

|   |   |  |   |                              |                    |                     |  |                     |
|---|---|--|---|------------------------------|--------------------|---------------------|--|---------------------|
| Region:   | Sicily  |  | Archetype code:<br>RES_APPBLOCK_<br>1991-2000_B_SIC |                              |                    |                     |  |                     |
| Building category:  | Residential buildings – Apartments (in multifamily blocks)  |  |   |                              |                    |                     |  |                     |
| Period of construction:   | 1991-2000   |  |   |                              |                    |                     |  |                     |
| Climatic zone:  | B   | Number of records:                                       |   |                              |                    |                     | 128  |                     |
| Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014):<br>External walls: double layer of hollow bricks (8 cm + 12 cm) with insulated air gap (cod. MCV04).<br>Roof slabs: reinforced brick-concrete slab (22 cm) plus insulated concrete screed (4 cm) (cod. SOL04) |   |  |   |                              |                    |                     | Data sources:<br>Municipal database (83%)<br>Expert assumptions (2%)<br>Others (15%) # |                     |
|   | Data  | Symbol   | Unit of measure                                     | Mean value                   | Standard deviation | Q1 (first quartile) | Median value   | Q3 (third quartile) |
| BUILDING GEOMETRY   | Number of floors  | $n_f$  | -   | 8.00                         | 0.00               | 8.00                | 8.00   | 8.00                |
|   | Gross height  | $H_g$  | m   | -                            | -                  | -                   | -  | -                   |
|   | Footprint area  | $A_{\text{footprint}}$                                   | m <sup>2</sup>                                      | -                            | -                  | -                   | -  | -                   |
|   | Heated gross floor area   | $A_{H,g}$  | m <sup>2</sup>                                      | -                            | -                  | -                   | -  | -                   |
|   | Heated net floor area   | $A_{H;n}$  | m <sup>2</sup>                                      | -                            | -                  | -                   | -  | -                   |
|   | Heated gross volume   | $V_{H,g}$  | m <sup>3</sup>                                      | -                            | -                  | -                   | -  | -                   |
|   | Heated net volume   | $V_{H;n}$  | m <sup>3</sup>                                      | -                            | -                  | -                   | -  | -                   |
|   | Compactness ratio   | $A_{\text{env}}/V_{H,g}$                                 | m <sup>-1</sup>                                     | 0.55                         | 0.15               | 0.40                | 0.53   | 0.66                |
|   | WWR – North orientation   | $WWR_N$  | -   | 0.23                         | 0.05               | 0.20                | 0.25   | 0.25                |
|   | WWR – South orientation   | $WWR_S$  | -   | 0.22                         | 0.05               | 0.21                | 0.25   | 0.25                |
|   | WWR – East orientation  | $WWR_E$  | -   | 0.15                         | 0.05               | 0.11                | 0.16   | 0.17                |
|   | WWR – West orientation  | $WWR_W$  | -   | 0.15                         | 0.06               | 0.10                | 0.16   | 0.20                |
|   | Window to useful floor area ratio   | $A_{wi}/A_{\text{use}}$                                  | -   | 0.18                         | 0.02               | 0.16                | 0.19   | 0.20                |
| ENVELOPE  | Roof type   | Reinforced brick-concrete slab, medium insulation: 100%  |   |                              |                    |                     |  |                     |
|   | U-value of the roof   | $U_{f,up}$   | W/(m <sup>2</sup> ·K)                               | 0.51                         | 0.00               | 0.51                | 0.51   | 0.51                |
|   | External walls type   | Hollow brick masonry, medium insulation: 100%            |   |                              |                    |                     |  |                     |
|   | U-value of the wall   | $U_{wl}$   | W/(m <sup>2</sup> ·K)                               | 0.50                         | 0.00               | 0.50                | 0.50   | 0.50                |
|   | Slab on ground floor type   | Reinforced brick-concrete slab: 100%                     |   |                              |                    |                     |  |                     |
|   | U-value of the floor  | $U_{f,lw}$   | W/(m <sup>2</sup> ·K)                               | 0.55                         | 0.00               | 0.55                | 0.55   | 0.55                |
|   | Windows type  | Double glazing, aluminium frame with thermal break: 100% |   |                              |                    |                     |  |                     |
|   | U-value of the windows  | $U_W$  | W/(m <sup>2</sup> ·K)                               | 3.14                         | 0.00               | 3.14                | 3.14   | 3.14                |
| Shading system type   | Shutter: 100%   |  |   |                              |                    |                     |  |                     |
| GAINS and VENTILATION   | Occupancy density *   | $O_c$  | person/m <sup>2</sup>                               | UNI EN 16798-1 – Table A.19  |                    |                     |  |                     |
|   | Lighting power density *  | $W_L$  | W/m <sup>2</sup>                                    | UNI EN 16798-1 – Table A.8.3 |                    |                     |  |                     |
|   | Equipment power density *   | $W_A$  | W/m <sup>2</sup>                                    | UNI EN 16798-1 – Table A.8.3 |                    |                     |  |                     |
|   | Type of ventilation   | Natural: 100%  |   |                              |                    |                     |  |                     |
|   | Air exchange rate *   | $n$  | h <sup>-1</sup>                                     | 0.30                         | 0.00               | 0.30                | 0.30   | 0.30                |
| THERMAL SYSTEMS   | Heating system type   | Autonomous: 100%   |   |                              |                    |                     |  |                     |
|   | Heating generator   | Traditional boilers: 100%                                |   |                              |                    |                     |  |                     |
|   | Daily operating time of the heating system *  | $t_H$  | h   | 8.00                         | 0.00               | 8.00                | 8.00   | 8.00                |
|   | Energy carrier  | Natural Gas: 100%  |   |                              |                    |                     |  |                     |
|   | Heating emission sub-system   | Radiators: 100%  |   |                              |                    |                     |  |                     |
|   | Cooling system type   | Absent: 100%   |   |                              |                    |                     |  |                     |
|   | Daily operating time of the cooling system *  | $t_c$  | h   | 8.00                         | 0.00               | 8.00                | 8.00   | 8.00                |
|   | Cooling emission sub-system   | -  |   |                              |                    |                     |  |                     |
|   | DHW system type   | Autonomous – coupled with heating: 100%                  |   |                              |                    |                     |  |                     |
|   | DHW generator   | Natural gas boiler: 100%                                 |   |                              |                    |                     |  |                     |
|   | # Standards (13%), APE (2%).<br>* These values were not available in the considered sources, and are thus derived from UNI EN Standards |  |   |                              |                    |                     |  |                     |

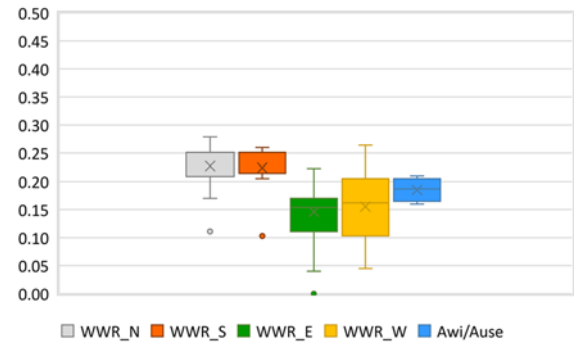
|                         |  |   |
|-------------------------|--|---|
| Region:                 | Sicily   | Archetype code:<br>RES_APPBLOCK_<br>1991-2000_B_SIC |
| Building category:      | Residential buildings – Apartments (in multifamily blocks) |   |
| Period of construction: | 1991-2000  |   |
| Climatic zone:          | B  |   |
| Number of records:      |  | 128   |

### Numerical variables – GEOMETRY

**COMPACTNESS RATIO**

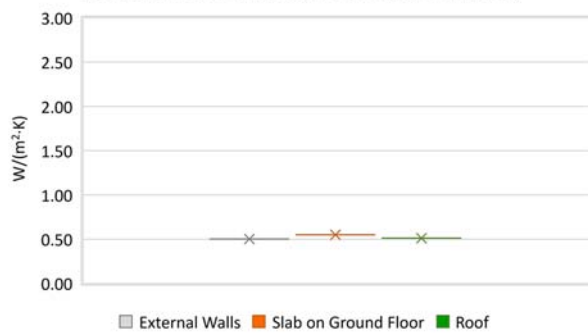


**WINDOWS TO WALL RATIO**

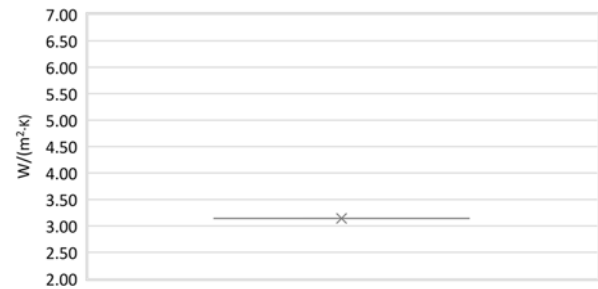


### Numerical variables – ENVELOPE

**OPAQUE BUILDING COMPONENTS U-VALUE**



**WINDOWS U-VALUE**



### Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

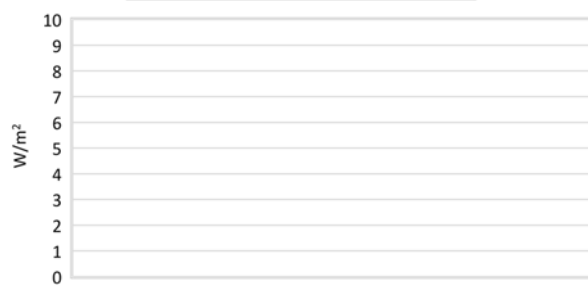
**AIR EXCHANGE RATE**



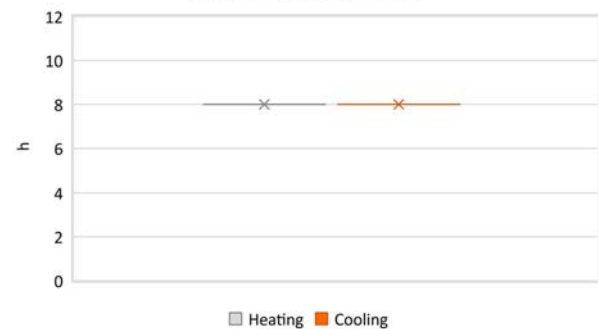
**OCCUPANCY DENSITY**



**INTERNAL GAINS POWER DENSITY**



**DAILY OPERATING TIME**



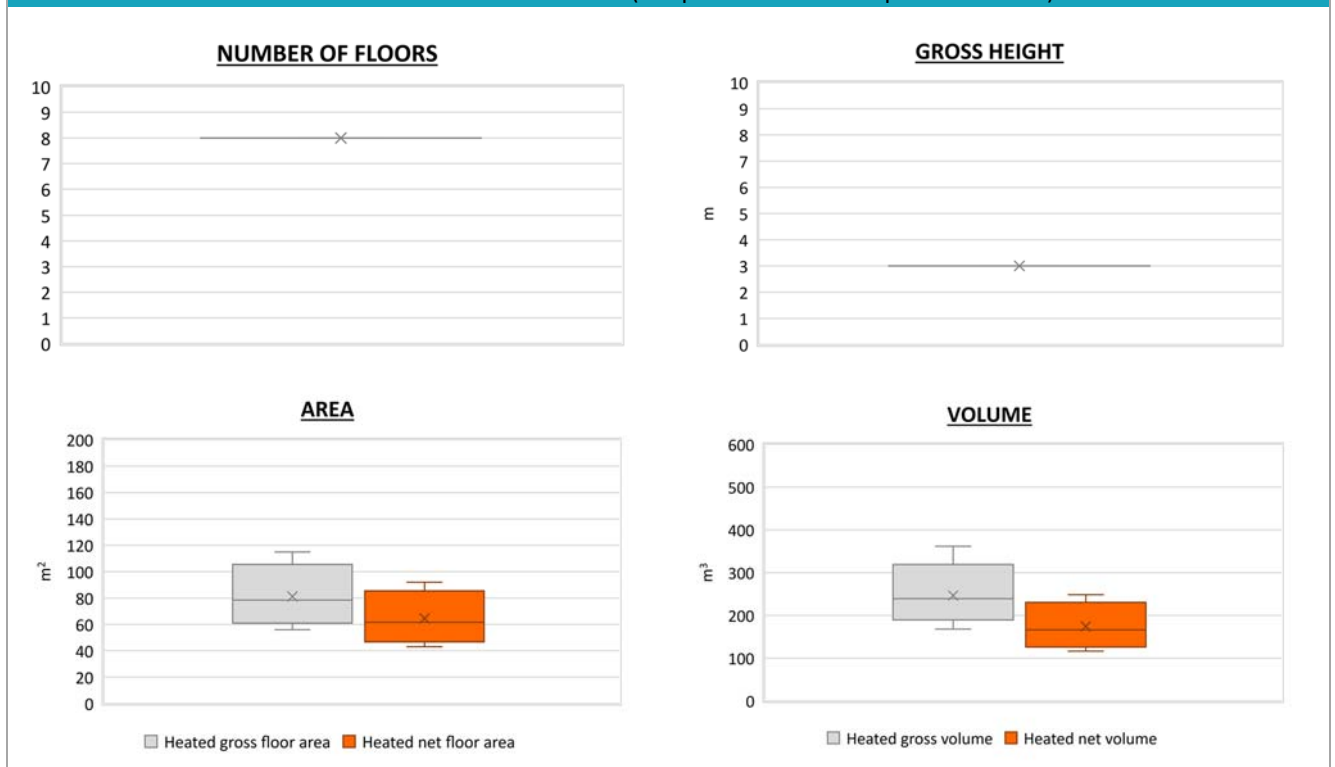
The data can be used for analysis, modeling, and research purposes, as long as it remains unaltered in its original form. Users are free to publish results based on the data, provided they credit the original source.

|                         |  |   |
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| ADDITIONAL DATA         |                                  |                                 |                 |   |                    |                     |              |                     |
|-------------------------|----------------------------------|---------------------------------|-----------------|---|--------------------|---------------------|--------------|---------------------|
|                         | Data                             | Symbol                          | Unit of measure | Mean value  | Standard deviation | Q1 (first quartile) | Median value | Q3 (third quartile) |
| GEOMETRY:<br>apartments | Inter-storey height              | $H_n$                           | m               | 3.00  | 0.00               | 3.00                | 3.00         | 3.00                |
|                         | Heated gross floor area          | $A_{H,g}$                       | m <sup>2</sup>  | 81.19   | 20.80              | 60.97               | 78.50        | 105.39              |
|                         | Heated net floor area            | $A_{H,n}$                       | m <sup>2</sup>  | 64.54   | 17.87              | 46.55               | 61.56        | 85.42               |
|                         | Heated gross volume              | $V_{H,g}$                       | m <sup>3</sup>  | 246.64  | 63.49              | 189.34              | 239.22       | 319.27              |
|                         | Heated net volume                | $V_{H,n}$                       | m <sup>3</sup>  | 174.27  | 48.27              | 125.94              | 166.22       | 230.64              |
| 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              | 24.00   | 0.00               | 24.00               | 24.00        | 24.00               |
|                         | 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              | -   | -                  | -                   | -            | -                   |
|                         | Temperature of DHW               | $\theta_w$                      | °C              | 40.00   | 0.00               | 40.00               | 40.00        | 40.00               |
|                         | DHW system power *               | $P_{W,gen}$                     | kW              | 24.00   | 0.00               | 24.00               | 24.00        | 24.00               |

\* These values refer to the apartment scale

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



|                         |  |   |
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| Period of construction: | 1991-2000  |   |
| Climatic zone:          | B  |   |
| Number of records:      |  | 128   |

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

