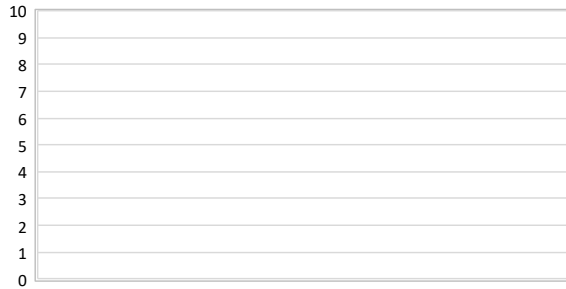


| Region: | Aosta Valley | | | | | | Archetype code: RES_SINGLE_1972-1981_E-F_VAL | |
|---|---|---|-----------------------|-----------------------------|--------------------|---------------------|---|---------------------|
| Building category: | Residential buildings - Single family houses | | | | | | | |
| Period of construction: | 1972 - 1981 | | | | | | | |
| Climatic zone: | E-F | | Number of records: | | 185 | | | |
| Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: solid brick masonry with thermal insulation (cod. MCV04) or hollow brick masonry with thermal insulation (cod. MCV02). Roof slabs: reinforced concrete floor slab for non-walkable flat roof (cod. COP01) or for pitched roof (cod. CIN04). | | | | | | | Data sources: EPC databases (100%) | |
| | Data | Symbol | Unit of measure | Mean value | Standard deviation | Q1 (first quartile) | Median value | Q3 (third quartile) |
| BUILDING GEOMETRY | Number of floors | n_f | - | - | - | - | - | - |
| | Gross height | H_g | m | - | - | - | - | - |
| | Footprint area | $A_{\text{footprint}}$ | m ² | - | - | - | - | - |
| | Heated gross floor area | $A_{H,g}$ | m ² | - | - | - | - | - |
| | Heated net floor area | $A_{H,n}$ | m ² | 94.7 | 123.9 | 55.0 | 75.2 | 109.0 |
| | Heated gross volume | $V_{H,g}$ | m ³ | 358.4 | 410.9 | 216.3 | 302.1 | 413.4 |
| | Heated net volume | $V_{H,n}$ | m ³ | 257.6 | 399.2 | 130.7 | 185.0 | 275.1 |
| | Compactness ratio | $A_{\text{env}}/V_{H,g}$ | m ⁻¹ | 0.90 | 0.25 | 0.76 | 0.89 | 1.03 |
| | WWR – North orientation | WWR_N | - | 0.11 | 0.08 | 0.08 | 0.09 | 0.12 |
| | WWR – South orientation | WWR_S | - | 0.11 | 0.08 | 0.08 | 0.09 | 0.12 |
| | WWR – East orientation | WWR_E | - | 0.11 | 0.08 | 0.08 | 0.09 | 0.12 |
| | WWR – West orientation | WWR_W | - | 0.11 | 0.08 | 0.08 | 0.09 | 0.12 |
| | Window to useful floor area ratio | A_{wi}/A_{use} | - | 0.18 | 0.24 | 0.13 | 0.15 | 0.20 |
| | ENVELOPE | Roof type | - | | | | | |
| U-value of the roof ** | | $U_{fi,up}$ | W/(m ² ·K) | 0.74 | 0.64 | 0.29 | 0.55 | 0.82 |
| External walls type | | Solid Brick masonry: 41%; Hollow brick masonry: 37%; Unknown: 12%; Masonry with local stones: 6%; Concrete wall: 4% | | | | | | |
| U-value of the wall | | U_{wl} | W/(m ² ·K) | 0.93 | 0.47 | 0.52 | 0.91 | 1.16 |
| Slab on ground floor type | | - | | | | | | |
| U-value of the floor ** | | $U_{fi,lw}$ | W/(m ² ·K) | 1.20 | 0.55 | 0.72 | 1.19 | 1.63 |
| Windows type | | Double glazing, wooden frame: 67%; Single glazing, wooden frame: 24%; Double glazing, PVC frame: 5%; Triple glazing, PVC frame: 2%; Triple glazing, wooden frame: 2% | | | | | | |
| U-value of the windows | | U_W | W/(m ² ·K) | 2.93 | 1.17 | 2.31 | 2.80 | 3.48 |
| Shading system type | | - | | | | | | |
| GAINS and VENTILATION | Occupancy density * | O_C | person/m ² | UNI EN 16798-1 - Table A.19 | | | | |
| | Lighting power density * | W_L | W/m ² | UNI EN 16798-1 - A.8.3 | | | | |
| | Equipment power density * | W_A | W/m ² | UNI EN 16798-1 - A.8.3 | | | | |
| | Type of ventilation | Natural: 100% | | | | | | |
| | Air exchange rate * | n | h ⁻¹ | 0.30 | 0.00 | 0.30 | 0.30 | 0.30 |
| THERMAL SYSTEMS | Heating system type | Autonomous: 100% | | | | | | |
| | Heating generator | Boiler (unknown type): 44%; Traditional Boiler: 27%; Fireplace: 12%; Condensing Boiler: 7%; Heat exchanger of district heating/cooling: 4%; Unknown: 4%; Air-source heat pump: 1% | | | | | | |
| | Daily operating time of the heating system * | t_H | h | - | | | | |
| | Energy carrier | Gas Oil: 38%; Solid biomass: 23%; LPG: 19%; Natural Gas: 19%; District heating: 1% | | | | | | |
| | Heating emission sub-system | - | | | | | | |
| | Cooling system type | Absent: 99%; Air-cooled chiller: 1% | | | | | | |
| | Daily operating time of the cooling system * | t_C | h | - | - | - | - | - |
| | Cooling emission sub-system | - | | | | | | |
| | DHW system type | Autonomous, coupled with heating: 52%; Autonomous, detached from heating: 38%; Centralized, coupled with heating: 9%; Centralized, detached from heating: 1% | | | | | | |
| | DHW generator | Unknown: 62%; Natural gas boiler: 26%; Electric boiler: 10%; Electric Heat Pump: 1%; Solar thermal: 1% | | | | | | |
| | * These values are derived from UNI EN ISO Standards; ** U-values of the upper slab face the external environment, and the lower slab is in contact with the ground | | | | | | | |

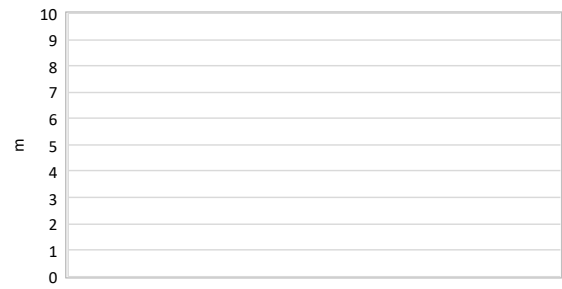
| | | |
|--------------------------------|--|--|
| Region: | Aosta Valley | Archetype code: RES_SINGLE_1972-1981_E-F_VAL |
| Building category: | Residential buildings - Single family houses | |
| Period of construction: | 1972 - 1981 | |
| Climatic zone: | E-F | |
| Number of records: | | 185 |

Numerical variables – GEOMETRY

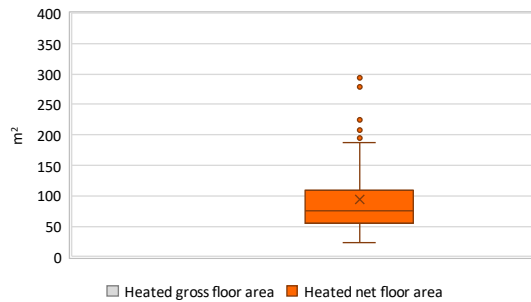
NUMBER OF FLOORS



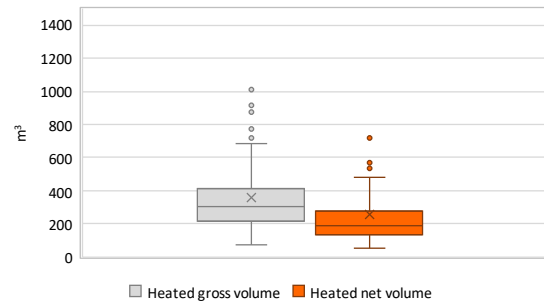
GROSS HEIGHT



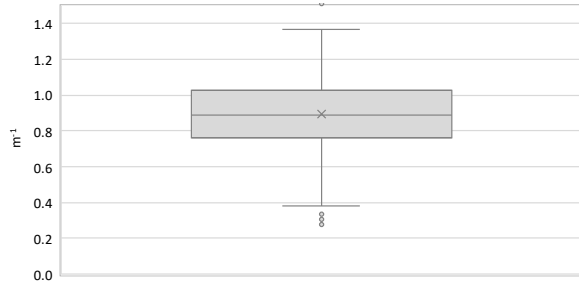
AREA



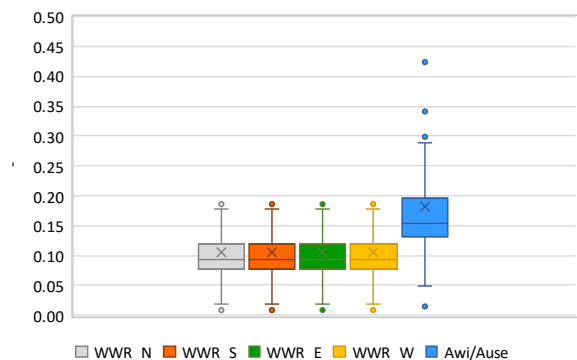
VOLUME



COMPACTNESS RATIO

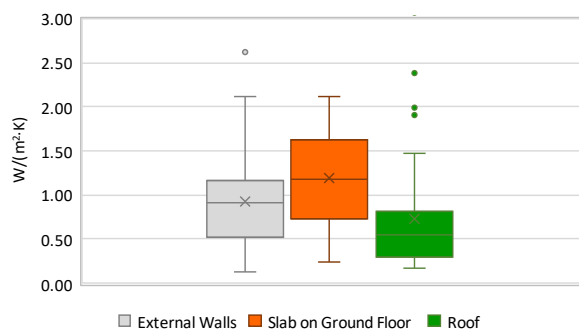


WINDOWS TO WALL RATIO

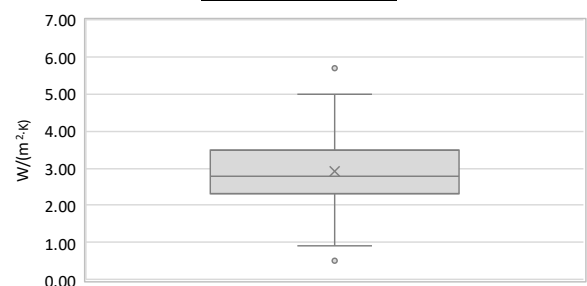


Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



WINDOWS U-VALUE

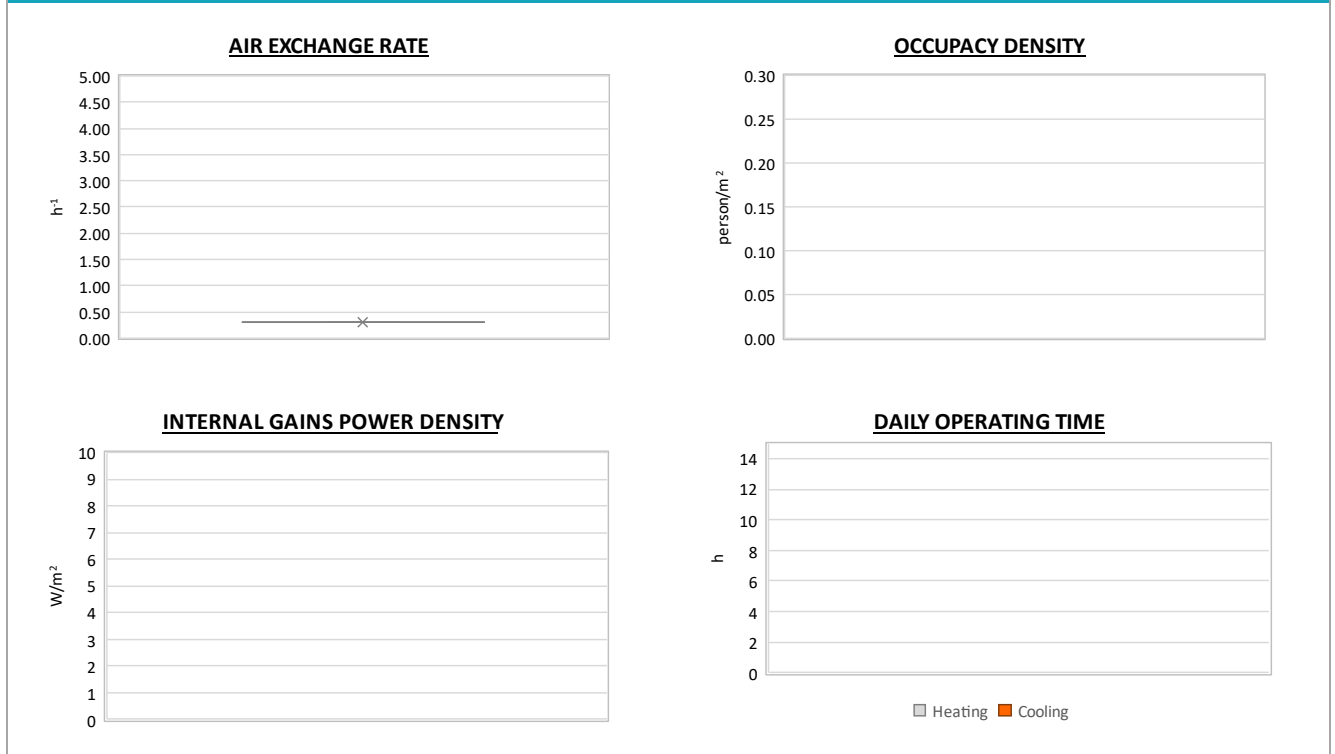


The data can be used for analysis, modeling, and research purposes, as long as it remains unaltered in its original form. Users are free to publish results based on the data, provided they credit the original source.

| | | | | |
|-------------------------|--|--------------------|-----|---|
| Region: | Aosta Valley | | | Archetype code: RES_SINGLE_1972-1981_E-F_VAL |
| Building category: | Residential buildings - Single family houses | | | |
| Period of construction: | 1972 - 1981 | | | |
| Climatic zone: | E-F | Number of records: | 185 | |

| ADDITIONAL DATA | | | | | | | | |
|---|----------------------------------|---------------------------------|-----------------|---|--------------------|---------------------|--------------|---------------------|
| | Data | Symbol | Unit of measure | Mean value | Standard deviation | Q1 (first quartile) | Median value | Q3 (third quartile) |
| THERMAL SYSTEMS | Heating efficiency or <i>COP</i> | $\eta_{H,gen}$ or $COP_{H,gen}$ | - | This value has to be retrieved from suitable datasheets | | | | |
| | Total heating power | $P_{H,gen}$ | kW | 44.8 | 68.5 | 22.7 | 27.4 | 34.0 |
| | Cooling efficiency or <i>EER</i> | $\eta_{C,gen}$ or $EER_{C,gen}$ | - | This value has to be retrieved from suitable datasheets | | | | |
| | Total cooling power | $P_{C,gen}$ | kW | 7.3 | 4.8 | 5.7 | 7.3 | 9.0 |
| | Temperature of DHW | ϑ_w | °C | 40.0 | 0.0 | 40.0 | 40.0 | 40.0 |
| | DHW system power | $P_{W,gen}$ | kW | 38.4 | 108.6 | 1.5 | 24.0 | 31.6 |
| * This value refers to the building scale | | | | | | | | |

Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE



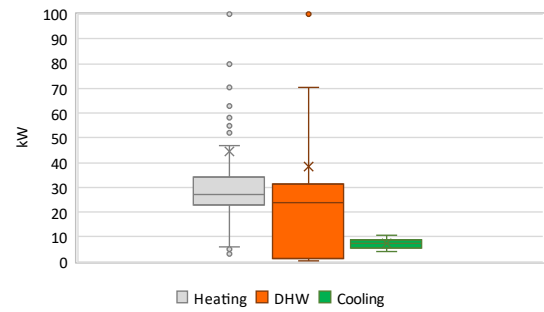
| | | | | |
|-------------------------|--|--------------------|-----|---|
| Region: | Aosta Valley | | | Archetype code: RES_SINGLE_1972-1981_E-F_VAL |
| Building category: | Residential buildings - Single family houses | | | |
| Period of construction: | 1972 - 1981 | | | |
| Climatic zone: | E-F | Number of records: | 185 | |

Additional data: other numerical variables that are not included in the archetype

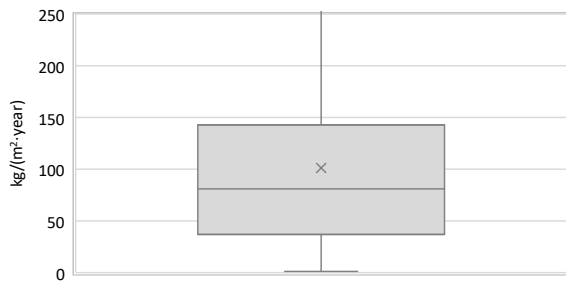
DHW SUPPLY TEMPERATURE



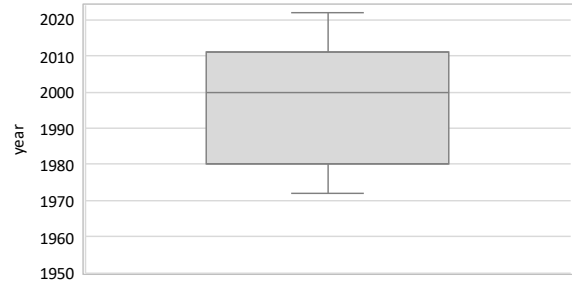
SYSTEM POWER



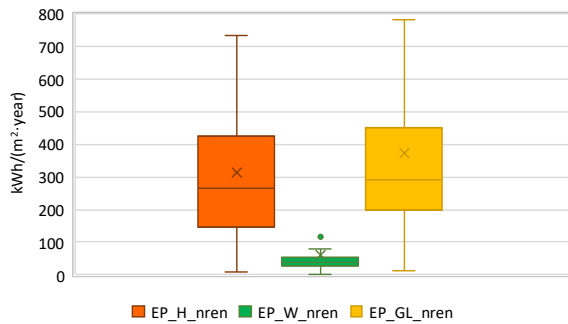
CO₂ EMISSION



HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE

