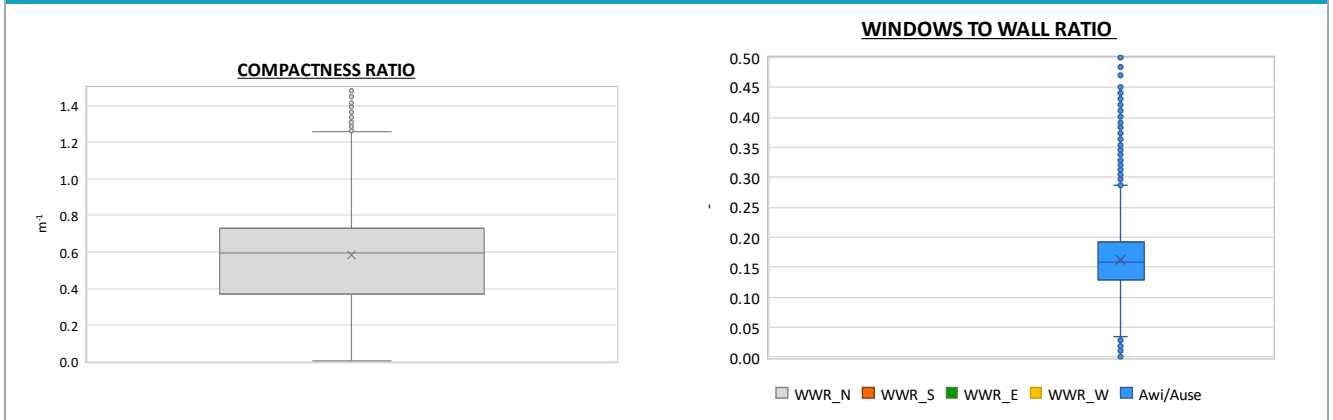
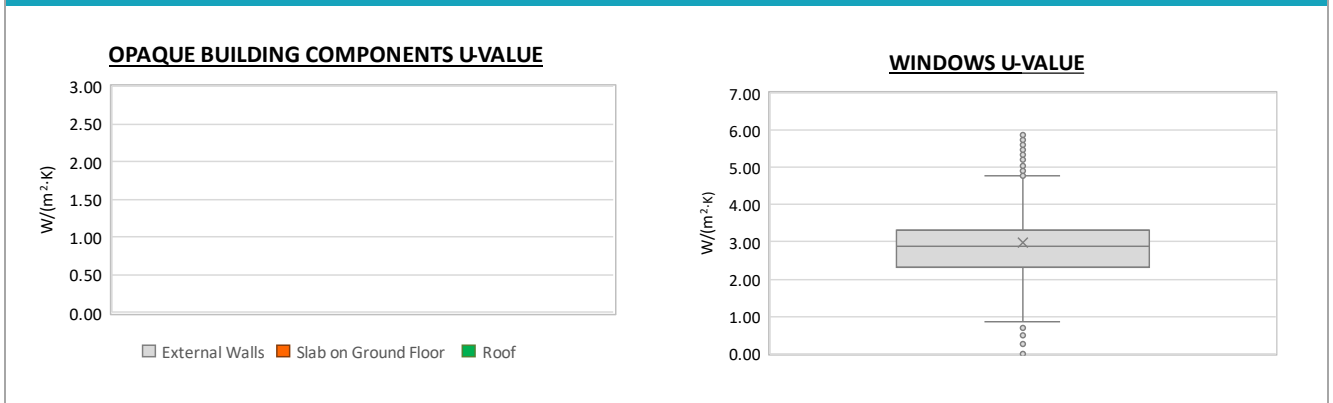
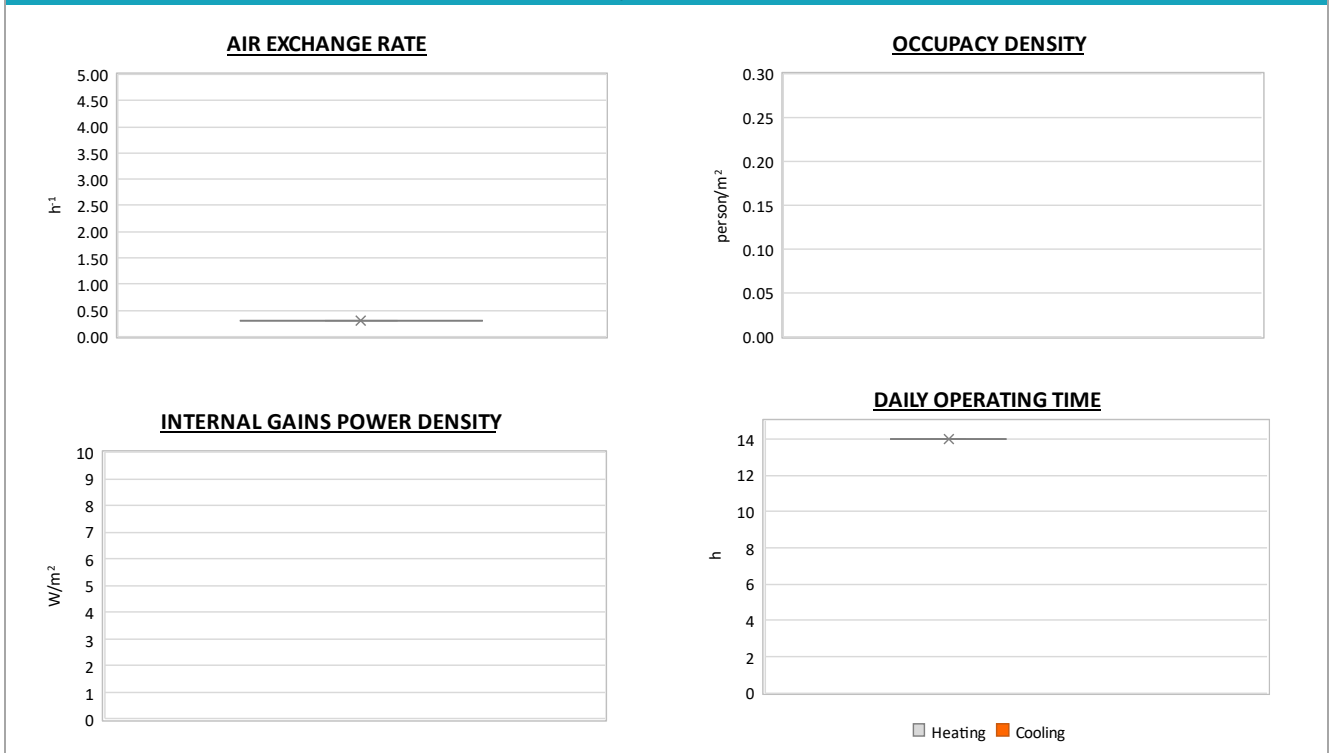


| Region: | Piedmont | | | | | | Archetype code: | | |
|--|--|---|-----------------------|-----------------------------|--------------------|----------------------|------------------------------|---------------------|--|
| Building category: | Residential buildings - Apartments (in multifamily blocks) | | | | | | RES_APPBLOCK_1981-1990_E_PIE | | |
| Period of construction: | 1981-1990 | | | | | | | | |
| Climatic zone: | E | Number of records: | | 14645 | | | | | |
| Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): | | | | | | Data sources: | | | |
| <u>External walls</u> : hollow brick masonry with thermal insulation (cod. MCV02). <u>Roof slabs</u> : reinforced concrete floor slab (cod. SOLO4). | | | | | | 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 | - | - | - | - | - | |
| | Heated gross volume | $V_{H;g}$ | m ³ | - | - | - | - | - | |
| | Heated net volume | $V_{H;n}$ | m ³ | - | - | - | - | - | |
| | Compactness ratio | $A_{\text{env}}/V_{H;g}$ | m ⁻¹ | 0.58 | 0.25 | 0.37 | 0.59 | 0.73 | |
| | WWR – North orientation | WWR_N | - | - | - | - | - | - | |
| | WWR – South orientation | WWR_S | - | - | - | - | - | - | |
| | WWR – East orientation | WWR_E | - | - | - | - | - | - | |
| | WWR – West orientation | WWR_W | - | - | - | - | - | - | |
| | Window to useful floor area ratio | A_{wi}/A_{use} | - | 0.16 | 0.09 | 0.13 | 0.16 | 0.19 | |
| ENVELOPE | Roof type | - | | | | | | | |
| | U-value of the roof | $U_{fi,up}$ | W/(m ² ·K) | - | - | - | - | - | |
| | External walls type | Hollow brick masonry: 74%; Solid Brick masonry: 21%; Prefabricated panels: 3%; Unknown: 2% | | | | | | | |
| | U-value of the wall | U_{wi} | W/(m ² ·K) | - | - | - | - | - | |
| | Slab on ground floor type | - | | | | | | | |
| | U-value of the floor | $U_{fi,lw}$ | W/(m ² ·K) | - | - | - | - | - | |
| | Windows type | - | | | | | | | |
| | U-value of the windows | U_w | W/(m ² ·K) | 2.97 | 1.03 | 2.31 | 2.88 | 3.30 | |
| 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: 76%; Centralized: 24% | | | | | | | |
| | Heating generator | - | | | | | | | |
| | Daily operating time of the heating system * | t_H | h | 14.00 | 0.00 | 14.00 | 14.00 | 14.00 | |
| | Energy carrier | Natural Gas: 79%; Electricity: 7%; District heating: 5%; Solid biomass: 4%; LPG: 3%; Gas Oil: 2% | | | | | | | |
| | Heating emission sub-system | - | | | | | | | |
| | Cooling system type | - | | | | | | | |
| | Daily operating time of the cooling system * | t_C | h | - | - | - | - | - | |
| | Cooling emission sub-system | - | | | | | | | |
| | DHW system type | Autonomous, coupled with heating: 69%; Autonomous, detached from heating: 19%; Centralized, coupled with heating: 10%; Centralized, detached from heating: 2% | | | | | | | |
| | DHW generator | - | | | | | | | |
| * These values are derived from UNI EN ISO Standards | | | | | | | | | |

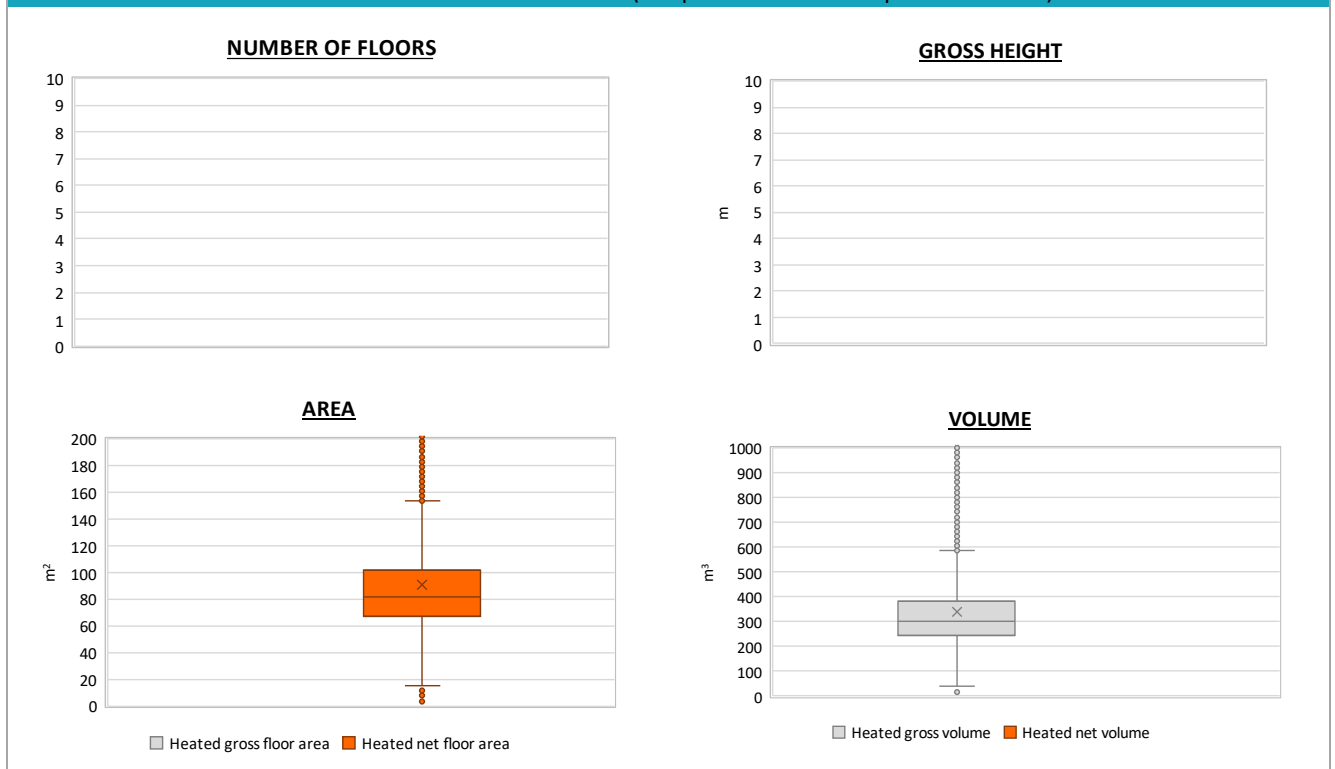
| | | | |
|--------------------------------|--|---------------------------------|--|
| Region: | Piedmont | | Archetype code: RES_APPBLOCK_1981- 1990_E_PIE |
| Building category: | Residential buildings - Apartments (in multifamily blocks) | | |
| Period of construction: | 1981-1990 | | |
| Climatic zone: | E | Number of records: 14645 | |

Numerical variables – GEOMETRY

Numerical variables – ENVELOPE

Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE


| | | | |
|--------------------------------|--|---------------------------------|--|
| Region: | Piedmont | | Archetype code: RES_APPBLOCK_1981- 1990_E_PIE |
| Building category: | Residential buildings - Apartments (in multifamily blocks) | | |
| Period of construction: | 1981-1990 | | |
| Climatic zone: | E | Number of records: 14645 | |

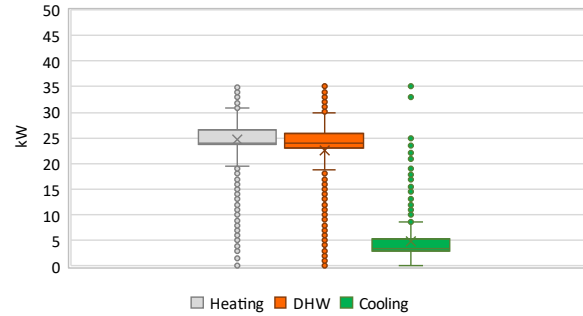
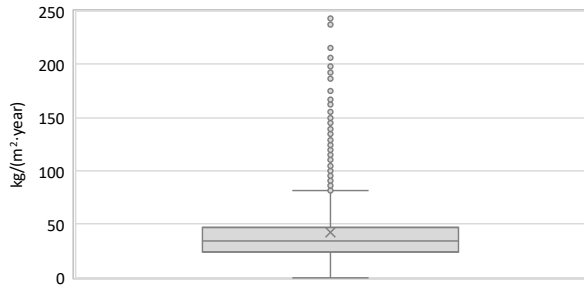
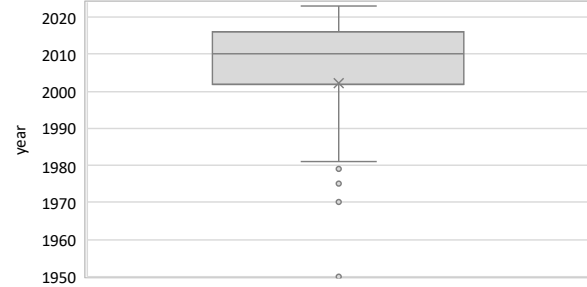
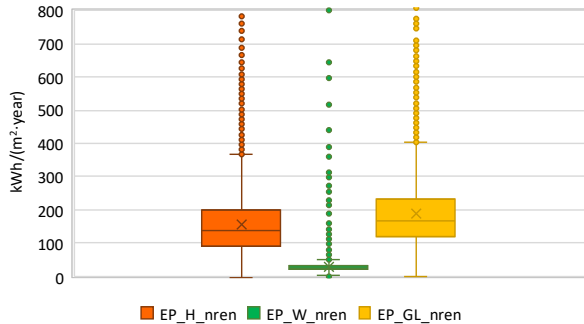
| ADDITIONAL DATA | | | | | | | | |
|--------------------------------|----------------------------------|---------------------------------|-----------------|---|--------------------|---------------------|--------------|---------------------|
| | Data | Symbol | Unit of measure | Mean value | Standard deviation | Q1 (first quartile) | Median value | Q3 (third quartile) |
| GEOMETRY: apartments | Inter-storey height | H_n | m | - | - | - | - | - |
| | Heated gross floor area | $A_{H,g}$ | m ² | - | - | - | - | - |
| | Heated net floor area | $A_{H,n}$ | m ² | 90.6 | 45.8 | 66.9 | 81.7 | 101.5 |
| | Heated gross volume | $V_{H,g}$ | m ³ | 339.0 | 188.6 | 244.7 | 300.5 | 381.0 |
| | Heated net volume | $V_{H,n}$ | m ³ | - | - | - | - | - |
| 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 | 24.8 | 4.4 | 23.8 | 24.0 | 26.6 |
| | 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 | 4.7 | 3.6 | 3.0 | 3.5 | 5.2 |
| | Temperature of DHW | ϑ_w | °C | 40.0 | 0.0 | 40.0 | 40.0 | 40.0 |
| | DHW system power * | $P_{W,gen}$ | kW | 22.5 | 7.6 | 23.0 | 24.0 | 25.8 |

* These values refer to the apartment scale

Additional data: GEOMETRY (the plots refer to the apartment scale)


| | | | |
|--------------------------------|--|---------------------------------|--|
| Region: | Piedmont | | Archetype code: RES_APPBLOCK_1981- 1990_E_PIE |
| Building category: | Residential buildings - Apartments (in multifamily blocks) | | |
| Period of construction: | 1981-1990 | | |
| Climatic zone: | E | Number of records: 14645 | |

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
