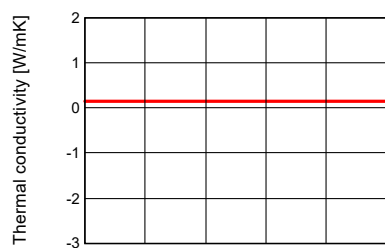
| | | | |
|---|------|--|--------|
| Bulk density [kg/m³] | 455 | Typical built-in moisture [kg/m³] | 80 |
| Porosity | 0,73 | Thermal conductivity supplement [%/M.-%] | 1,3 |
| Specific heat capacity [J/kgK] | 1400 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,09 | Color | |
| Water vapor diffusion resistance factor | 130 | | |



Material: Air Layer 25 mm

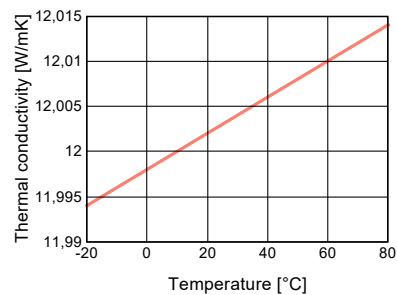
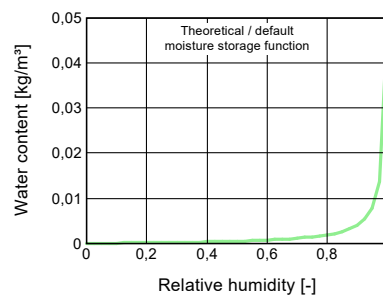
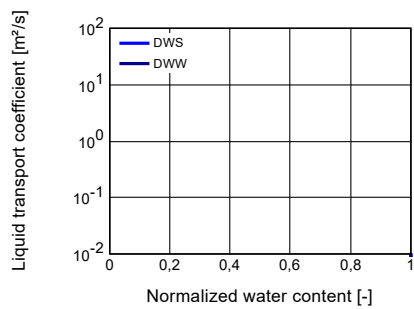
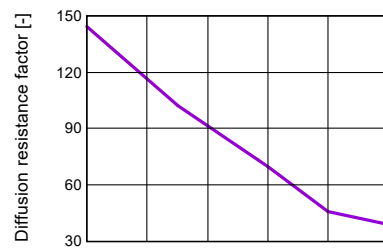
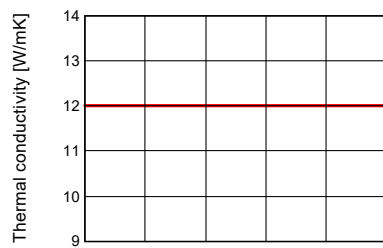
| | |
|---|-------|
| Bulk density [kg/m³] | 1,3 |
| Porosity | 0,999 |
| Specific heat capacity [J/kgK] | 1000 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,155 |
| Water vapor diffusion resistance factor | 0,51 |

| | |
|-----------------------------------|------|
| Typical built-in moisture [kg/m³] | 0,01 |
| Color | |



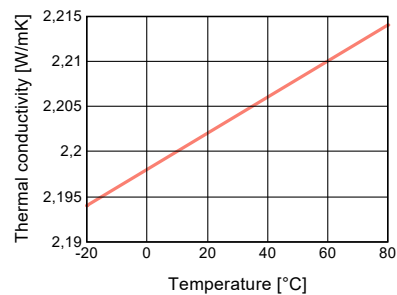
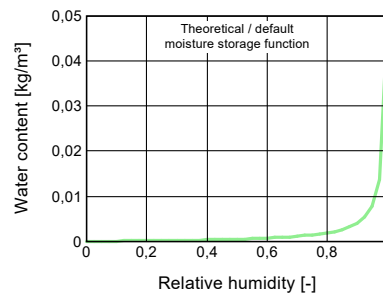
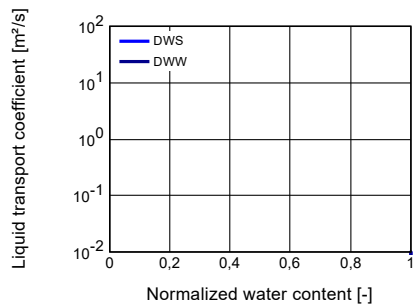
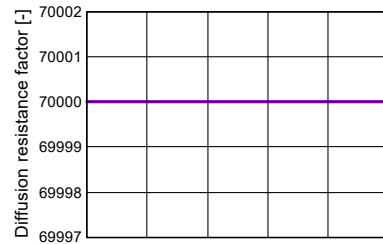
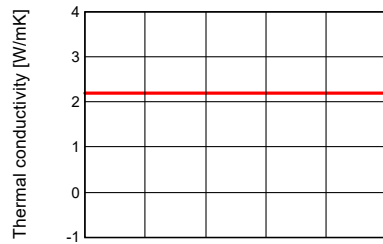
Material: 60 minute Building Paper

| | | | |
|---|-------|--|--------|
| Bulk density [kg/m³] | 280 | Typical built-in moisture [kg/m³] | 0 |
| Porosity | 0,001 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Specific heat capacity [J/kgK] | 1500 | Color | |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 12 | | |
| Water vapor diffusion resistance factor | 144 | | |



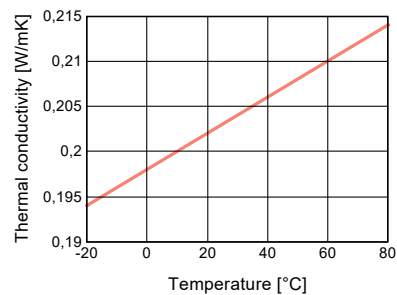
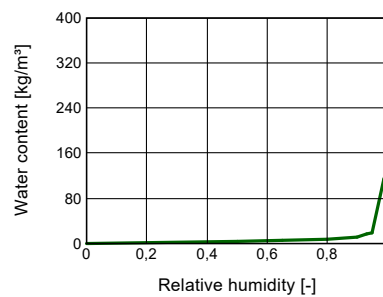
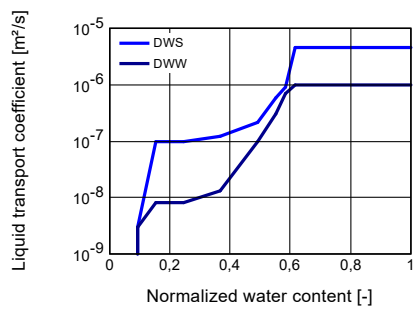
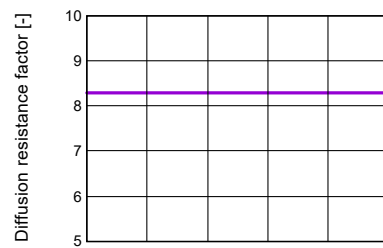
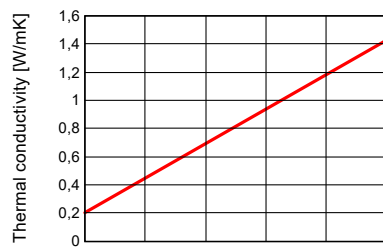
Material: PE-Membrane 0,15 mm (sd = 70 m)

| | | | |
|---|-------|--|--------|
| Bulk density [kg/m³] | 130 | Typical built-in moisture [kg/m³] | 0 |
| Porosity | 0,001 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Specific heat capacity [J/kgK] | 2200 | Color | |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 2,2 | | |
| Water vapor diffusion resistance factor | 70000 | | |



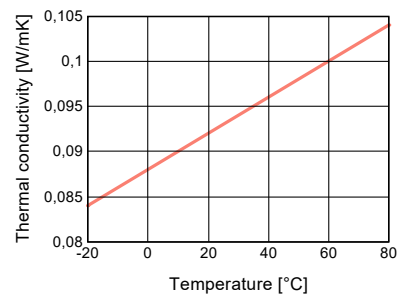
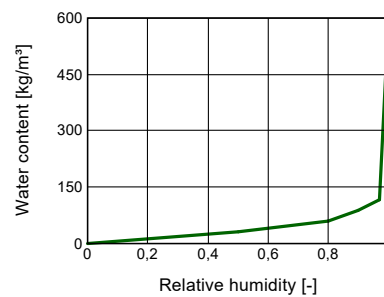
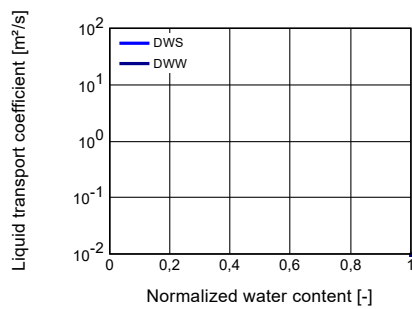
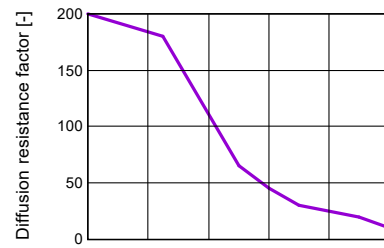
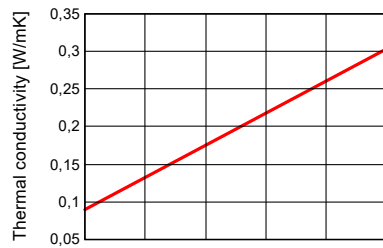
Material: Gypsum Board

| | | | |
|---|------|--|--------|
| Bulk density [kg/m³] | 850 | Typical built-in moisture [kg/m³] | 6,3 |
| Porosity | 0,65 | Thermal conductivity supplement [%/M.-%] | 8 |
| Specific heat capacity [J/kgK] | 850 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,2 | Color | |
| Water vapor diffusion resistance factor | 8,3 | | |



Material: Softwood

| | | | |
|---|------|--|--------|
| Bulk density [kg/m³] | 400 | Typical built-in moisture [kg/m³] | 60 |
| Porosity | 0,73 | Thermal conductivity supplement [%/M.-%] | 1,3 |
| Specific heat capacity [J/kgK] | 1400 | Temp-dep. thermal cond. supplement [W/mK²] | 0,0002 |
| Thermal conductivity, dry, 10 C/50 F [W/mK] | 0,09 | Color | |
| Water vapor diffusion resistance factor | 200 | | |



Results

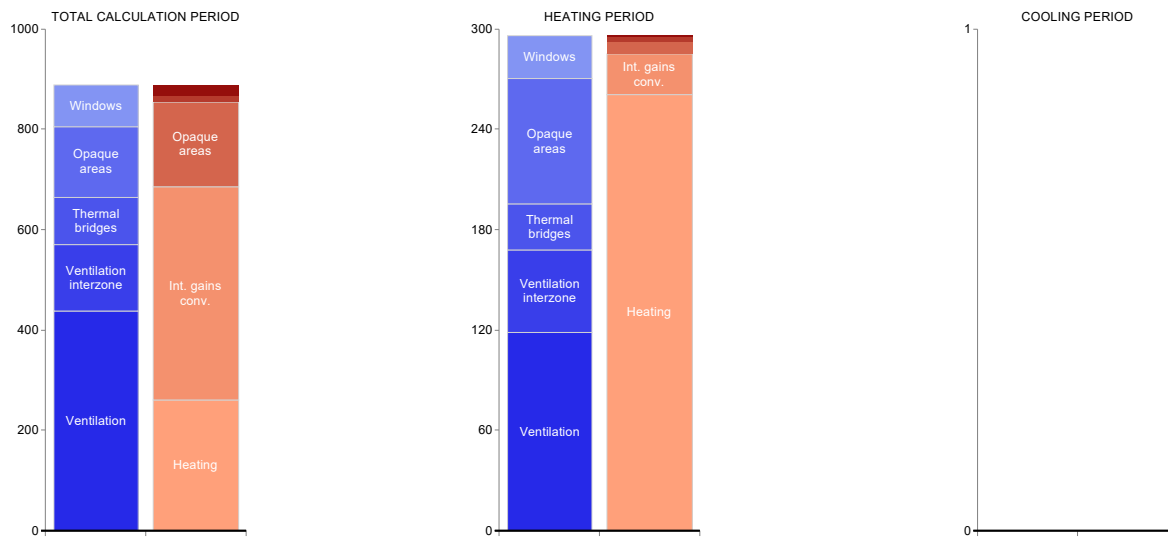
Heat gain/loss through components [kWh]

| Nr. | Component group | Gain | Loss |
|-----|------------------------------|------|------|
| 1 | Outer walls | 3 | 502 |
| 2 | Walls to unconditioned space | 580 | 0 |
| 3 | Floor on ground | 245 | 516 |
| 4 | Wall to conditioned zone | 934 | 118 |
| 5 | Ceiling to conditioned zone | 456 | 53 |
| 6 | Windows | 1575 | 1156 |

Case 1/Zone 1: Main results

| Speed setting | | | Value |
|--------------------------------|------|------|-------|
| Heating period [d] | | | 88 |
| Cooling period [d] | | | 0 |
| Heating demand [kWh] | | | 260,4 |
| Cooling demand [kWh] | | | 0 |
| Humidification demand [kg] | | | 40,4 |
| Dehumidification demand [kg] | | | 0,2 |
| Min/Max/Mean values | | | |
| Speed setting | Min | Max | Mean |
| Interior temperature [°C] | 19 | 32,9 | 23,9 |
| Interior relative humidity [%] | 20 | 60 | 29,9 |
| Heating load [kW] | 0 | 0,5 | 0 |
| Cooling load [kW] | 0 | 0 | 0 |
| Humidification [kg/h] | 0 | 0,1 | 0 |
| Dehumidification [kg/h] | -0,2 | 0 | 0 |

ENERGY BALANCE / CONVECTIVE FLOWS kWh/a



Energy balance [kWh/a]

| Speed setting | Total period | Heating period | Cooling period |
|------------------------|--------------|----------------|----------------|
| Vent. interzone | 20,4 | 0,3 | 0 |
| Solar gains total | 139,3 | 32,1 | 0 |
| Solar gains convective | 13,9 | 3,2 | 0 |
| Opaque areas | 167,9 | 7 | 0 |
| Int. gains rad. | 212,4 | 12,4 | 0 |
| Int. gains conv. | 424,8 | 24,7 | 0 |
| Heating | 260,4 | 260,4 | 0 |
| Windows | 83,5 | 25,2 | 0 |
| Opaque areas | 139,5 | 75,2 | 0 |
| Thermal bridges | 94,2 | 27,6 | 0 |
| Ventilation interzone | 132,9 | 49 | 0 |
| Ventilation | 437,6 | 118,7 | 0 |

Case 1/Zone 1: Quality of indoor environment in % of time in four categories (prEN 15251:2006)

| | | | | |
|---------------------|----|----|-----|----|
| Percentage | 4 | 13 | 8 | 75 |
| Thermal environment | I | II | III | IV |
| Percentage | 92 | | | 8 |
| Indoor air quality | I | | | II |

Case 1/Zone 1: Heat gain/loss - Total calculation period [kWh]

| Nr. | Component | Gain | Loss |
|-----|--|------|------|
| 1 | Component 1: Yttervegg soverom sør | 0 | 94 |
| 2 | Component 2: Vindu Sov Sør | 139 | 84 |
| 3 | Component 3: Vegg mellom leilighet | 80 | 15 |
| 4 | Component 4: Himling | 52 | 12 |
| 5 | Component 5: Gulv | 29 | 78 |
| 6 | Component 7: Vegg mellom sov sør og stue | 57 | 9 |
| 7 | Component 8: Vegg mellom sov sør og bad | 13 | 2 |
| 8 | Component 9: Vegg mellom sov sør og bad | 16 | 3 |
| 9 | Component 10: Vegg massivtre mellom sov sør og bad | 3 | 9 |

Case 1/Zone 1: Heat gain/loss - heating period [kWh]

| Nr. | Component | Gain | Loss |
|-----|--|------|------|
| 1 | Component 1: Yttervegg soverom sør | 0 | 38 |
| 2 | Component 2: Vindu Sov Sør | 32 | 25 |
| 3 | Component 3: Vegg mellom leilighet | 6 | 8 |
| 4 | Component 4: Himling | 4 | 6 |
| 5 | Component 5: Gulv | 2 | 19 |
| 6 | Component 7: Vegg mellom sov sør og stue | 3 | 8 |
| 7 | Component 8: Vegg mellom sov sør og bad | 1 | 2 |
| 8 | Component 9: Vegg mellom sov sør og bad | 1 | 2 |
| 9 | Component 10: Vegg massivtre mellom sov sør og bad | 0 | 4 |

Case 1/Zone 1/Component 1: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|---|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | -14,3 (0) | 36,1 (0) | 8,4 |
| Air Layer 40 mm | 3,6 | -12,8 (0,119) | 35,2 (0,119) | 8,8 |
| Air Layer 40 mm | 2,7 | -11,6 (0,119) | 34,8 (0,119) | 9,3 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | -10,6 (0,119) | 34,5 (0,119) | 15,2 |
| Stora Enso CLT | 10 | 14,1 (0,119) | 32,7 (10) | 22,2 |
| Water content [kg/m³] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | 12,185 (0) | 112,494 (1,981) | 56,373 |
| Air Layer 40 mm | 3,6 | 0,725 (0,119) | 20,621 (0,119) | 3,643 |
| Air Layer 40 mm | 2,7 | 0,727 (2,581) | 7,172 (0,119) | 2,597 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,137 (14,881) | 5,026 (0,119) | 0,731 |
| Stora Enso CLT | 10 | 21,114 (10) | 63,014 (4,559) | 38,883 |

Case 1/Zone 1/Component 1: U-effective [W/m²K] (theoretical value 0,186)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| SE (A135°, 4,27 m²) | 0,147 | 0,204 | |

Case 1/Zone 1/Component 1: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Total incident | | | | |
| SE (A135°, 4,27 m²) | 651565,4 | 0 | 669,8 | 74,4 |
| Absorbed | | | | |
| SE (A135°, 4,27 m²) | 260626,2 | 0 | 267,9 | 29,8 |
| Interior surface (including radiant source) | | | | |
| SE (A135°, 4,27 m²) | 2771 | 0 | 4,1 | 0,3 |

Case 1/Zone 1/Component 1, Shading factors (diffuse radiation)

| | |
|---------------------|---|
| SE (A135°, 4,27 m²) | 1 |
|---------------------|---|

Case 1/Zone 1/Component 1, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| SE (A135°, 4,27 m²) | 6 | 0 | -1,8 | 0 | 1,61 | -3,39 | -3,41 |

Case 1/Zone 1/Component 2: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Total incident | | | | |
| SE (A135°, 0,74 m²) | 651565,4 | 0 | 669,8 | 74,4 |
| Interior surface (including radiant source) | | | | |
| SE (A135°, 0,74 m²) | 2771 | 0 | 4,1 | 0,3 |

Case 1/Zone 1/Component 2, Shading factors (diffuse radiation)

| | |
|---------------------|---|
| SE (A135°, 0,74 m²) | 1 |
|---------------------|---|

Case 1/Zone 1/Component 3: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Stora Enso CLT | 10 | 18,8 (0,239) | 32,8 (0) | 24 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 10 | 19,4 (0,107) | 32,3 (9,893) | 23,9 |
| Stora Enso CLT | 10 | 18,8 (9,761) | 32,8 (10) | 24 |
| Water content [kg/m³] | | | | |
| Stora Enso CLT | 10 | 20,741 (0) | 63,03 (9,893) | 46,964 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 10 | 0,681 (9,893) | 1,792 (5,549) | 1,16 |
| Stora Enso CLT | 10 | 20,741 (10) | 63,03 (0,107) | 46,964 |

Case 1/Zone 1/Component 3: U-effective [W/m²K] (theoretical value 0,212)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| NE (A45°, 11,28 m²) | | | |

Case 1/Zone 1/Component 3: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Interior surface (including radiant source) | | | | |
| NE (A45°, 11,28 m²) | 2771 | 0 | 4,1 | 0,3 |

Case 1/Zone 1/Component 3, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| NE (A45°, 11,28 m²) | 0 | 0 | -2,41 | 0 | 2,45 | -4,89 | -4,85 |

Case 1/Zone 1/Component 4: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--|--------------|------------------|------------------|---------|
| Temperature [°C] | | | | |
| Linoleum nach DIN 18171 | 0,3 | 19 (0) | 32,3 (0) | 23,9 |
| Cement Paste w/c 0,6 | 4 | 19 (0,101) | 32,3 (0,101) | 23,9 |
| Cement Plaster (stucco, A-value: 0.51 kg/m²h0.5) | 2 | 19,1 (0,101) | 32,2 (0,101) | 23,9 |
| Wood-Fibre Insulation Board | 2 | 19,2 (0,101) | 32,1 (0,101) | 23,9 |
| Shingle | 10 | 19,8 (0,101) | 31,5 (0,101) | 23,9 |
| Stora Enso CLT | 10 | 18,8 (10) | 32,7 (10) | 23,9 |
| Water content [kg/m³] | | | | |
| Linoleum nach DIN 18171 | 0,3 | 0,012 (0) | 0,108 (0,24) | 0,022 |
| Cement Paste w/c 0,6 | 4 | 54,085 (0,101) | 200,003 (3,899) | 102,944 |
| Cement Plaster (stucco, A-value: 0.51 kg/m²h0.5) | 2 | 5,703 (0,101) | 35,7 (1,899) | 15,108 |
| Wood-Fibre Insulation Board | 2 | 6,163 (0,101) | 19,205 (1,899) | 11,375 |
| Shingle | 10 | 0,09 (0,101) | 0,587 (0,101) | 0,266 |
| Stora Enso CLT | 10 | 20,743 (10) | 63,143 (0,101) | 44,184 |

Case 1/Zone 1/Component 4: U-effective [W/m²K] (theoretical value 0,53)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------------|------------------|----------------|----------------|
| horizontal (A0°, 7,27 m²) | | | |

Case 1/Zone 1/Component 4: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Interior surface (including radiant source) | | | | |
| horizontal (A0°, 7,27 m²) | 2771 | 0 | 4,1 | 0,3 |

Case 1/Zone 1/Component 4, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| horizontal (A0°, 7,27 m²) | 0 | 0 | -6,57 | 0 | 2,29 | -8,86 | -8,86 |

Case 1/Zone 1/Component 5: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 2 (0) | 17,2 (9,766) | 5,9 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 5,6 (0,234) | 19,6 (9,766) | 9,6 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 25 | 9 (0,234) | 27,1 (24,766) | 15,8 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 17,2 (0,234) | 31,7 (9,766) | 21,9 |
| PE-Membrane 0,2 mm (sd = 87 m) | 0,2 | 19,6 (0,033) | 31,8 (0,167) | 23,7 |
| Concrete w/c 0,5 | 10 | 19,5 (9,766) | 32 (9,766) | 23,7 |
| Linoleum nach DIN 18171 | 0,3 | 19,4 (0,3) | 32,1 (0,3) | 23,8 |
| Water content [kg/m³] | | | | |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 1,785 (9,266) | 44,783 (0) | 4,399 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 1,785 (5,51) | 2,982 (0,234) | 2,189 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 25 | 0,627 (24,766) | 2,197 (0,234) | 1,585 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 0,427 (9,766) | 1,802 (0,234) | 0,878 |
| PE-Membrane 0,2 mm (sd = 87 m) | 0,2 | 0,001 (0,033) | 0,002 (0,033) | 0,001 |
| Concrete w/c 0,5 | 10 | 25,141 (9,766) | 67,522 (0,234) | 55,791 |
| Linoleum nach DIN 18171 | 0,3 | 0,012 (0,3) | 0,076 (0,06) | 0,022 |

Case 1/Zone 1/Component 5: U-effective [W/m²K] (theoretical value 0,071)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------------|------------------|----------------|----------------|
| horizontal (A0°, 7,27 m²) | 0,039 | 0,064 | |

Case 1/Zone 1/Component 5: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| horizontal (A0°, 7,27 m²) | 2771 | 0 | 4,1 | 0,3 |

Case 1/Zone 1/Component 5, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|-------------------------------|--------------------------------|----------------------------|-------------|---------------|----------------|-----------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| horizontal (A0°, 7,27 m²) | 0 | 0 | 0,11 | 0 | 1,79 | -1,66 | -1,68 |

Case 1/Zone 1/Component 7: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|-------|
| Temperature [°C] | | | | |
| Gypsum Plaster | 1,3 | 19,6 (1,265) | 34,3 (0) | 23,8 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 7,3 | 18,4 (4,668) | 34,2 (0,035) | 23,9 |
| Gypsum Plaster | 1,3 | 18,8 (0,035) | 33 (1,3) | 24 |
| Water content [kg/m³] | | | | |
| Gypsum Plaster | 1,3 | 0,342 (1,265) | 1,683 (1,265) | 0,557 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 7,3 | 0,107 (0,035) | 1,778 (3,809) | 0,209 |
| Gypsum Plaster | 1,3 | 0,354 (0,035) | 1,694 (0,035) | 0,542 |

Case 1/Zone 1/Component 7: U-effective [W/m²K] (theoretical value 0,451)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| SW (A225°, 7,63 m²) | -2,206 | 0,304 | |

Case 1/Zone 1/Component 7: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| SW (A225°, 7,63 m²) | 2771 | 0 | 4,1 | 0,3 |

Case 1/Zone 1/Component 7, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| SW (A225°, 7,63 m²) | 0 | 0,1 | 0,21 | 0 | 0,46 | -0,15 | -0,15 |

Case 1/Zone 1/Component 8: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Spruce, radial | 1,9 | 19,3 (0) | 32 (0) | 22,9 |
| Air Layer 25 mm | 2,3 | 19,5 (0,074) | 31,6 (0,074) | 22,9 |
| 60 minute Building Paper | 0,1 | 19,5 (0,017) | 31,5 (0,017) | 22,9 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 18,8 (14,926) | 32,8 (14,926) | 23,4 |
| PE-Membrane 0,15 mm (sd = 70 m) | 0,1 | 18,8 (0,083) | 32,8 (0,083) | 24 |
| Gypsum Board | 1,2 | 18,8 (0,372) | 32,9 (1,2) | 24 |
| Water content [kg/m³] | | | | |
| Spruce, radial | 1,9 | 38,948 (0) | 81,898 (1,826) | 50,925 |
| Air Layer 25 mm | 2,3 | 0,482 (2,226) | 2,024 (0,074) | 0,814 |
| 60 minute Building Paper | 0,1 | 0 (0,083) | 0,002 (0,083) | 0,001 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,391 (14,926) | 1,927 (0,074) | 0,717 |
| PE-Membrane 0,15 mm (sd = 70 m) | 0,1 | 0 (0,083) | 0,002 (0,017) | 0 |
| Gypsum Board | 1,2 | 1,41 (1,2) | 6,063 (0,074) | 2,147 |

Case 1/Zone 1/Component 8: U-effective [W/m²K] (theoretical value 0,226)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|--------------------|------------------|----------------|----------------|
| NW (A315°, 2,2 m²) | -0,48 | 0,121 | |

Case 1/Zone 1/Component 8: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| NW (A315°, 2,2 m²) | 2771 | 0 | 4,1 | 0,3 |

Case 1/Zone 1/Component 8, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|-------|------|-------|-----------------|----------|
| | | cap. | diff. | cap. | diff. | water | moisture |

Case 1/Zone 1/Component 9: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Spruce, radial | 1,9 | 19,3 (0) | 32 (0) | 22,9 |
| Air Layer 25 mm | 2,3 | 19,5 (0,074) | 31,6 (0,074) | 22,9 |
| 60 minute Building Paper | 0,1 | 19,5 (0,017) | 31,5 (0,017) | 22,9 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 18,8 (14,926) | 32,8 (14,926) | 23,4 |
| PE-Membrane 0,15 mm (sd = 70 m) | 0,1 | 18,8 (0,083) | 32,8 (0,083) | 24 |
| Gypsum Board | 1,2 | 18,8 (0,372) | 32,9 (1,2) | 24 |
| Water content [kg/m³] | | | | |
| Spruce, radial | 1,9 | 38,948 (0) | 81,898 (1,826) | 50,925 |
| Air Layer 25 mm | 2,3 | 0,482 (2,226) | 2,024 (0,074) | 0,814 |
| 60 minute Building Paper | 0,1 | 0 (0,083) | 0,002 (0,083) | 0,001 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,391 (14,926) | 1,927 (0,074) | 0,717 |
| PE-Membrane 0,15 mm (sd = 70 m) | 0,1 | 0 (0,083) | 0,002 (0,017) | 0 |
| Gypsum Board | 1,2 | 1,41 (1,2) | 6,063 (0,074) | 2,147 |

Case 1/Zone 1/Component 9: U-effective [W/m²K] (theoretical value 0,226)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|--------------------|------------------|----------------|----------------|
| NW (A315°, 2,8 m²) | -0,48 | 0,121 | |

Case 1/Zone 1/Component 9: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| NW (A315°, 2,8 m²) | 2771 | 0 | 4,1 | 0,3 |

Case 1/Zone 1/Component 9, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|-------------------------------|--------------------------------|----------------------------|-------------|---------------|----------------|-----------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| NW (A315°, 2,8 m²) | 0 | 0 | -0,8 | 0 | 0,12 | -0,95 | -0,93 |

Case 1/Zone 1/Component 10: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|-----------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Stora Enso CLT | 10 | 18,8 (9,85) | 32,6 (10) | 23,4 |
| Water content [kg/m³] | | | | |
| Stora Enso CLT | 10 | 20,791 (10) | 63,003 (5,776) | 40,363 |

Case 1/Zone 1/Component 10: U-effective [W/m²K] (theoretical value 0,781)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| SW (A225°, 1,79 m²) | 0,338 | 0,944 | |

Case 1/Zone 1/Component 10: Solar radiation

| Orientation (area) | Total sum [Wh/m ²] | Min. [W/m ²] | Max. [W/m ²] | Mean [W/m ²] |
|---|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Interior surface (including radiant source) | | | | |
| SW (A225°, 1,79 m ²) | 2771 | 0 | 4,1 | 0,3 |

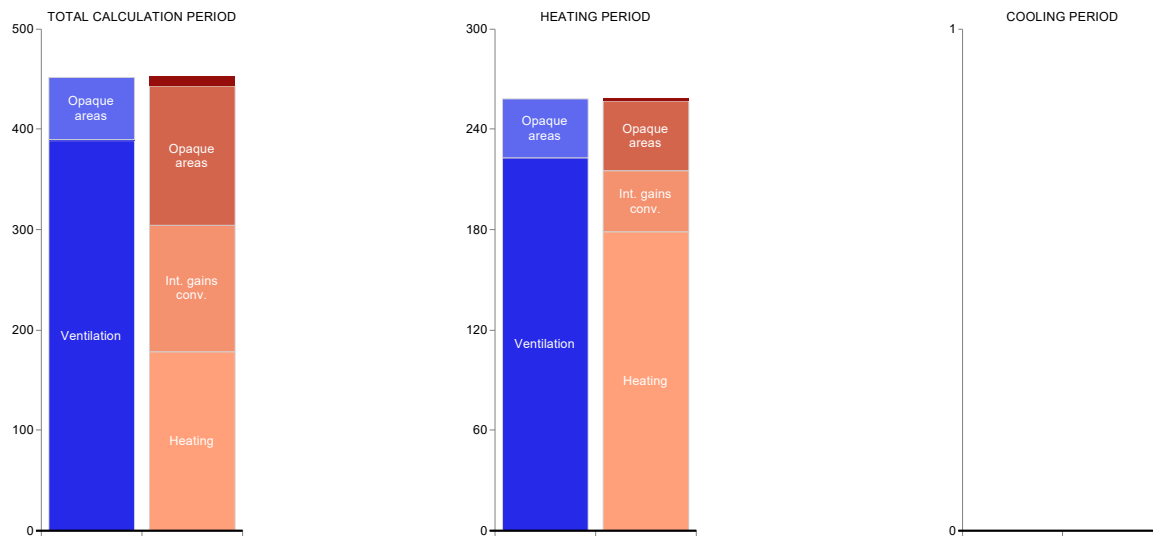
Case 1/Zone 1/Component 10, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m ²] | | | | Balance [kg/m ²] | |
|----------------------------------|--------------------------------------|---|----------------|------------------|-------------------|------------------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| SW (A225°, 1,79 m ²) | 0 | 0 | -1,06 | 0 | 1,84 | -2,91 | -2,9 |

Case 1/Zone 2: Main results

| Speed setting | | | Value |
|--------------------------------|------|------|-------|
| Heating period [d] | | | 129,5 |
| Cooling period [d] | | | 0 |
| Heating demand [kWh] | | | 178,6 |
| Cooling demand [kWh] | | | 0 |
| Humidification demand [kg] | | | 0 |
| Dehumidification demand [kg] | | | 472,9 |
| Min/Max/Mean values | | | |
| Speed setting | Min | Max | Mean |
| Interior temperature [°C] | 20 | 32,1 | 22,8 |
| Interior relative humidity [%] | 37,3 | 60,3 | 51,6 |
| Heating load [kW] | 0 | 0,5 | 0 |
| Cooling load [kW] | 0 | 0 | 0 |
| Humidification [kg/h] | 0 | 0 | 0 |
| Dehumidification [kg/h] | -1,5 | 0 | -0,1 |

ENERGY BALANCE / CONVECTIVE FLOWS kWh/a



Energy balance [kWh/a]

| Speed setting | Total period | Heating period | Cooling period |
|-----------------------|--------------|----------------|----------------|
| Vent. interzone | 9,7 | 1 | 0 |
| Ventilation | 0 | 0 | 0 |
| Opaque areas | 138,9 | 41,7 | 0 |
| Int. gains rad. | 63,8 | 18,7 | 0 |
| Int. gains conv. | 125,4 | 36,5 | 0 |
| Heating | 178,6 | 178,6 | 0 |
| Opaque areas | 62 | 35,4 | 0 |
| Ventilation interzone | 0,5 | 0 | 0 |
| Ventilation | 389 | 222,8 | 0 |

Case 1/Zone 2: Quality of indoor environment in % of time in four categories (prEN 15251:2006)

| | | | | |
|---------------------|----|----|-----|----|
| Percentage | 10 | 8 | 5 | 77 |
| Thermal environment | I | II | III | IV |
| Percentage | 63 | 15 | 14 | 9 |
| Indoor air quality | I | II | III | IV |

Case 1/Zone 2: Heat gain/loss - Total calculation period [kWh]

| Nr. | Component | Gain | Loss |
|-----|---|------|------|
| 1 | Component 1: Vegg bad mot sov nord | 23 | 9 |
| 2 | Component 2: Vegg mellom leilighet | 20 | 17 |
| 3 | Component 3: Himling | 20 | 17 |
| 4 | Component 4: Gulv | 3 | 65 |
| 5 | Component 5: Dør bad mot stue | 25 | 2 |
| 6 | Component 6: vegg bad mot stue | 24 | 3 |
| 7 | Component 7: vegg bad mot stue | 5 | 1 |
| 8 | Component 8: vegg bad mot stue | 38 | 4 |
| 9 | Z.1: Component 8: Vegg mellom sov sør og bad | 10 | 2 |
| 10 | Z.1: Component 9: Vegg mellom sov sør og bad | 13 | 3 |
| 11 | Z.1: Component 10: Vegg massivtre mellom sov sør og bad | 19 | 0 |

Case 1/Zone 2: Heat gain/loss - heating period [kWh]

| Nr. | Component | Gain | Loss |
|-----|---|------|------|
| 1 | Component 1: Vegg bad mot sov nord | 7 | 5 |
| 2 | Component 2: Vegg mellom leilighet | 8 | 8 |
| 3 | Component 3: Himling | 8 | 7 |
| 4 | Component 4: Gulv | 0 | 14 |
| 5 | Component 5: Dør bad mot stue | 3 | 1 |
| 6 | Component 6: vegg bad mot stue | 4 | 2 |
| 7 | Component 7: vegg bad mot stue | 1 | 0 |
| 8 | Component 8: vegg bad mot stue | 6 | 3 |
| 9 | Z.1: Component 8: Vegg mellom sov sør og bad | 3 | 1 |
| 10 | Z.1: Component 9: Vegg mellom sov sør og bad | 4 | 1 |
| 11 | Z.1: Component 10: Vegg massivtre mellom sov sør og bad | 6 | 0 |

Case 1/Zone 2/Component 1: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Spruce, radial | 1,9 | 19,3 (0) | 32,7 (0) | 23,3 |
| Air Layer 25 mm | 2,3 | 19,5 (0,074) | 32,5 (0,074) | 23,2 |
| 60 minute Building Paper | 0,1 | 19,5 (0,017) | 32,5 (0,017) | 23,2 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 19,5 (0,074) | 32,4 (0,074) | 23 |
| PE-Membrane 0,15 mm (sd = 70 m) | 0,1 | 19,6 (0,083) | 32 (0,083) | 22,8 |
| Gypsum Board | 1,2 | 19,6 (0,372) | 32,1 (1,2) | 22,8 |
| Water content [kg/m³] | | | | |
| Spruce, radial | 1,9 | 29,818 (0) | 80,257 (1,826) | 40,111 |
| Air Layer 25 mm | 2,3 | 0,173 (0,074) | 1,899 (0,074) | 0,491 |
| 60 minute Building Paper | 0,1 | 0 (0,083) | 0,002 (0,083) | 0 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,164 (0,074) | 1,812 (14,926) | 0,481 |
| PE-Membrane 0,15 mm (sd = 70 m) | 0,1 | 0 (0,017) | 0,002 (0,017) | 0 |
| Gypsum Board | 1,2 | 2,707 (1,2) | 6,075 (0,074) | 3,784 |

Case 1/Zone 2/Component 1: U-effective [W/m²K] (theoretical value 0,226)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| SE (A135°, 5,49 m²) | 0,66 | 1,161 | |

Case 1/Zone 2/Component 1: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| SE (A135°, 5,49 m²) | 0 | 0 | 0 | 0 |

Case 1/Zone 2/Component 1, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|-------------------------------|--------------------------------|----------------------------|-------------|---------------|----------------|-----------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| SE (A135°, 5,49 m²) | 0 | -0,01 | -1,13 | 0 | 0,01 | -1,18 | -1,15 |

Case 1/Zone 2/Component 2: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Stora Enso CLT | 10 | 19,3 (0) | 31,9 (0) | 22,8 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 10 | 19,8 (9,893) | 30,6 (9,893) | 22,7 |
| Stora Enso CLT | 10 | 19,3 (10) | 31,9 (10) | 22,8 |
| Water content [kg/m³] | | | | |
| Stora Enso CLT | 10 | 30,917 (0) | 63,011 (9,893) | 51,745 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 10 | 0,889 (0,107) | 1,789 (0,107) | 1,286 |
| Stora Enso CLT | 10 | 30,917 (10) | 63,011 (0,107) | 51,745 |

Case 1/Zone 2/Component 2: U-effective [W/m²K] (theoretical value 0,212)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|--------------------|------------------|----------------|----------------|
| NE (A45°, 6,72 m²) | | | |

Case 1/Zone 2/Component 2: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| NE (A45°, 6,72 m²) | 0 | 0 | 0 | 0 |

Case 1/Zone 2/Component 2, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|-------------------------------|--------------------------------|----------------------------|-------------|---------------|----------------|-----------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| NE (A45°, 6,72 m²) | 1 | 0 | -1,7 | 0 | 1,72 | -3,45 | -3,42 |

Case 1/Zone 2/Component 3: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|---|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Linoleum nach DIN 18171 | 0,3 | 19,7 (0,24) | 31 (0) | 22,8 |
| Cement Paste w/c 0,6 | 4 | 19,7 (0,323) | 30,8 (0,101) | 22,8 |
| Cement Plaster (stucco, A-value: 0.51 kg/m ² h0.5) | 2 | 19,7 (0,101) | 30,7 (0,101) | 22,8 |
| Wood-Fibre Insulation Board | 2 | 19,7 (0,101) | 30,6 (0,101) | 22,8 |
| Shingle | 10 | 19,8 (0,101) | 30,1 (0,101) | 22,7 |
| Stora Enso CLT | 10 | 19,3 (10) | 31,8 (10) | 22,8 |
| Water content [kg/m ³] | | | | |
| Linoleum nach DIN 18171 | 0,3 | 0,03 (0) | 0,114 (0,24) | 0,054 |
| Cement Paste w/c 0,6 | 4 | 101,252 (0,101) | 200,014 (3,899) | 137,59 |
| Cement Plaster (stucco, A-value: 0.51 kg/m ² h0.5) | 2 | 12,476 (0,101) | 35,3 (1,899) | 21,75 |
| Wood-Fibre Insulation Board | 2 | 11,057 (0,101) | 19,09 (1,899) | 15,139 |
| Shingle | 10 | 0,198 (0,101) | 0,574 (0,101) | 0,362 |
| Stora Enso CLT | 10 | 30,747 (10) | 63 (0,586) | 50,843 |

Case 1/Zone 2/Component 3: U-effective [W/m²K] (theoretical value 0,53)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|--|------------------|----------------|----------------|
| horizontal (A0°, 5,48 m ²) | | | |

Case 1/Zone 2/Component 3: Solar radiation

| Orientation (area) | Total sum [Wh/m ²] | Min. [W/m ²] | Max. [W/m ²] | Mean [W/m ²] |
|---|--------------------------------|--------------------------|--------------------------|--------------------------|
| Interior surface (including radiant source) | | | | |
| horizontal (A0°, 5,48 m ²) | 0 | 0 | 0 | 0 |

Case 1/Zone 2/Component 3, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m ²] | | | | Balance [kg/m ²] | |
|--|--------------------------------|---|-------------|---------------|----------------|------------------------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| horizontal (A0°, 5,48 m ²) | 1 | 0 | -4,22 | 0 | 1,67 | -5,89 | -5,89 |

Case 1/Zone 2/Component 4: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 2 (0) | 17,2 (9,766) | 5,8 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 5,4 (0,234) | 19,6 (9,766) | 9,2 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 25 | 8,7 (0,234) | 25,7 (24,766) | 15,1 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 16,7 (0,234) | 30 (9,766) | 20,8 |
| PE-Membrane 0,2 mm (sd = 87 m) | 0,2 | 19,6 (0,033) | 30,2 (0,167) | 22,5 |
| Concrete w/c 0,5 | 10 | 19,6 (0,234) | 30,3 (9,766) | 22,5 |
| Linoleum nach DIN 18171 | 0,3 | 19,7 (0,06) | 30,5 (0,3) | 22,6 |
| Water content [kg/m³] | | | | |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 1,785 (9,266) | 44,785 (0) | 4,374 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 1,785 (5,51) | 2,927 (0,234) | 2,162 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 25 | 0,683 (24,766) | 2,175 (0,234) | 1,615 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 0,466 (9,766) | 1,801 (0,234) | 0,926 |
| PE-Membrane 0,2 mm (sd = 87 m) | 0,2 | 0,001 (0,033) | 0,002 (0,033) | 0,001 |
| Concrete w/c 0,5 | 10 | 40,997 (9,766) | 67,52 (0,234) | 60,195 |
| Linoleum nach DIN 18171 | 0,3 | 0,03 (0,3) | 0,094 (0,3) | 0,055 |

Case 1/Zone 2/Component 4: U-effective [W/m²K] (theoretical value 0,071)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------------|------------------|----------------|----------------|
| horizontal (A0°, 5,48 m²) | 0,068 | 0,049 | |

Case 1/Zone 2/Component 4: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| horizontal (A0°, 5,48 m²) | 0 | 0 | 0 | 0 |

Case 1/Zone 2/Component 4, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|-------------------------------|--------------------------------|----------------------------|-------------|---------------|----------------|-----------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| horizontal (A0°, 5,48 m²) | 0 | 0 | 0,12 | 0 | 1,12 | -0,98 | -1 |

Case 1/Zone 2/Component 5: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|-----------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Softwood | 5 | 19,4 (4,925) | 33,8 (0) | 23,3 |
| Water content [kg/m³] | | | | |
| Softwood | 5 | 12,584 (0) | 59,998 (2,581) | 29,632 |

Case 1/Zone 2/Component 5: U-effective [W/m²K] (theoretical value 1,226)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|--------------------|------------------|----------------|----------------|
| NE (A45°, 1,86 m²) | 1,719 | 1,889 | |

Case 1/Zone 2/Component 5: Solar radiation

| Orientation (area) | Total sum [Wh/m ²] | Min. [W/m ²] | Max. [W/m ²] | Mean [W/m ²] |
|---|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Interior surface (including radiant source) | | | | |
| NE (A45°, 1,86 m ²) | 0 | 0 | 0 | 0 |

Case 1/Zone 2/Component 5, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m ²] | | | | Balance [kg/m ²] | |
|----------------------------------|--------------------------------------|---|----------------|------------------|-------------------|------------------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| NE (A45°, 1,86 m ²) | 0 | 0 | -1,59 | 0 | 0,07 | -1,67 | -1,66 |

Case 1/Zone 2/Component 6: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Stora Enso CLT | 10 | 19,5 (9,927) | 33,9 (0) | 23,3 |
| Water content [kg/m ³] | | | | |
| Stora Enso CLT | 10 | 20,671 (0) | 62,999 (5,162) | 40,572 |

Case 1/Zone 2/Component 6: U-effective [W/m²K] (theoretical value 0,781)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|----------------------------------|------------------|----------------|----------------|
| SW (A225°, 2,61 m ²) | 1,175 | 1,449 | |

Case 1/Zone 2/Component 6: Solar radiation

| Orientation (area) | Total sum [Wh/m ²] | Min. [W/m ²] | Max. [W/m ²] | Mean [W/m ²] |
|---|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Interior surface (including radiant source) | | | | |
| SW (A225°, 2,61 m ²) | 0 | 0 | 0 | 0 |

Case 1/Zone 2/Component 6, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m ²] | | | | Balance [kg/m ²] | |
|----------------------------------|--------------------------------------|---|----------------|------------------|-------------------|------------------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| SW (A225°, 2,61 m ²) | 0 | 0 | -1,8 | 0 | 1,05 | -2,87 | -2,85 |

Case 1/Zone 2/Component 7: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Stora Enso CLT | 10 | 19,5 (9,927) | 33,9 (0) | 23,3 |
| Water content [kg/m ³] | | | | |
| Stora Enso CLT | 10 | 20,671 (0) | 62,999 (5,162) | 40,572 |

Case 1/Zone 2/Component 7: U-effective [W/m²K] (theoretical value 0,781)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|----------------------------------|------------------|----------------|----------------|
| NW (A315°, 0,49 m ²) | 1,175 | 1,449 | |

Case 1/Zone 2/Component 7: Solar radiation

| Orientation (area) | Total sum [Wh/m ²] | Min. [W/m ²] | Max. [W/m ²] | Mean [W/m ²] |
|---|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Interior surface (including radiant source) | | | | |
| NW (A315°, 0,49 m ²) | 0 | 0 | 0 | 0 |

Case 1/Zone 2/Component 7, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m ²] | | | | Balance [kg/m ²] | |
|----------------------------------|--------------------------------------|---|----------------|------------------|-------------------|------------------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| NW (A315°, 0,49 m ²) | 0 | 0 | -1,8 | 0 | 1,05 | -2,87 | -2,85 |

Case 1/Zone 2/Component 8: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Stora Enso CLT | 10 | 19,5 (9,927) | 33,9 (0) | 23,3 |
| Water content [kg/m ³] | | | | |
| Stora Enso CLT | 10 | 20,671 (0) | 62,999 (5,162) | 40,572 |

Case 1/Zone 2/Component 8: U-effective [W/m²K] (theoretical value 0,781)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------------------|------------------|----------------|----------------|
| NE (A45°, 4,04 m ²) | 1,175 | 1,449 | |

Case 1/Zone 2/Component 8: Solar radiation

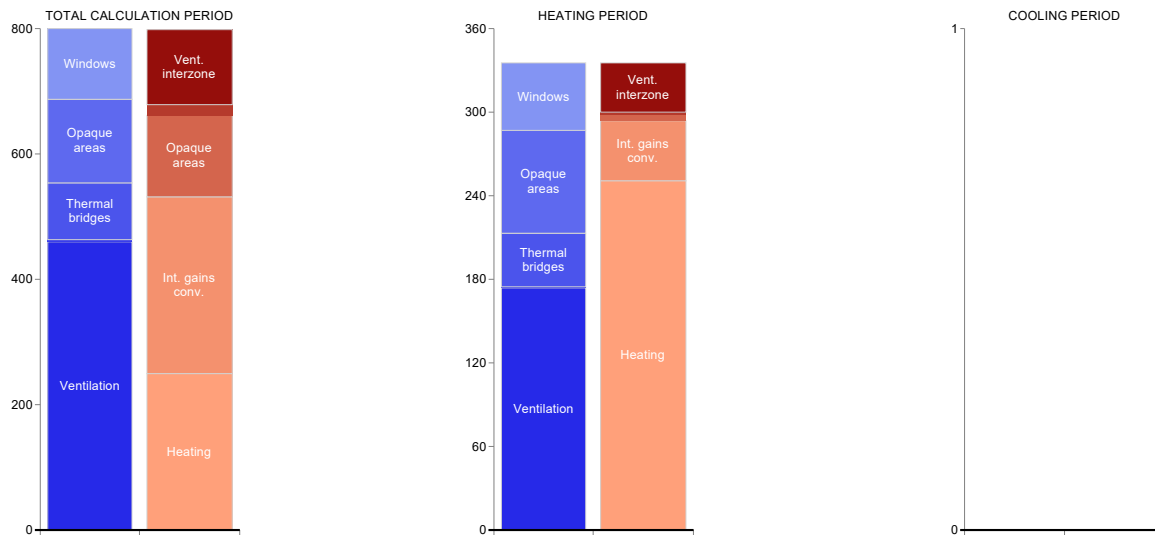
| Orientation (area) | Total sum [Wh/m ²] | Min. [W/m ²] | Max. [W/m ²] | Mean [W/m ²] |
|---|-----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Interior surface (including radiant source) | | | | |
| NE (A45°, 4,04 m ²) | 0 | 0 | 0 | 0 |

Case 1/Zone 2/Component 8, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m ²] | | | | Balance [kg/m ²] | |
|----------------------------------|--------------------------------------|---|----------------|------------------|-------------------|------------------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| NE (A45°, 4,04 m ²) | 0 | 0 | -1,8 | 0 | 1,05 | -2,87 | -2,85 |

Case 1/Zone 3: Main results

| Speed setting | | | Value |
|--------------------------------|------|------|-------|
| Heating period [d] | | | 123,1 |
| Cooling period [d] | | | 0 |
| Heating demand [kWh] | | | 250,4 |
| Cooling demand [kWh] | | | 0 |
| Humidification demand [kg] | | | 16,7 |
| Dehumidification demand [kg] | | | 0,1 |
| Min/Max/Mean values | | | |
| Speed setting | Min | Max | Mean |
| Interior temperature [°C] | 20 | 32,7 | 23,2 |
| Interior relative humidity [%] | 20 | 60 | 31 |
| Heating load [kW] | 0 | 0,3 | 0 |
| Cooling load [kW] | 0 | 0 | 0 |
| Humidification [kg/h] | 0 | 0,1 | 0 |
| Dehumidification [kg/h] | -0,1 | 0 | 0 |

ENERGY BALANCE / CONVECTIVE FLOWS kWh/a

Energy balance [kWh/a]

| Speed setting | Total period | Heating period | Cooling period |
|------------------------|--------------|----------------|----------------|
| Vent. interzone | 118,2 | 35,5 | 0 |
| Solar gains total | 186 | 17,1 | 0 |
| Solar gains convective | 18,6 | 1,7 | 0 |
| Opaque areas | 129,5 | 4,7 | 0 |
| Int. gains rad. | 140,2 | 21,6 | 0 |
| Int. gains conv. | 280,4 | 43,2 | 0 |
| Heating | 250,4 | 250,4 | 0 |
| Windows | 112,6 | 48,9 | 0 |
| Opaque areas | 132,9 | 73,3 | 0 |
| Thermal bridges | 90,4 | 38,6 | 0 |
| Ventilation interzone | 3,1 | 0,6 | 0 |
| Ventilation | 460,4 | 174 | 0 |

Case 1/Zone 3: Quality of indoor environment in % of time in four categories (prEN 15251:2006)

| | | | | |
|---------------------|----|----|-----|----|
| Percentage | 6 | 10 | 6 | 79 |
| Thermal environment | I | II | III | IV |
| Percentage | 88 | | | 12 |
| Indoor air quality | I | | | II |

Case 1/Zone 3: Heat gain/loss - Total calculation period [kWh]

| Nr. | Component | Gain | Loss |
|-----|--|------|------|
| 1 | Component 1: Vegg mellom sov nord og stue | 77 | 2 |
| 2 | Component 2: Vegg mellom leilighet | 55 | 9 |
| 3 | Component 3: Yttervegg soverom nord | 0 | 121 |
| 4 | Component 4: Vindu yttervegg soverom nord | 186 | 113 |
| 5 | Component 5: Himling | 47 | 10 |
| 6 | Component 6: Gulv | 15 | 93 |
| 7 | Z.2: Component 1: Vegg bad mot sov nord | 24 | 3 |
| 8 | Z.4: Component 5: Vegg mellom stue og soverom nord | 16 | 0 |

Case 1/Zone 3: Heat gain/loss - heating period [kWh]

| Nr. | Component | Gain | Loss |
|-----|--|------|------|
| 1 | Component 1: Vegg mellom sov nord og stue | 10 | 1 |
| 2 | Component 2: Vegg mellom leilighet | 7 | 4 |
| 3 | Component 3: Yttervegg soverom nord | 0 | 62 |
| 4 | Component 4: Vindu yttervegg soverom nord | 17 | 49 |
| 5 | Component 5: Himling | 6 | 4 |
| 6 | Component 6: Gulv | 1 | 25 |
| 7 | Z.2: Component 1: Vegg bad mot sov nord | 3 | 2 |
| 8 | Z.4: Component 5: Vegg mellom stue og soverom nord | 0 | 0 |

Case 1/Zone 3/Component 1: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|-------|
| Temperature [°C] | | | | |
| Gypsum Plaster | 1,3 | 19,7 (1,265) | 34,3 (0) | 23,7 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 7,3 | 18,9 (3,809) | 34,2 (0,035) | 23,5 |
| Gypsum Plaster | 1,3 | 19,7 (0,035) | 32,9 (0,035) | 23,3 |
| Water content [kg/m³] | | | | |
| Gypsum Plaster | 1,3 | 0,341 (1,265) | 1,69 (1,265) | 0,558 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 7,3 | 0,107 (0,035) | 1,78 (3,491) | 0,215 |
| Gypsum Plaster | 1,3 | 0,358 (1,3) | 1,688 (0,035) | 0,561 |

Case 1/Zone 3/Component 1: U-effective [W/m²K] (theoretical value 0,451)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| SW (A225°, 9,41 m²) | 2,339 | | |
| SE (A135°, 0,72 m²) | 2,339 | | |

Case 1/Zone 3/Component 1: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| SW (A225°, 9,41 m²) | 3050,9 | 0 | 3,1 | 0,3 |
| SE (A135°, 0,72 m²) | 3050,9 | 0 | 3,1 | 0,3 |

Case 1/Zone 3/Component 1, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| SW (A225°, 9,41 m²) | 0 | 0,11 | 0,27 | 0 | 0,53 | -0,15 | -0,15 |
| SE (A135°, 0,72 m²) | 0 | 0,11 | 0,27 | 0 | 0,53 | -0,15 | -0,15 |

Case 1/Zone 3/Component 2: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Stora Enso CLT | 10 | 19,3 (0) | 32,6 (0) | 23,2 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 10 | 19,6 (0,107) | 31,9 (9,893) | 23,2 |
| Stora Enso CLT | 10 | 19,3 (10) | 32,6 (10) | 23,2 |
| Water content [kg/m³] | | | | |
| Stora Enso CLT | 10 | 20,865 (0) | 63,013 (9,893) | 47,438 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 10 | 0,706 (0,107) | 1,789 (0,107) | 1,182 |
| Stora Enso CLT | 10 | 20,865 (10) | 63,013 (0,107) | 47,438 |

Case 1/Zone 3/Component 2: U-effective [W/m²K] (theoretical value 0,212)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| NE (A45°, 11,49 m²) | | | |

Case 1/Zone 3/Component 2: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Interior surface (including radiant source) | | | | |
| NE (A45°, 11,49 m²) | 3050,9 | 0 | 3,1 | 0,3 |

Case 1/Zone 3/Component 2, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| NE (A45°, 11,49 m²) | 0 | 0 | -2,34 | 0 | 2,38 | -4,75 | -4,71 |

Case 1/Zone 3/Component 3: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|---|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | -14,3 (0) | 35,6 (0) | 8 |
| Air Layer 40 mm | 3,6 | -12,8 (0,119) | 35 (0,119) | 8,4 |
| Air Layer 40 mm | 2,7 | -11,7 (0,119) | 34,7 (0,119) | 8,8 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | -10,7 (0,119) | 34,5 (0,119) | 14,7 |
| Stora Enso CLT | 10 | 13,9 (0,119) | 32,6 (10) | 21,5 |
| Water content [kg/m³] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | 14,733 (0) | 113,155 (0) | 57,345 |
| Air Layer 40 mm | 3,6 | 0,744 (0,119) | 20,435 (0,119) | 3,713 |
| Air Layer 40 mm | 2,7 | 0,755 (0,119) | 7,16 (0,119) | 2,672 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,144 (14,881) | 5,031 (0,119) | 0,757 |
| Stora Enso CLT | 10 | 21,147 (10) | 63,007 (4,559) | 39,465 |

Case 1/Zone 3/Component 3: U-effective [W/m²K] (theoretical value 0,186)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| NW (A315°, 5,19 m²) | 0,162 | 0,195 | |

Case 1/Zone 3/Component 3: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Total incident | | | | |
| NW (A315°, 5,19 m²) | 441556,4 | 0 | 444,5 | 50,4 |
| Absorbed | | | | |
| NW (A315°, 5,19 m²) | 176622,5 | 0 | 177,8 | 20,2 |
| Interior surface (including radiant source) | | | | |
| NW (A315°, 5,19 m²) | 3050,9 | 0 | 3,1 | 0,3 |

Case 1/Zone 3/Component 3, Shading factors (diffuse radiation)

| | |
|---------------------|---|
| NW (A315°, 5,19 m²) | 1 |
|---------------------|---|

Case 1/Zone 3/Component 3, numerical quality

| Component | Number of | Integral of fluxes [kg/m²] | Balance [kg/m²] |
|-----------|-----------|----------------------------|-----------------|
|-----------|-----------|----------------------------|-----------------|

Case 1/Zone 3/Component 4: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Total incident | | | | |
| NW (A315°, 1,02 m²) | 441556,4 | 0 | 444,5 | 50,4 |
| Interior surface (including radiant source) | | | | |
| NW (A315°, 1,02 m²) | 3050,9 | 0 | 3,1 | 0,3 |

Case 1/Zone 3/Component 4, Shading factors (diffuse radiation)

| | |
|---------------------|---|
| NW (A315°, 1,02 m²) | 1 |
|---------------------|---|

Case 1/Zone 3/Component 5: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--|--------------|------------------|------------------|---------|
| Temperature [°C] | | | | |
| Linoleum nach DIN 18171 | 0,3 | 19,5 (0,24) | 32,1 (0) | 23,2 |
| Cement Paste w/c 0,6 | 4 | 19,5 (0,323) | 32 (0,101) | 23,2 |
| Cement Plaster (stucco, A-value: 0.51 kg/m²h0.5) | 2 | 19,5 (0,101) | 31,9 (0,101) | 23,2 |
| Wood-Fibre Insulation Board | 2 | 19,6 (0,101) | 31,8 (0,101) | 23,2 |
| Shingle | 10 | 19,7 (0,101) | 31,1 (0,101) | 23,2 |
| Stora Enso CLT | 10 | 19,4 (10) | 32,4 (10) | 23,2 |
| Water content [kg/m³] | | | | |
| Linoleum nach DIN 18171 | 0,3 | 0,012 (0) | 0,114 (0,24) | 0,023 |
| Cement Paste w/c 0,6 | 4 | 54,98 (0,101) | 200,025 (3,899) | 105,507 |
| Cement Plaster (stucco, A-value: 0.51 kg/m²h0.5) | 2 | 6,083 (0,101) | 35,529 (1,899) | 15,741 |
| Wood-Fibre Insulation Board | 2 | 6,46 (0,101) | 19,197 (1,899) | 11,708 |
| Shingle | 10 | 0,098 (0,101) | 0,586 (0,101) | 0,276 |
| Stora Enso CLT | 10 | 20,874 (10) | 63,021 (0,101) | 44,848 |

Case 1/Zone 3/Component 5: U-effective [W/m²K] (theoretical value 0,53)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------------|------------------|----------------|----------------|
| horizontal (A0°, 9,73 m²) | | | |

Case 1/Zone 3/Component 5: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Interior surface (including radiant source) | | | | |
| horizontal (A0°, 9,73 m²) | 3050,9 | 0 | 3,1 | 0,3 |

Case 1/Zone 3/Component 5, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| horizontal (A0°, 9,73 m²) | 0 | 0 | -6,39 | 0 | 2,24 | -8,63 | -8,63 |

Case 1/Zone 3/Component 6: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 2 (0) | 17,2 (9,766) | 5,8 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 5,4 (0,234) | 19,6 (9,766) | 9,4 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 25 | 8,7 (0,234) | 26,8 (24,766) | 15,4 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 16,6 (0,234) | 31,4 (9,766) | 21,3 |
| PE-Membrane 0,2 mm (sd = 87 m) | 0,2 | 19,6 (0,033) | 31,5 (0,167) | 23 |
| Concrete w/c 0,5 | 10 | 19,6 (0,234) | 31,7 (9,766) | 23 |
| Linoleum nach DIN 18171 | 0,3 | 19,6 (0,06) | 31,8 (0,3) | 23,1 |
| Water content [kg/m³] | | | | |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 1,785 (9,266) | 44,784 (0) | 4,386 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 1,785 (5,51) | 2,953 (0,234) | 2,175 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 25 | 0,658 (24,766) | 2,192 (0,234) | 1,6 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 0,451 (9,766) | 1,801 (0,234) | 0,905 |
| PE-Membrane 0,2 mm (sd = 87 m) | 0,2 | 0,001 (0,033) | 0,002 (0,033) | 0,001 |
| Concrete w/c 0,5 | 10 | 25,441 (9,766) | 67,521 (0,234) | 56,233 |
| Linoleum nach DIN 18171 | 0,3 | 0,012 (0,3) | 0,084 (0,06) | 0,023 |

Case 1/Zone 3/Component 6: U-effective [W/m²K] (theoretical value 0,071)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------------|------------------|----------------|----------------|
| horizontal (A0°, 9,73 m²) | 0,047 | 0,049 | |

Case 1/Zone 3/Component 6: Solar radiation

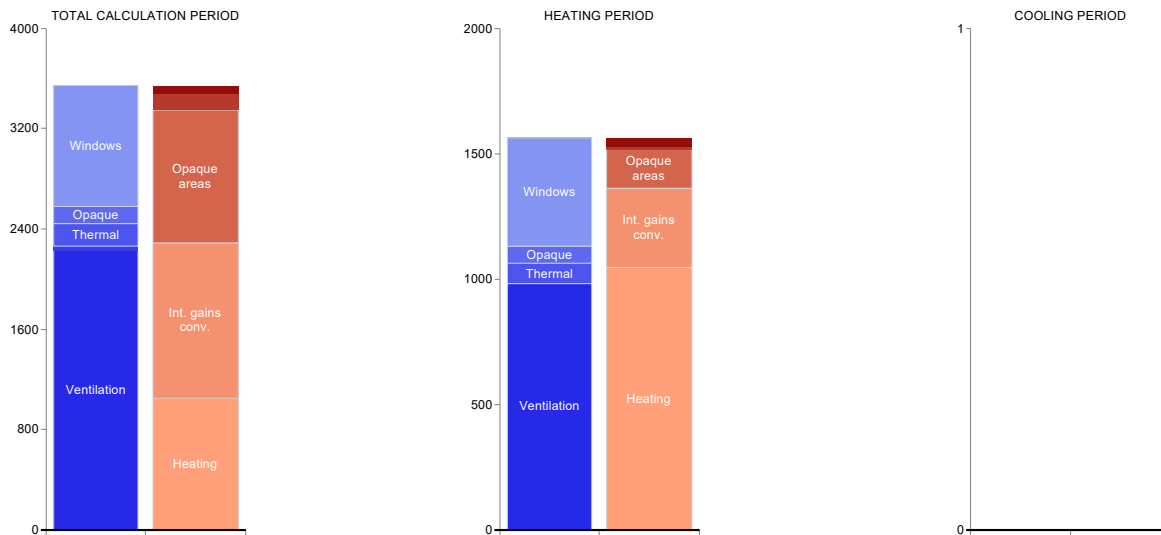
| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| horizontal (A0°, 9,73 m²) | 3050,9 | 0 | 3,1 | 0,3 |

Case 1/Zone 3/Component 6, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|-------------------------------|--------------------------------|----------------------------|-------------|---------------|----------------|-----------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| horizontal (A0°, 9,73 m²) | 0 | 0 | 0,12 | 0 | 1,72 | -1,59 | -1,61 |

Case 1/Zone 4: Main results

| Speed setting | | | Value |
|--------------------------------|------|------|--------|
| Heating period [d] | | | 128,1 |
| Cooling period [d] | | | 0 |
| Heating demand [kWh] | | | 1048,4 |
| Cooling demand [kWh] | | | 0 |
| Humidification demand [kg] | | | 16,6 |
| Dehumidification demand [kg] | | | 0,5 |
| Min/Max/Mean values | | | |
| Speed setting | Min | Max | Mean |
| Interior temperature [°C] | 20 | 34,3 | 23,6 |
| Interior relative humidity [%] | 20 | 60 | 31,1 |
| Heating load [kW] | 0 | 1,1 | 0,1 |
| Cooling load [kW] | 0 | 0 | 0 |
| Humidification [kg/h] | 0 | 0,1 | 0 |
| Dehumidification [kg/h] | -0,4 | 0 | 0 |

ENERGY BALANCE / CONVECTIVE FLOWS kWh/a

Energy balance [kWh/a]

| Speed setting | Total period | Heating period | Cooling period |
|------------------------|--------------|----------------|----------------|
| Vent. interzone | 62,7 | 36,6 | 0 |
| Solar gains total | 1249,7 | 135,8 | 0 |
| Solar gains convective | 125 | 13,6 | 0 |
| Opaque areas | 1063,4 | 152,8 | 0 |
| Int. gains rad. | 618,6 | 156,3 | 0 |
| Int. gains conv. | 1237,2 | 312,6 | 0 |
| Heating | 1048,4 | 1048,4 | 0 |
| Windows | 960,2 | 432,4 | 0 |
| Opaque areas | 136 | 69,9 | 0 |
| Thermal bridges | 184,8 | 81,2 | 0 |
| Ventilation interzone | 35,7 | 0,6 | 0 |
| Ventilation | 2226,3 | 980,3 | 0 |

Case 1/Zone 4: Quality of indoor environment in % of time in four categories (prEN 15251:2006)

| | | | | |
|---------------------|----|----|-----|----|
| Percentage | 4 | 10 | 10 | 76 |
| Thermal environment | I | II | III | IV |
| Percentage | 40 | 22 | 34 | 4 |
| Indoor air quality | I | II | III | IV |

Case 1/Zone 4: Heat gain/loss - Total calculation period [kWh]

| Nr. | Component | Gain | Loss |
|-----|--|------|------|
| 1 | Component 1: Vegg mellom leiligheter | 164 | 4 |
| 2 | Component 2: Gulv | 198 | 281 |
| 3 | Component 3: Himling | 337 | 14 |
| 4 | Component 4: Vegg mellom stue og bod | 580 | 0 |
| 5 | Component 5: Vegg mellom stue og soverom nord | 20 | 0 |
| 6 | Component 6: Vindu yttervegg sør | 550 | 314 |
| 7 | Component 7: Yttervegg | 0 | 39 |
| 8 | Component 8: Yttervegg | 1 | 105 |
| 9 | Component 9: Yttervegg | 0 | 44 |
| 10 | Component 10: Yttervegg | 1 | 62 |
| 11 | Component 11: Yttervegg | 0 | 38 |
| 12 | Component 12: Vindu stue nord | 699 | 646 |
| 13 | Z.3: Component 1: Vegg mellom sov nord og stue | 98 | 1 |
| 14 | Z.1: Component 7: Vegg mellom sov sør og stue | 96 | 0 |
| 15 | Z.2: Component 5: Dør bad mot stue | 6 | 7 |
| 16 | Z.2: Component 6: vegg bad mot stue | 11 | 4 |
| 17 | Z.2: Component 7: vegg bad mot stue | 2 | 1 |
| 18 | Z.2: Component 8: vegg bad mot stue | 18 | 6 |

Case 1/Zone 4: Heat gain/loss - heating period [kWh]

| Nr. | Component | Gain | Loss |
|-----|--|------|------|
| 1 | Component 1: Vegg mellom leiligheter | 26 | 4 |
| 2 | Component 2: Gulv | 11 | 61 |
| 3 | Component 3: Himling | 55 | 9 |
| 4 | Component 4: Vegg mellom stue og bod | 183 | 0 |
| 5 | Component 5: Vegg mellom stue og soverom nord | 4 | 0 |
| 6 | Component 6: Vindu yttervegg sør | 72 | 142 |
| 7 | Component 7: Yttervegg | 0 | 24 |
| 8 | Component 8: Yttervegg | 0 | 65 |
| 9 | Component 9: Yttervegg | 0 | 28 |
| 10 | Component 10: Yttervegg | 0 | 38 |
| 11 | Component 11: Yttervegg | 0 | 24 |
| 12 | Component 12: Vindu stue nord | 63 | 291 |
| 13 | Z.3: Component 1: Vegg mellom sov nord og stue | 21 | 0 |
| 14 | Z.1: Component 7: Vegg mellom sov sør og stue | 25 | 0 |
| 15 | Z.2: Component 5: Dør bad mot stue | 3 | 0 |
| 16 | Z.2: Component 6: vegg bad mot stue | 4 | 1 |
| 17 | Z.2: Component 7: vegg bad mot stue | 1 | 0 |
| 18 | Z.2: Component 8: vegg bad mot stue | 6 | 1 |

Case 1/Zone 4/Component 1: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Stora Enso CLT | 10 | 19,3 (0) | 34,2 (0) | 23,7 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 10 | 19,7 (9,893) | 33,2 (9,893) | 23,7 |
| Stora Enso CLT | 10 | 19,3 (10) | 34,2 (10) | 23,7 |
| Water content [kg/m³] | | | | |
| Stora Enso CLT | 10 | 20,585 (0) | 63,013 (9,893) | 47,184 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 10 | 0,688 (9,893) | 1,789 (9,893) | 1,167 |
| Stora Enso CLT | 10 | 20,585 (10) | 63,013 (0,107) | 47,184 |

Case 1/Zone 4/Component 1: U-effective [W/m²K] (theoretical value 0,212)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|----------------------|------------------|----------------|----------------|
| SW (A225°, 16,35 m²) | | | |

Case 1/Zone 4/Component 1: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| SW (A225°, 16,35 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 1, numerical quality

| Component (part of component) | Number of convergence | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] |
|-------------------------------|-----------------------|----------------------------|--|--|--|-----------------|
| | | | | | | |

Case 1/Zone 4/Component 2: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 2 (0) | 17,2 (9,766) | 5,9 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 5,4 (0,234) | 19,6 (9,766) | 9,5 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 25 | 8,7 (0,234) | 27,8 (24,766) | 15,7 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 16,7 (0,234) | 32,7 (9,766) | 21,7 |
| PE-Membrane 0,2 mm (sd = 87 m) | 0,2 | 19,6 (0,033) | 32,8 (0,167) | 23,4 |
| Concrete w/c 0,5 | 10 | 19,6 (0,234) | 33 (9,766) | 23,5 |
| Linoleum nach DIN 18171 | 0,3 | 19,7 (0,06) | 33,2 (0,3) | 23,5 |
| Water content [kg/m³] | | | | |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 1,785 (9,266) | 44,783 (0) | 4,398 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 1,785 (5,51) | 2,977 (0,234) | 2,188 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 25 | 0,639 (24,766) | 2,204 (0,234) | 1,586 |
| EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 10 | 0,44 (9,766) | 1,801 (0,234) | 0,886 |
| PE-Membrane 0,2 mm (sd = 87 m) | 0,2 | 0,001 (0,033) | 0,002 (0,033) | 0,001 |
| Concrete w/c 0,5 | 10 | 25,325 (9,766) | 67,52 (0,234) | 56,017 |
| Linoleum nach DIN 18171 | 0,3 | 0,011 (0,3) | 0,084 (0,06) | 0,023 |

Case 1/Zone 4/Component 2: U-effective [W/m²K] (theoretical value 0,071)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------------|------------------|----------------|----------------|
| horizontal (A0°, 33,4 m²) | 0,014 | 0,028 | |

Case 1/Zone 4/Component 2: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| horizontal (A0°, 33,4 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 2, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|-------------------------------|--------------------------------|----------------------------|-------------|---------------|----------------|-----------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| horizontal (A0°, 33,4 m²) | 0 | 0 | 0,11 | 0 | 1,75 | -1,62 | -1,64 |

Case 1/Zone 4/Component 3: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|---|--------------|------------------|------------------|---------|
| Temperature [°C] | | | | |
| Linoleum nach DIN 18171 | 0,3 | 19,6 (0,24) | 33,6 (0) | 23,7 |
| Cement Paste w/c 0,6 | 4 | 19,6 (0,323) | 33,4 (0,101) | 23,7 |
| Cement Plaster (stucco, A-value: 0.51 kg/m ² h0.5) | 2 | 19,6 (0,101) | 33,3 (0,101) | 23,7 |
| Wood-Fibre Insulation Board | 2 | 19,6 (0,101) | 33,2 (0,101) | 23,6 |
| Shingle | 10 | 19,8 (0,101) | 32,3 (0,101) | 23,6 |
| Stora Enso CLT | 10 | 19,3 (10) | 34,1 (10) | 23,7 |
| Water content [kg/m ³] | | | | |
| Linoleum nach DIN 18171 | 0,3 | 0,012 (0) | 0,114 (0,24) | 0,023 |
| Cement Paste w/c 0,6 | 4 | 54,601 (0,101) | 200,024 (3,899) | 105,009 |
| Cement Plaster (stucco, A-value: 0.51 kg/m ² h0.5) | 2 | 6,037 (0,101) | 35,444 (1,899) | 15,532 |
| Wood-Fibre Insulation Board | 2 | 6,395 (0,101) | 19,101 (1,899) | 11,561 |
| Shingle | 10 | 0,096 (0,101) | 0,575 (0,101) | 0,272 |
| Stora Enso CLT | 10 | 20,642 (10) | 63 (0,586) | 44,498 |

Case 1/Zone 4/Component 3: U-effective [W/m²K] (theoretical value 0,53)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|--|------------------|----------------|----------------|
| horizontal (A0°, 33,4 m ²) | | | |

Case 1/Zone 4/Component 3: Solar radiation

| Orientation (area) | Total sum [Wh/m ²] | Min. [W/m ²] | Max. [W/m ²] | Mean [W/m ²] |
|---|--------------------------------|--------------------------|--------------------------|--------------------------|
| Interior surface (including radiant source) | | | | |
| horizontal (A0°, 33,4 m ²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 3, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m ²] | | | | Balance [kg/m ²] | |
|--|--------------------------------------|---|----------------|------------------|-------------------|------------------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| horizontal (A0°, 33,4 m ²) | 0 | 0 | -6,39 | 0 | 2,25 | -8,64 | -8,64 |

Case 1/Zone 4/Component 4: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|-------|
| Temperature [°C] | | | | |
| Gypsum Plaster | 1,3 | 21,8 (1,265) | 34,7 (0) | 29,5 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 7,3 | 19,8 (6,371) | 34,5 (0,035) | 26,9 |
| Gypsum Plaster | 1,3 | 19,8 (1,151) | 34,5 (1,3) | 24,2 |
| Water content [kg/m ³] | | | | |
| Gypsum Plaster | 1,3 | 0,189 (0) | 1,403 (1,265) | 0,306 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 7,3 | 0,058 (0,035) | 1,784 (4,402) | 0,135 |
| Gypsum Plaster | 1,3 | 0,321 (0,035) | 1,714 (0,035) | 0,514 |

Case 1/Zone 4/Component 4: U-effective [W/m²K] (theoretical value 0,451)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| NE (A45°, 7,34 m²) | 0,674 | 0,562 | |
| NW (A315°, 3,98 m²) | 0,674 | 0,562 | |
| SE (A135°, 3,98 m²) | 0,674 | 0,562 | |

Case 1/Zone 4/Component 4: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| NE (A45°, 7,34 m²) | 7399,8 | 0 | 6,7 | 0,8 |
| NW (A315°, 3,98 m²) | 7399,8 | 0 | 6,7 | 0,8 |
| SE (A135°, 3,98 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 4, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| NE (A45°, 7,34 m²) | 0 | -1,91 | -3,64 | 0 | -5,39 | -0,16 | -0,16 |
| NW (A315°, 3,98 m²) | 0 | -1,91 | -3,64 | 0 | -5,39 | -0,16 | -0,16 |
| SE (A135°, 3,98 m²) | 0 | -1,91 | -3,64 | 0 | -5,39 | -0,16 | -0,16 |

Case 1/Zone 4/Component 5: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|--------------------------------------|--------------|------------------|------------------|-------|
| Temperature [°C] | | | | |
| Gypsum Plaster | 1,3 | 19,7 (1,265) | 32,9 (1,265) | 23,3 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 7,3 | 18,9 (3,491) | 34,2 (7,265) | 23,5 |
| Gypsum Plaster | 1,3 | 19,7 (0,035) | 34,3 (1,3) | 23,7 |
| Water content [kg/m³] | | | | |
| Gypsum Plaster | 1,3 | 0,358 (0) | 1,688 (1,265) | 0,561 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 7,3 | 0,107 (7,265) | 1,78 (3,809) | 0,215 |
| Gypsum Plaster | 1,3 | 0,341 (0,035) | 1,69 (0,035) | 0,558 |

Case 1/Zone 4/Component 5: U-effective [W/m²K] (theoretical value 0,451)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| SW (A225°, 2,08 m²) | -2,992 | | |

Case 1/Zone 4/Component 5: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Interior surface (including radiant source) | | | | |
| SW (A225°, 2,08 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 5, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|-------|------|-------|-----------------|----------|
| | | cap. | diff. | cap. | diff. | water | moisture |

Case 1/Zone 4/Component 6: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Total incident | | | | |
| SE (A135°, 2,84 m²) | 651565,4 | 0 | 669,8 | 74,4 |
| Interior surface (including radiant source) | | | | |
| SE (A135°, 2,84 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 6, Shading factors (diffuse radiation)

| | |
|---------------------|---|
| SE (A135°, 2,84 m²) | 1 |
|---------------------|---|

Case 1/Zone 4/Component 7: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|---|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | -14,3 (0) | 35,7 (0) | 8,2 |
| Air Layer 40 mm | 3,6 | -12,8 (0,119) | 34,8 (0,119) | 8,6 |
| Air Layer 40 mm | 2,7 | -11,6 (0,119) | 34,3 (0,119) | 9,1 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | -10,7 (0,119) | 34,1 (0,119) | 15 |
| Stora Enso CLT | 10 | 13,9 (0,119) | 34,2 (10) | 22 |
| Water content [kg/m³] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | 12,359 (0) | 116,049 (0) | 56,678 |
| Air Layer 40 mm | 3,6 | 0,761 (3,481) | 19,819 (0,119) | 3,635 |
| Air Layer 40 mm | 2,7 | 0,74 (2,581) | 7,134 (0,119) | 2,627 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,145 (14,881) | 5,015 (0,119) | 0,741 |
| Stora Enso CLT | 10 | 21,08 (10) | 63,007 (4,559) | 39,123 |

Case 1/Zone 4/Component 7: U-effective [W/m²K] (theoretical value 0,186)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| SE (A135°, 2,16 m²) | 0,121 | 0,174 | |

Case 1/Zone 4/Component 7: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|----------------------|----------------|----------------|----------------|
| Total incident | | | | |
| SE (A135°, 2,16 m²) | 551751,1 | 0 | 652,7 | 63 |
| Absorbed | | | | |
| SE (A135°, 2,16 m²) | 220700,4 | 0 | 261,1 | 25,2 |
| Interior surface (including radiant source) | | | | |
| SE (A135°, 2,16 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 7, Shading factors (diffuse radiation)

| | |
|---------------------|-------|
| SE (A135°, 2,16 m²) | 0,777 |
|---------------------|-------|

Case 1/Zone 4/Component 7, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| v | | | | | | | |

Case 1/Zone 4/Component 8: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|---|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | -14,3 (0) | 37,9 (0) | 8,3 |
| Air Layer 40 mm | 3,6 | -12,8 (0,119) | 36,8 (0,119) | 8,7 |
| Air Layer 40 mm | 2,7 | -11,6 (0,119) | 36,3 (0,119) | 9,1 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | -10,6 (0,119) | 36 (0,119) | 15 |
| Stora Enso CLT | 10 | 13,9 (0,119) | 34,2 (10) | 22 |
| Water content [kg/m³] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | 11,197 (0) | 114,714 (0) | 56,416 |
| Air Layer 40 mm | 3,6 | 0,732 (3,481) | 19,622 (0,119) | 3,594 |
| Air Layer 40 mm | 2,7 | 0,716 (2,581) | 7,141 (0,119) | 2,61 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,145 (14,881) | 5,013 (0,119) | 0,742 |
| Stora Enso CLT | 10 | 21,063 (10) | 63,007 (4,559) | 39,156 |

Case 1/Zone 4/Component 8: U-effective [W/m²K] (theoretical value 0,186)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|-----------------------|------------------|----------------|----------------|
| SW (A217,2°, 5,85 m²) | 0,12 | 0,173 | |

Case 1/Zone 4/Component 8: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Total incident | | | | |
| SW (A217,2°, 5,85 m²) | 592590 | 0 | 669,2 | 67,6 |
| Absorbed | | | | |
| SW (A217,2°, 5,85 m²) | 237036 | 0 | 267,7 | 27,1 |
| Interior surface (including radiant source) | | | | |
| SW (A217,2°, 5,85 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 8, Shading factors (diffuse radiation)

| | |
|-----------------------|-------|
| SW (A217,2°, 5,85 m²) | 0,828 |
|-----------------------|-------|

Case 1/Zone 4/Component 8, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| SW (A217,2°, 5,85 m²) | 5 | 0 | -1,78 | 0 | 1,57 | -3,34 | -3,36 |

Case 1/Zone 4/Component 9: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|---|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | -14,3 (0) | 36,1 (0) | 8,4 |
| Air Layer 40 mm | 3,6 | -12,8 (0,119) | 35,2 (0,119) | 8,8 |
| Air Layer 40 mm | 2,7 | -11,6 (0,119) | 34,9 (0,119) | 9,2 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | -10,6 (0,119) | 34,6 (0,119) | 15,1 |
| Stora Enso CLT | 10 | 13,9 (0,119) | 34,2 (10) | 22 |
| Water content [kg/m³] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | 12,182 (0) | 111,461 (0) | 56,176 |
| Air Layer 40 mm | 3,6 | 0,734 (3,481) | 19,763 (0,119) | 3,578 |
| Air Layer 40 mm | 2,7 | 0,716 (2,581) | 7,133 (0,119) | 2,589 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,144 (14,881) | 5,014 (0,119) | 0,737 |
| Stora Enso CLT | 10 | 21,067 (10) | 63,007 (4,559) | 39,142 |

Case 1/Zone 4/Component 9: U-effective [W/m²K] (theoretical value 0,186)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|--------------------|------------------|----------------|----------------|
| SE (A135°, 2,5 m²) | 0,119 | 0,174 | |

Case 1/Zone 4/Component 9: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Total incident | | | | |
| SE (A135°, 2,5 m²) | 651565,4 | 0 | 669,8 | 74,4 |
| Absorbed | | | | |
| SE (A135°, 2,5 m²) | 260626,2 | 0 | 267,9 | 29,8 |
| Interior surface (including radiant source) | | | | |
| SE (A135°, 2,5 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 9, Shading factors (diffuse radiation)

| | |
|--------------------|---|
| SE (A135°, 2,5 m²) | 1 |
|--------------------|---|

Case 1/Zone 4/Component 9, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|----------------------------------|--------------------------------------|----------------------------|----------------|------------------|-------------------|------------------|------------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| SE (A135°, 2,5 m²) | 6 | 0 | -1,79 | 0 | 1,57 | -3,34 | -3,36 |

Case 1/Zone 4/Component 10: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|---|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | -14,3 (0) | 35,7 (0) | 8 |
| Air Layer 40 mm | 3,6 | -12,8 (0,119) | 35,1 (0,119) | 8,4 |
| Air Layer 40 mm | 2,7 | -11,6 (0,119) | 34,8 (0,119) | 8,9 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | -10,7 (0,119) | 34,6 (0,119) | 14,9 |
| Stora Enso CLT | 10 | 13,9 (0,119) | 34,1 (10) | 21,9 |
| Water content [kg/m³] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | 14,728 (0) | 114,12 (0) | 57,379 |
| Air Layer 40 mm | 3,6 | 0,765 (0,119) | 20,512 (0,119) | 3,75 |
| Air Layer 40 mm | 2,7 | 0,773 (0,119) | 7,163 (0,119) | 2,679 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,142 (14,881) | 5,034 (0,119) | 0,742 |
| Stora Enso CLT | 10 | 21,075 (10) | 63,007 (4,559) | 39,097 |

Case 1/Zone 4/Component 10: U-effective [W/m²K] (theoretical value 0,186)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| NW (A315°, 3,38 m²) | 0,124 | 0,175 | |

Case 1/Zone 4/Component 10: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Total incident | | | | |
| NW (A315°, 3,38 m²) | 441556,4 | 0 | 444,5 | 50,4 |
| Absorbed | | | | |
| NW (A315°, 3,38 m²) | 176622,5 | 0 | 177,8 | 20,2 |
| Interior surface (including radiant source) | | | | |
| NW (A315°, 3,38 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 10, Shading factors (diffuse radiation)

| | |
|---------------------|---|
| NW (A315°, 3,38 m²) | 1 |
|---------------------|---|

Case 1/Zone 4/Component 10, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|-------------------------------|--------------------------------|----------------------------|-------------|---------------|----------------|-----------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| NW (A315°, 3,38 m²) | 4 | 0 | -1,77 | 0 | 1,56 | -3,33 | -3,34 |

Case 1/Zone 4/Component 11: Min/Max/Mean values

| Layer | Thickn. [cm] | Min. (dist.[cm]) | Max. (dist.[cm]) | Mean |
|---|--------------|------------------|------------------|--------|
| Temperature [°C] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | -14,3 (0) | 35,6 (0) | 8,1 |
| Air Layer 40 mm | 3,6 | -12,8 (0,119) | 34,7 (0,119) | 8,6 |
| Air Layer 40 mm | 2,7 | -11,6 (0,119) | 34,2 (0,119) | 9 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | -10,7 (0,119) | 34 (0,119) | 15 |
| Stora Enso CLT | 10 | 13,9 (0,119) | 34,2 (10) | 22 |
| Water content [kg/m³] | | | | |
| Scandinavian spruce transverse direction II | 2,1 | 12,397 (0) | 117,039 (0) | 56,794 |
| Air Layer 40 mm | 3,6 | 0,767 (3,481) | 19,829 (0,119) | 3,648 |
| Air Layer 40 mm | 2,7 | 0,746 (2,581) | 7,134 (0,119) | 2,636 |
| Mineral Wool (heat cond.: 0,04 W/mK) | 15 | 0,145 (14,881) | 5,015 (0,119) | 0,742 |
| Stora Enso CLT | 10 | 21,082 (10) | 63,007 (4,559) | 39,121 |

Case 1/Zone 4/Component 11: U-effective [W/m²K] (theoretical value 0,186)

| Orientation (area) | Total calc. time | Heating period | Cooling period |
|---------------------|------------------|----------------|----------------|
| SE (A135°, 2,12 m²) | 0,122 | 0,174 | |

Case 1/Zone 4/Component 11: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Total incident | | | | |
| SE (A135°, 2,12 m²) | 529097,5 | 0 | 649 | 60,4 |
| Absorbed | | | | |
| SE (A135°, 2,12 m²) | 211639 | 0 | 259,6 | 24,2 |
| Interior surface (including radiant source) | | | | |
| SE (A135°, 2,12 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 11, Shading factors (diffuse radiation)

| | |
|---------------------|-------|
| SE (A135°, 2,12 m²) | 0,728 |
|---------------------|-------|

Case 1/Zone 4/Component 11, numerical quality

| Component (part of component) | Number of convergence failures | Integral of fluxes [kg/m²] | | | | Balance [kg/m²] | |
|-------------------------------|--------------------------------|----------------------------|-------------|---------------|----------------|-----------------|---------------|
| | | cap. outer | diff. outer | cap. interior | diff. interior | water content | moisture flow |
| SE (A135°, 2,12 m²) | 2 | 0 | -1,79 | 0 | 1,57 | -3,34 | -3,36 |

Case 1/Zone 4/Component 12: Solar radiation

| Orientation (area) | Total sum [Wh/m²] | Min. [W/m²] | Max. [W/m²] | Mean [W/m²] |
|---|-------------------|-------------|-------------|-------------|
| Total incident | | | | |
| NW (A315°, 5,84 m²) | 441556,4 | 0 | 444,5 | 50,4 |
| Interior surface (including radiant source) | | | | |
| NW (A315°, 5,84 m²) | 7399,8 | 0 | 6,7 | 0,8 |

Case 1/Zone 4/Component 12, Shading factors (diffuse radiation)

| | |
|---------------------|---|
| NW (A315°, 5,84 m²) | 1 |
|---------------------|---|

HVAC

System 1 (User defined): Sone 1, Input data

| Zone | Share [-] | | | | |
|-----------------------|---------------|---------------|-------------------|--------------------|----------------------|
| | Space heating | Space cooling | Space ventilation | Air humidification | Air dehumidification |
| Zone 1: Soverom Sør | 0,25 | | 1 | 1 | 1 |
| Zone 2: Bad | 0,25 | | 0 | 0 | 0 |
| Zone 3: Soverom nord | 0,25 | | 0 | 0 | 0 |
| Zone 4: Stue/ Kjøkken | 0,25 | | 0 | 0 | 0 |

Device 1 (User defined: Heating, Humidification, Dehumidification)

| | |
|----------------------------------|----|
| Max. heating power [kW] | 50 |
| Humidification capacity [kg/h] | 50 |
| Dehumidification capacity [kg/h] | 50 |

Device 2 (Mechanical ventilation: Ventilation)

| | |
|--|------|
| HRV/ERV efficiency [-] | 0,80 |
| Effective moisture recovery efficiency [-] | 0 |
| Use optional climate for air exchange | No |
| Capacity of mechanical system [m³/h] | 38 |

System 2 (User defined): Sone 2, Input data

| Zone | Share [-] | | | | |
|-----------------------|---------------|---------------|-------------------|--------------------|----------------------|
| | Space heating | Space cooling | Space ventilation | Air humidification | Air dehumidification |
| Zone 1: Soverom Sør | 0 | | 0 | 0 | 0 |
| Zone 2: Bad | 1 | | 1 | 1 | 1 |
| Zone 3: Soverom nord | 0 | | 0 | 0 | 0 |
| Zone 4: Stue/ Kjøkken | 0 | | 0 | 0 | 0 |

Device 1 (User defined: Heating, Humidification, Dehumidification)

| | |
|----------------------------------|----|
| Max. heating power [kW] | 50 |
| Humidification capacity [kg/h] | 50 |
| Dehumidification capacity [kg/h] | 50 |

Device 2 (Mechanical ventilation: Ventilation)

| | |
|--|----|
| HRV/ERV efficiency [-] | 0 |
| Effective moisture recovery efficiency [-] | 0 |
| Use optional climate for air exchange | No |
| Capacity of mechanical system [m³/h] | 50 |

System 3 (User defined): Sone 3, Input data

| Zone | Share [-] | | | | |
|-----------------------|---------------|---------------|-------------------|--------------------|----------------------|
| | Space heating | Space cooling | Space ventilation | Air humidification | Air dehumidification |
| Zone 1: Soverom Sør | 0 | | 0 | 0 | 0 |
| Zone 2: Bad | 0 | | 0 | 0 | 0 |
| Zone 3: Soverom nord | 0 | | 1 | 1 | 1 |
| Zone 4: Stue/ Kjøkken | 0 | | 0 | 0 | 0 |

Device 1 (User defined: Heating, Humidification, Dehumidification)

| | |
|----------------------------------|----|
| Max. heating power [kW] | 50 |
| Humidification capacity [kg/h] | 50 |
| Dehumidification capacity [kg/h] | 50 |

Device 2 (Mechanical ventilation: Ventilation)

| | |
|--|-----|
| HRV/ERV efficiency [-] | 0,8 |
| Effective moisture recovery efficiency [-] | 0 |
| Use optional climate for air exchange | No |
| Capacity of mechanical system [m³/h] | 38 |

System 4 (User defined): Sone 4, Input data

| Zone | Share [-] | | | | |
|-----------------------|---------------|---------------|-------------------|--------------------|----------------------|
| | Space heating | Space cooling | Space ventilation | Air humidification | Air dehumidification |
| Zone 1: Soverom Sør | 0 | | 0 | 0 | 0 |
| Zone 2: Bad | 0 | | 0 | 0 | 0 |
| Zone 3: Soverom nord | 0 | | 0 | 0 | 0 |
| Zone 4: Stue/ Kjøkken | 0 | | 1 | 1 | 1 |

Device 1 (User defined: Heating, Humidification, Dehumidification)

| | |
|----------------------------------|----|
| Max. heating power [kW] | 50 |
| Humidification capacity [kg/h] | 50 |
| Dehumidification capacity [kg/h] | 50 |

Device 2 (Mechanical ventilation: Ventilation)

| | |
|--|-----|
| HRV/ERV efficiency [-] | 0,8 |
| Effective moisture recovery efficiency [-] | 0 |
| Use optional climate for air exchange | No |
| Capacity of mechanical system [m³/h] | 38 |

System 5 (User defined): Sone 5, Input data

| Zone | Share [-] | | | | |
|-----------------------|---------------|---------------|-------------------|--------------------|----------------------|
| | Space heating | Space cooling | Space ventilation | Air humidification | Air dehumidification |
| Zone 1: Soverom Sør | | | | | |
| Zone 2: Bad | | | | | |
| Zone 3: Soverom nord | | | | | |
| Zone 4: Stue/ Kjøkken | | | | | |

System 1 (User defined): Sone 1, Results

System 2 (User defined): Sone 2, Results

System 3 (User defined): Sone 3, Results

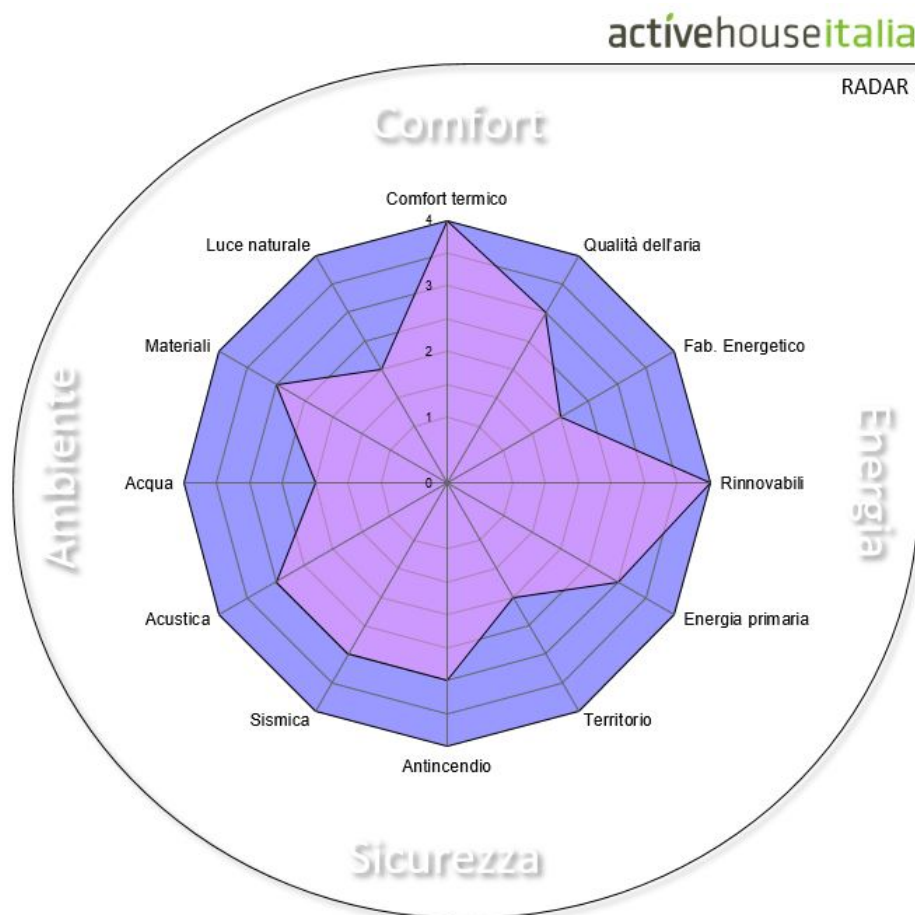
System 4 (User defined): Sone 4, Results

System 5 (User defined): Sone 5, Results

WUFI®Plus

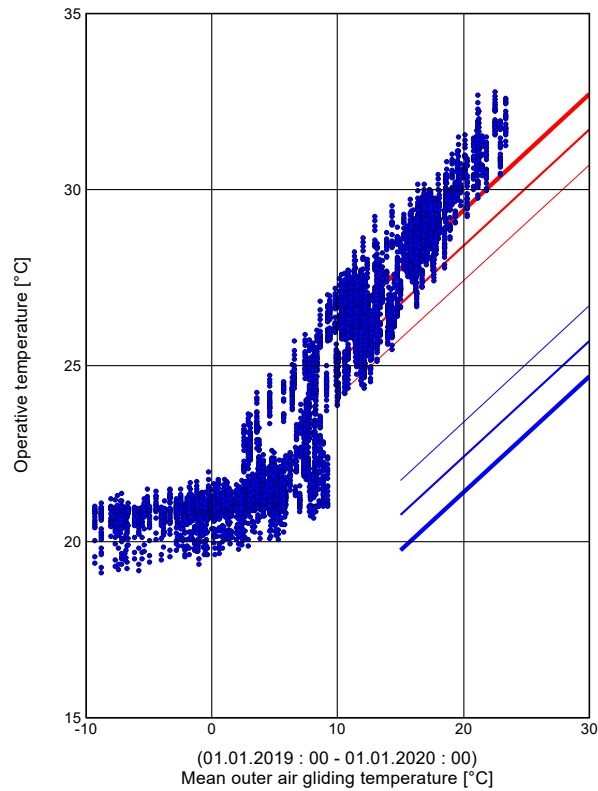
Report Active House

activehouseitalia



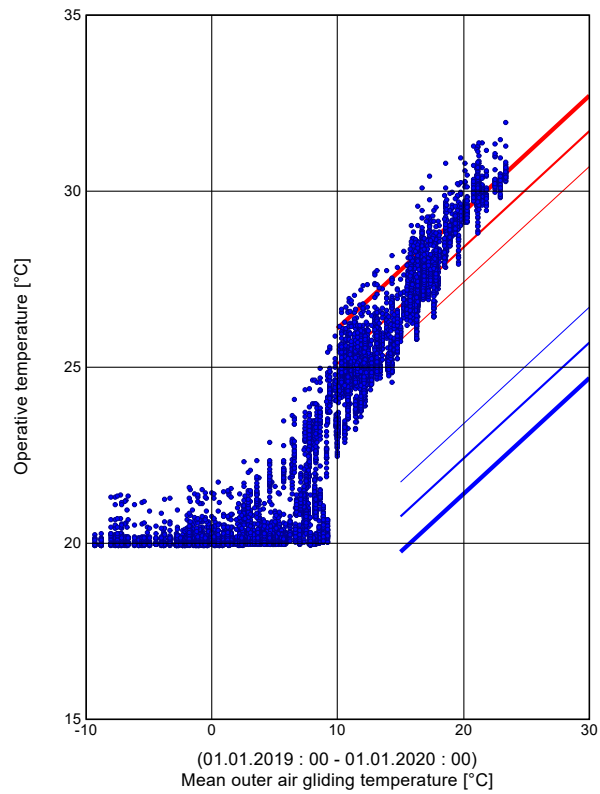
1 Hygrothermal comfort

Zone 1: Soverom Sør, Hygrothermal comfort



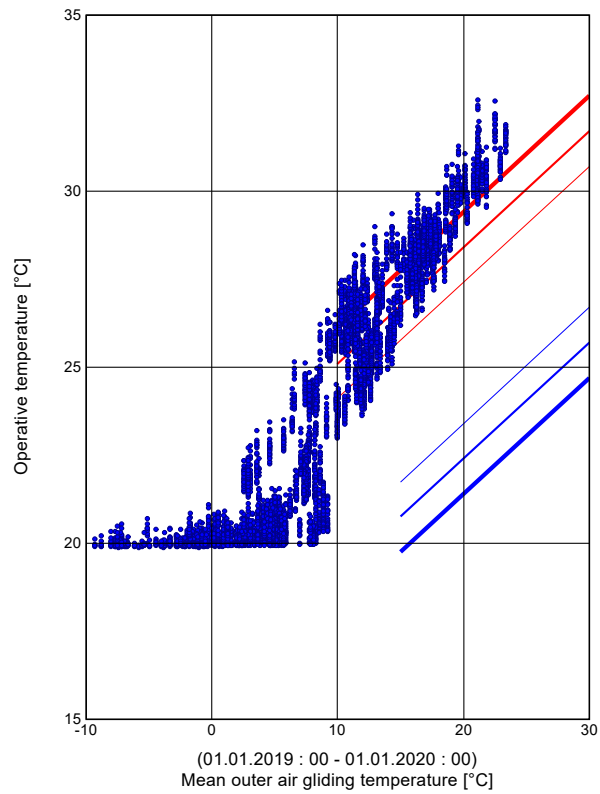
| | |
|--|----------|
| Maximum operative temperature (summer) | 0 |
| Minimum operative temperature (winter) | 5 |

Zone 2: Bad, Hygrothermal comfort



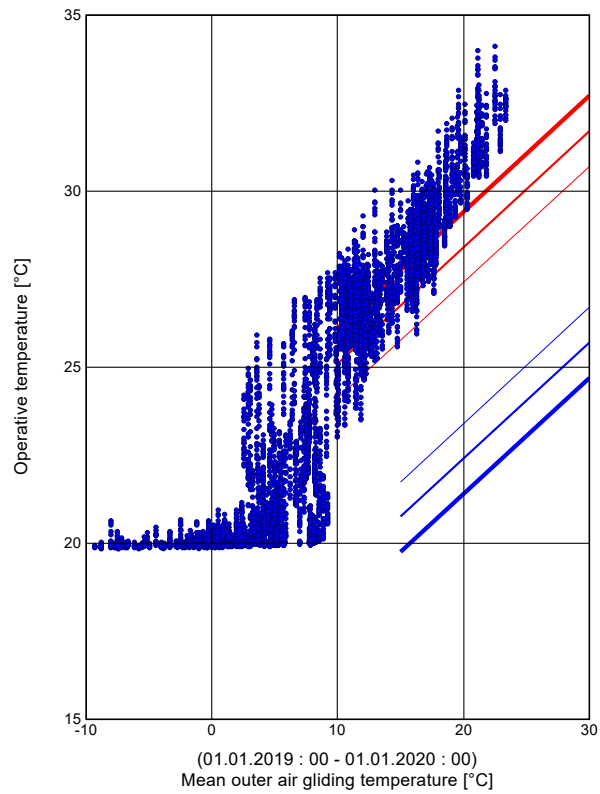
| | |
|--|----------|
| Maximum operative temperature (summer) | 0 |
| Minimum operative temperature (winter) | 5 |

Zone 3: Soverom nord, Hygrothermal comfort



| | |
|--|----------|
| Maximum operative temperature (summer) | 0 |
| Minimum operative temperature (winter) | 5 |

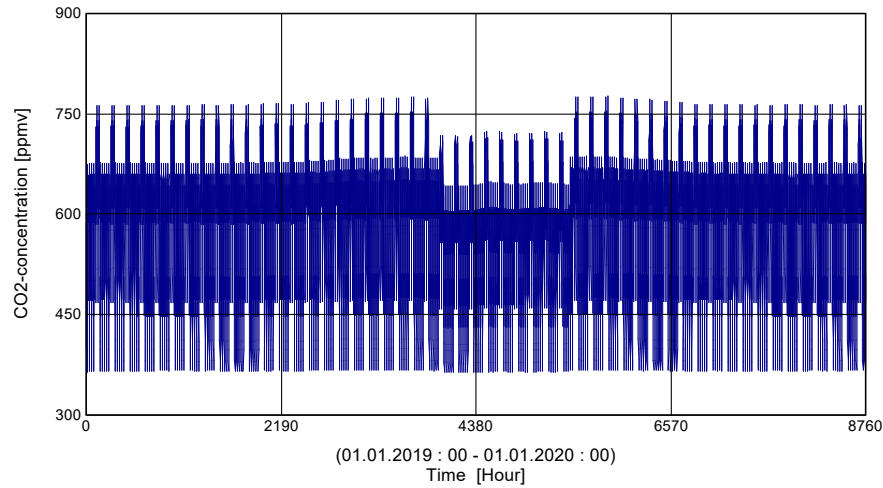
Zone 4: Stue/ Kjøkken, Hygrothermal comfort



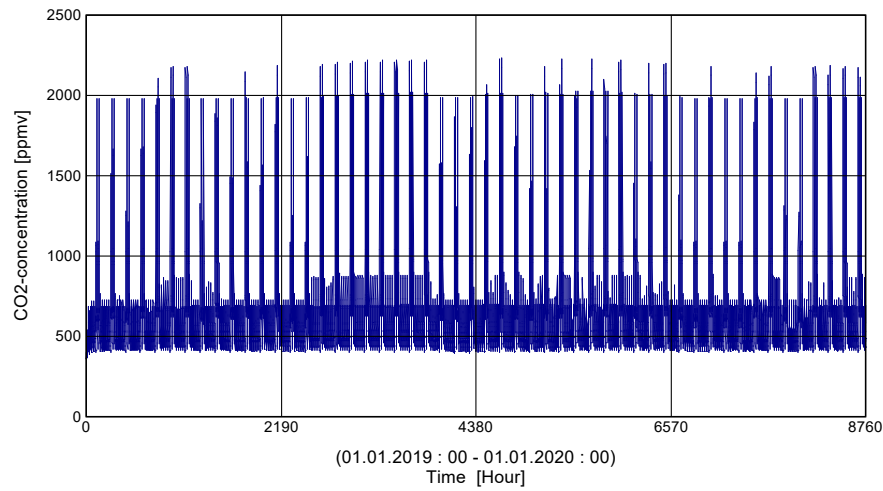
| | |
|--|----------|
| Maximum operative temperature (summer) | 0 |
| Minimum operative temperature (winter) | 5 |

2 Air quality

Zone 1: Soverom Sør, Air quality

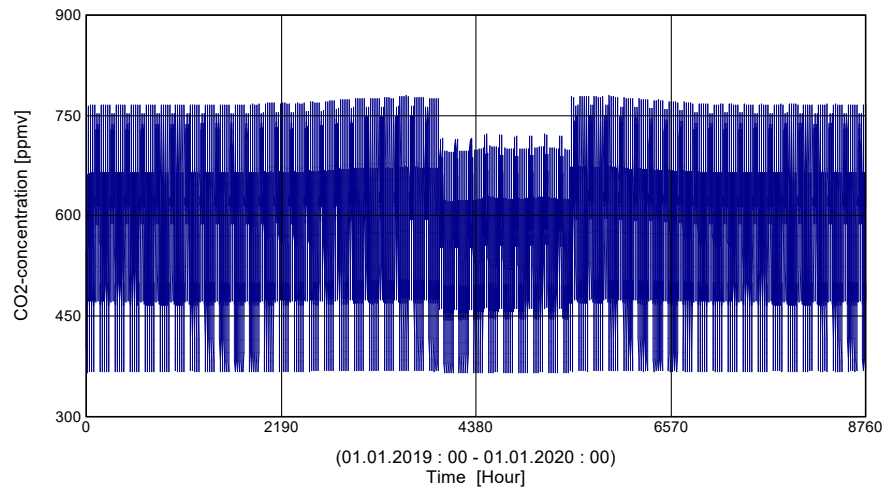


| | |
|------------------------------------|----------|
| Standard fresh air supply, overall | 1 |
| Standard fresh air supply, summer | 1 |
| Standard fresh air supply, winter | 0 |

Zone 2: Bad, Air quality

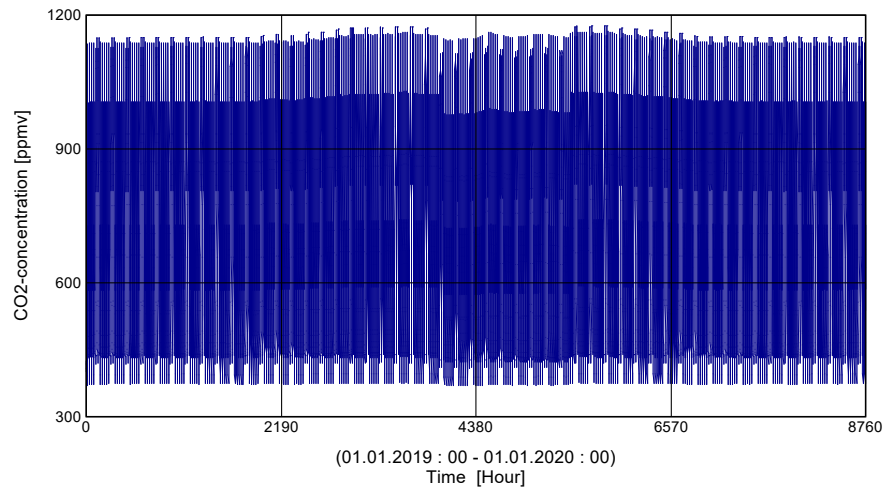
| | |
|------------------------------------|----------|
| Standard fresh air supply, overall | 1 |
| Standard fresh air supply, summer | 1 |
| Standard fresh air supply, winter | 0 |

Zone 3: Soverom nord, Air quality



| | |
|------------------------------------|----------|
| Standard fresh air supply, overall | 1 |
| Standard fresh air supply, summer | 1 |
| Standard fresh air supply, winter | 0 |

Zone 4: Stue/ Kjøkken, Air quality



| | |
|------------------------------------|----------|
| Standard fresh air supply, overall | 1 |
| Standard fresh air supply, summer | 1 |
| Standard fresh air supply, winter | 0 |

3 Materials

Materials

| Nr. | Name | Mass [kg] | Mass [%] | Volume [m³] | Volume [%] |
|-----|--|-----------|----------|-------------|------------|
| 1 | Stora Enso CLT | 1905,1 | 5,4 | 4,6 | 13,4 |
| 2 | Mineral Wool (heat cond.: 0,04 W/mK) | 278,8 | 0,8 | 4,6 | 13,4 |
| 3 | Gypsum Plaster | 786,5 | 2,2 | 0,5 | 1,3 |
| 4 | EPS (heat cond.: 0.04 W/mK - density: 30kg/m³) | 177,7 | 0,5 | 5,9 | 17,1 |
| 5 | PE-Membrane 0,2 mm (sd = 87 m) | 15,4 | 0 | 0,1 | 0,3 |
| 6 | Concrete w/c 0,5 | 13673,3 | 38,8 | 5,9 | 17,1 |
| 7 | Linoleum nach DIN 18171 | 177,7 | 0,5 | 0,2 | 0,5 |
| 8 | Spruce, radial | 90,8 | 0,3 | 0,2 | 0,6 |
| 9 | Air Layer 25 mm | 0,3 | 0 | 0,2 | 0,7 |
| 10 | 60 minute Building Paper | 2,9 | 0 | 0 | 0 |
| 11 | PE-Membrane 0,15 mm (sd = 70 m) | 1,4 | 0 | 0 | 0 |
| 12 | Gypsum Board | 107,1 | 0,3 | 0,1 | 0,4 |
| 13 | Cement Paste w/c 0,6 | 3348,4 | 9,5 | 2,4 | 6,8 |
| 14 | Cement Plaster (stucco, A-value: 0.51 kg/m²h0.5) | 2369,7 | 6,7 | 1,2 | 3,4 |
| 15 | Wood-Fibre Insulation Board | 183,7 | 0,5 | 1,2 | 3,4 |
| 16 | Shingle | 11848,7 | 33,6 | 5,9 | 17,1 |
| 17 | Scandinavian spruce transverse direction II | 208,6 | 0,6 | 0,5 | 1,5 |
| 18 | Air Layer 40 mm | 1,2 | 0 | 0,9 | 2,6 |
| 19 | Softwood | 37,2 | 0,1 | 0,1 | 0,3 |