

 Region:
 Sicily
 Archetype code:

 Building category:
 Residential buildings – Apartments (in multifamily blocks)
 RES\_APPBLOCK\_

 Period of construction:
 1951-1960
 1951-1960\_B\_SIC

Climatic zone: B Number of records: 28

**Description** (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): <u>External walls</u>: double layer of hollow bricks (8 cm + 12 cm) with uninsulated air gap (cod. MCV01). <u>Roof slabs</u>: reinforced brick-concrete slab (22 cm) plus uninsulated concrete screed (4 cm) (cod. SOL04) Data sources: Survey data (45%) Expert assumptions (39%)

Municipal database (1%) Others (15%) #

								Others (15%) #			
	Data	Symbol	Unit of	Mean	Standard	Q1 (first	Median	Q3 (third			
			measure	value	deviation	quartile)	value	quartile)			
BUILDING GEOMETRY	Number of floors	n <sub>f</sub>	-	7.00	0.00	7.00	7.00	7.00			
	Gross height	Hg	m	-	-	-	-	-			
	Footprint area	$A_{\text{footprint}}$	m²	-	-	-	-	-			
	Heated gross floor area	$A_{H;g}$	m²	-	-	-	-	-			
	Heated net floor area	$A_{H;n}$	m²	-	-	-	-	-			
	Heated gross volume	$V_{H;g}$	m³	-	-	-	-	-			
	Heated net volume	V <sub>H;n</sub>	m³	-	-	-	-	-			
	Compactness ratio	$A_{ m env}/V_{ m H;g}$	m <sup>-1</sup>	0.43	0.13	0.31	0.41	0.57			
₫	WWR – North orientation	$WWR_N$	-	0.22	0.05	0.22	0.22	0.22			
<u> </u>	WWR – South orientation	WWR <sub>S</sub>	-	0.14	0.00	0.14	0.14	0.14			
	WWR – East orientation	WWR <sub>E</sub>	-	0.18	0.04	0.13	0.18	0.22			
	WWR – West orientation	<i>WWR</i> <sub>W</sub>	-	0.18	0.04	0.13	0.18	0.22			
	Window to useful floor area ratio	A <sub>wi</sub> /A <sub>use</sub>	-	0.17	0.06	0.12	0.15	0.23			
	Roof type		Reinforced brick-concrete slab: 100%								
	<i>U</i> -value of the roof	U <sub>fl;up</sub>	W/(m <sup>2</sup> ·K)	1.36	0.00	1.36	1.36	1.36			
	External walls type			Н	ollow brick ma	sonry: 100%					
ENVELOPE	<i>U</i> -value of the wall	$U_{wl}$	W/(m²⋅K)	1.17	0.006	1.17	1.17	1.17			
	Slab on ground floor type			Reinforced brick-concrete slab: 100%							
	<i>U</i> -value of the floor	U <sub>fl;lw</sub>	W/(m²⋅K)	1.55	0.00	1.55	1.55	1.55			
	Windows type			Single glazing, aluminium frame: 100%							
	<i>U</i> -value of the windows	$U_{W}$	W/(m²·K)	6.12 0.00 6.12 6.12 6.12							
	Shading system type			Shutter: 100%							
z	Occupancy density *	O <sub>C</sub>	person/m²	UNI EN 16798-1 – Table A.19							
GAINS and VENTILATION	Lighting power density *	W <sub>L</sub>	W/m²	UNI EN 16798-1 – A.8.3							
NS ILA	Equipment power density *	W <sub>A</sub>	W/m²	UNI EN 16798-1 – A.8.3							
IS THE	Type of ventilation			Natural: 100%							
~ ≥	Air exchange rate *	n	h <sup>-1</sup>	0.30	0.00	0.30	0.30	0.30			
	Heating system type	Autonomous: 71%, Absent: 29%									
	Heating generator	Air source heat pump: 100%									
THERMAL SYSTEMS	Daily operating time of the heating system *	t <sub>H</sub>	h	8.00	0.00	8.00	8.00	8.00			
	Energy carrier		Electricity: 100%								
	Heating emission sub-system	Fan coil: 100%									
	Cooling system type	Absent: 71%, Air-cooled chiller: 29%									
	Daily operating time of the cooling system *	t <sub>C</sub>	h	8.00	0.00	8.00	8.00	8.00			
	Cooling emission sub-system	Fan coil: 100%									
	DHW system type	Autonomous - detached from heating: 100%									
	DHW generator	Electric boiler: 89%, LPG-boiler: 11%									
	# Standards (13%), APE (2%).										
	* These values were not available in the	considered so	urces, and are thus	derived fro	m UNI EN Standa	rds					



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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.

Residential buildings – Apartment blocks – 1951/1960 – Zone B – Sicily



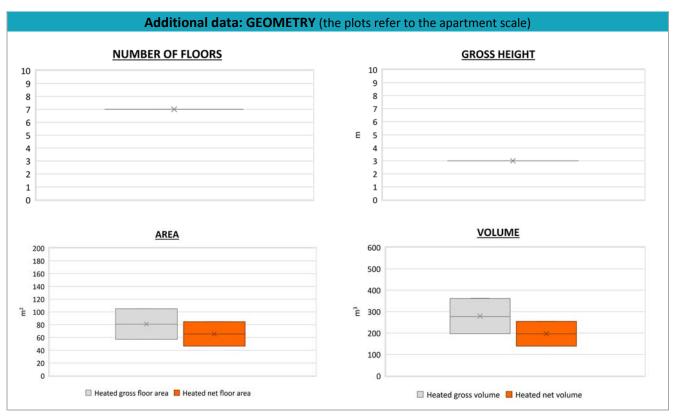
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ADDITIONAL DATA												
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)				
GEOMETRY: apartments	Inter-storey height	H <sub>n</sub>	m	3.00	0.00	3.00	3.00	3.00				
	Heated gross floor area	A <sub>H;g</sub>	m <sup>2</sup>	80.92	24.26	57.10	80.80	104.62				
	Heated net floor area	A <sub>H;n</sub>	m <sup>2</sup>	65.53	19.45	46.44	65.38	84.48				
	Heated gross volume	V <sub>H;g</sub>	m³	279.37	83.05	197.80	276.70	360.52				
	Heated net volume	V <sub>H;n</sub>	m <sup>3</sup>	196.57	58.43	139.20	196.20	253.57				
THERMAL SYSTEMS	Heating efficiency or COP	$\eta_{H;gen}$ or $COP_{H;gen}$	-	This value has to be retrieved from suitable datasheets								
	Total heating power *	P <sub>H;gen</sub>	kW	6.36	1.17	4.80	7.20	7.20				
	Cooling efficiency or EER	η <sub>C;gen</sub> or EER <sub>C;gen</sub>	-	This value has to be retrieved from suitable datasheets								
	Total cooling power *	P <sub>C;gen</sub>	kW	2.30	0.00	2.30	2.30	2.30				
	Temperature of DHW	$\theta_{W}$	°C	40.00	0.00	40.00	40.00	40.00				
	DHW system power *	P <sub>W;gen</sub>	kW	3.74	6.43	1.20	1.20	1.20				
	* These values refer to the apartment s		•									





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