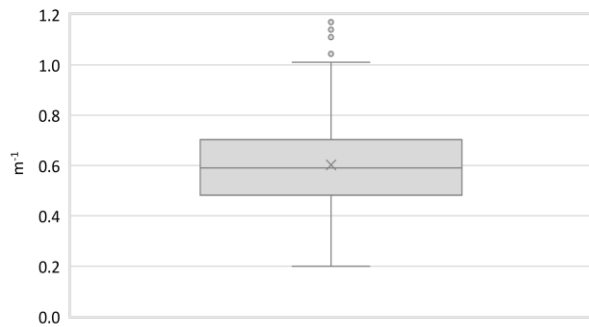


| | | | | | | | | |
|---|--|--|-----------------------|-----------------------------|--------------------|---------------------|--|---------------------|
| Region: | Trentino Alto Adige | | | | | | Archetype code: COMM_1971-1980_E_TN | |
| Building category: | Commercial buildings | | | | | | | |
| Period of construction: | 1971-1980 | | | | | | | |
| Climatic zone: | E | Number of records: | | | | 268 | | |
| Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: no data available Roof slabs: no data available | | | | | | | Data sources: APE (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 | 376 | 94 | 84 | 133 | 219 |
| | Heated gross volume | $V_{H,g}$ | m ³ | - | - | - | - | - |
| | Heated net volume | $V_{H,n}$ | m ³ | 1583 | 4495 | 351 | 523 | 918 |
| | Compactness ratio | $A_{\text{env}}/V_{H,g}$ | m ⁻¹ | 0.60 | 0.18 | 0.49 | 0.59 | 0.70 |
| | 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} | - | - | - | - | - | - |
| ENVELOPE | Roof type | - | | | | | | |
| | U-value of the roof | $U_{fi,up}$ | W/(m ² ·K) | - | - | - | - | - |
| | External walls type | - | | | | | | |
| | U-value of the wall | U_{wl} | 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) | - | - | - | - | - |
| 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 | UNI EN 16798-1 | | | | |
| THERMAL SYSTEMS | Heating system type | Unknown: 55%, Autonomous: 23%, Centralized: 22% | | | | | | |
| | Heating generator | Boiler (unknown type): 43%, Traditional boiler: 19%, Condensing boiler: 14%, Air source heat pump: 11%, DHC: 8%, Unknown: 5% | | | | | | |
| | Daily operating time of the heating system * | t_H | h | 14 | - | 14 | 14 | 14 |
| | Energy carrier | Natural gas: 83%, Electricity: 7%, Gas Oil: 4%, District heating: 3%, Electricity from PV, wind turbines, hydraulic turbines: 2%, Solid biomass: 1% | | | | | | |
| | Heating emission sub-system | - | | | | | | |
| | Cooling system type | Unknown: 86%, Air-cooled chiller:13%, Water-cooled chiller: 1% | | | | | | |
| | Daily operating time of the cooling system * | t_C | h | - | - | - | - | - |
| | Cooling emission sub-system | - | | | | | | |
| | DHW system type | Unknown: 36%, Autonomous – coupled with heating: 26%, Autonomous - detached from heating: 24%, Centralized – coupled with heating: 10%, District heating: 4% | | | | | | |
| | DHW generator | Natural gas boiler: 38%, Unknown: 37%, Electric boiler: 11%, Electric heat pump: 14% | | | | | | |
| * These values were not available in the considered sources, and are thus derived from UNI EN Standards | | | | | | | | |

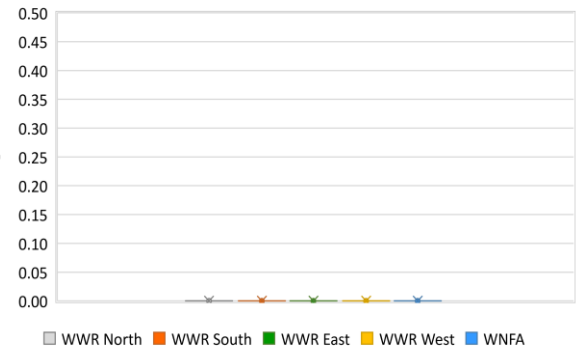
| | | | | |
|-------------------------|----------------------|--------------------|-----|--|
| Region: | Trentino Alto Adige | | | Archetype code: COMM_1971-1980_E_TN |
| Building category: | Commercial buildings | | | |
| Period of construction: | 1971-1980 | | | |
| Climatic zone: | E | Number of records: | 268 | |

Numerical variables – GEOMETRY

COMPACTNESS RATIO

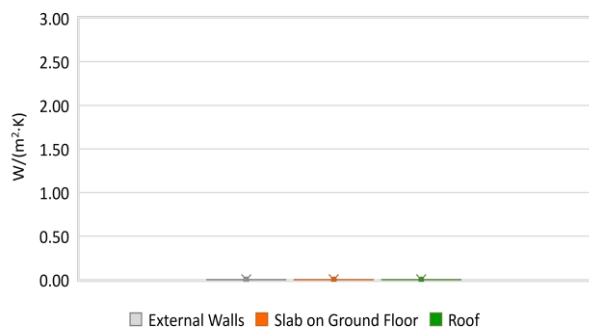


WINDOWS TO WALL RATIO

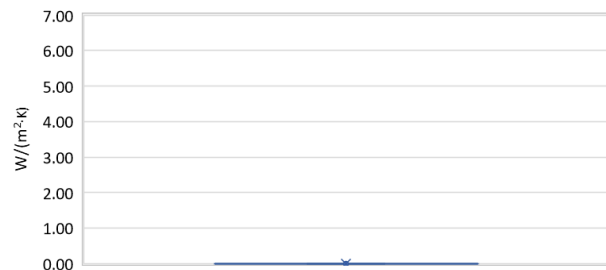


Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE

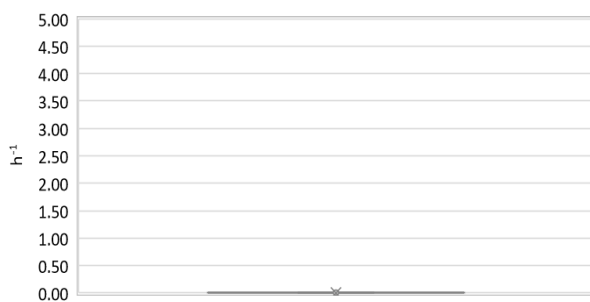


WINDOWS U-VALUE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

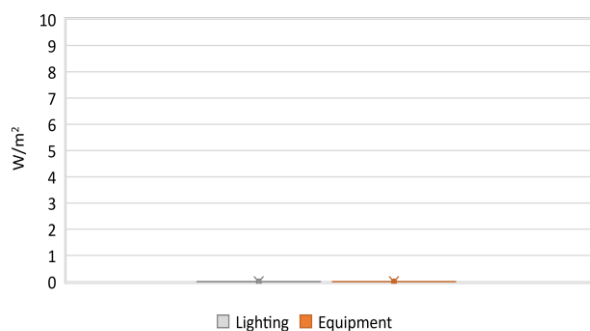
AIR EXCHANGE RATE



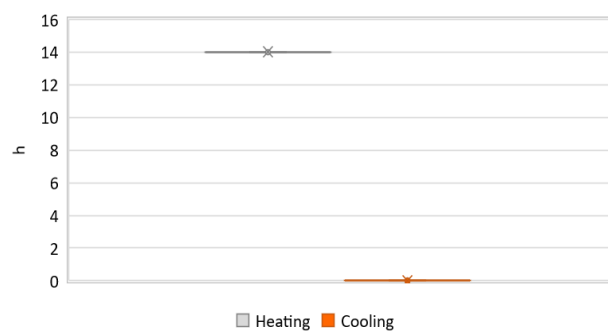
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



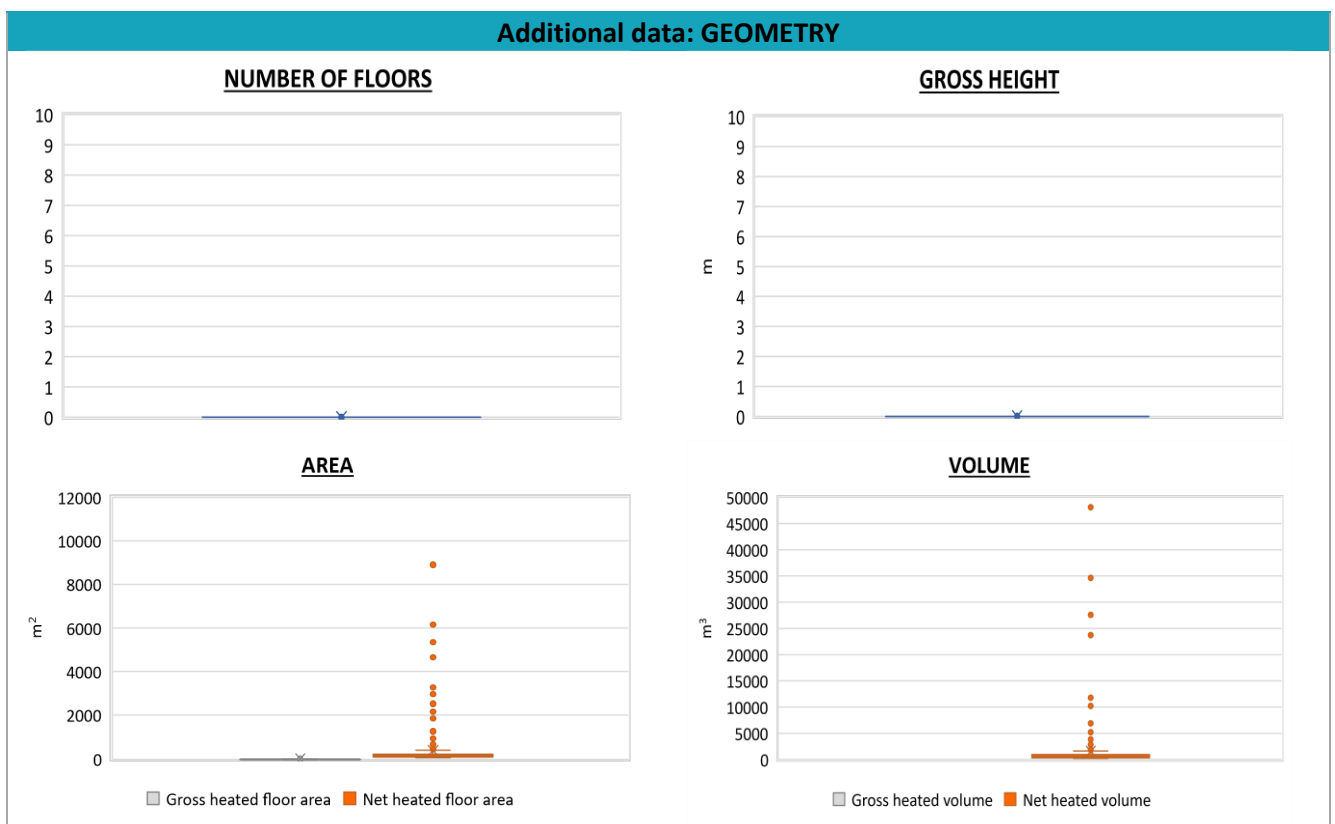
DAILY OPERATING TIME



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: | Trentino Alto Adige | | | Archetype code: COMM_1971-1980_E_TN |
| Building category: | Commercial buildings | | | |
| Period of construction: | 1971-1980 | | | |
| Climatic zone: | E | Number of records: | 268 | |

| 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 | 109 | 182 | 25 | 34 | 113 |
| | 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 | 55 | 125 | 7 | 13 | 37 |
| | Temperature of DHW | ϑ_W | °C | 40 | - | 40 | 40 | 40 |
| | DHW system power | $P_{W,gen}$ | kW | - | - | - | - | - |



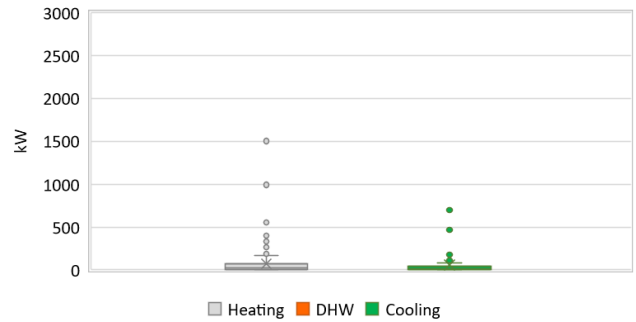
| | | |
|-------------------------|----------------------|--|
| Region: | Trentino Alto Adige | Archetype code: COMM_1971-1980_E_TN |
| Building category: | Commercial buildings | |
| Period of construction: | 1971-1980 | |
| Climatic zone: | E | |
| Number of records: | | 268 |

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

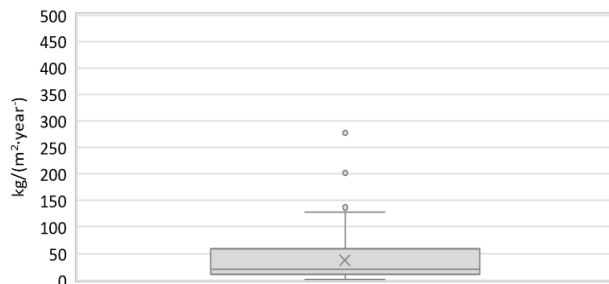
DHW SUPPLY TEMPERATURE



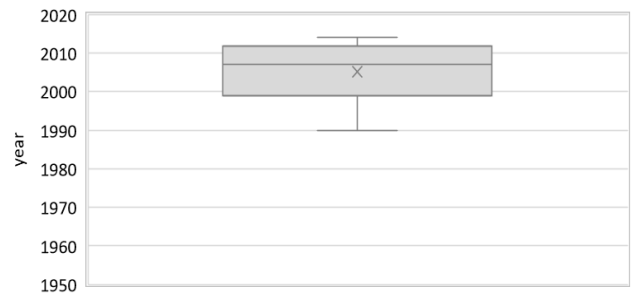
SYSTEM POWER



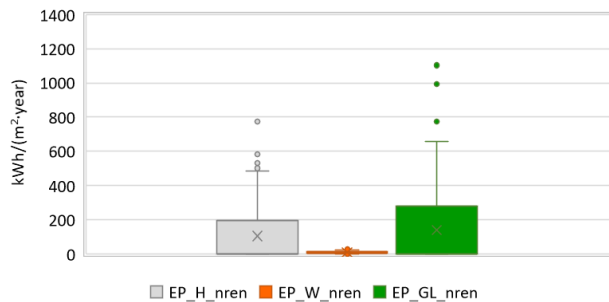
CO₂ EMISSION



HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE

