

Region:	Sicily					Archetype code: RES_APPBLOCK_ 1951-1960_B_SIC		
Building category:	Residential buildings – Apartments (in multifamily blocks)							
Period of construction:	1951-1960							
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): External walls: double layer of hollow bricks (8 cm + 12 cm) with uninsulated air gap (cod. MCV01). Roof slabs: 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%) #		
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	7.00	0.00	7.00	7.00	7.00
	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	0.43	0.13	0.31	0.41	0.57
	WWR – North orientation	WWR_N	-	0.22	0.05	0.22	0.22	0.22
	WWR – South orientation	WWR_S	-	0.14	0.00	0.14	0.14	0.14
	WWR – East orientation	WWR_E	-	0.18	0.04	0.13	0.18	0.22
	WWR – West orientation	WWR_W	-	0.18	0.04	0.13	0.18	0.22
	Window to useful floor area ratio	A_{wi}/A_{use}	-	0.17	0.06	0.12	0.15	0.23
	ENVELOPE	Roof type	Reinforced brick-concrete slab: 100%					
U-value of the roof		$U_{fi,up}$	W/(m ² ·K)	1.36	0.00	1.36	1.36	1.36
External walls type		Hollow brick masonry: 100%						
U-value of the wall		U_{wl}	W/(m ² ·K)	1.17	0.006	1.17	1.17	1.17
Slab on ground floor type		Reinforced brick-concrete slab: 100%						
U-value of the floor		$U_{fi,lw}$	W/(m ² ·K)	1.55	0.00	1.55	1.55	1.55
Windows type		Single glazing, aluminium frame: 100%						
U-value of the windows		U_W	W/(m ² ·K)	6.12	0.00	6.12	6.12	6.12
Shading system type	Shutter: 100%							
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: 71%, Absent: 29%						
	Heating generator	Air source heat pump: 100%						
	Daily operating time of the heating system *	t_H	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_C	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 sources, and are thus derived from UNI EN Standards							

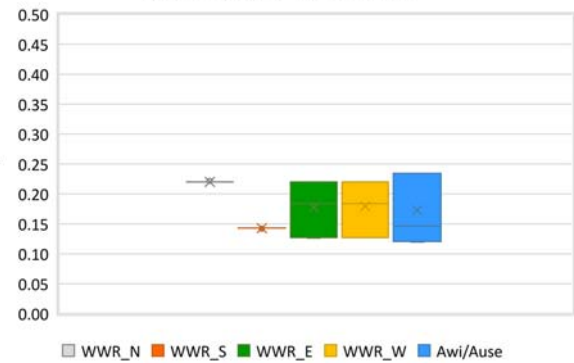
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Numerical variables – GEOMETRY

COMPACTNESS RATIO

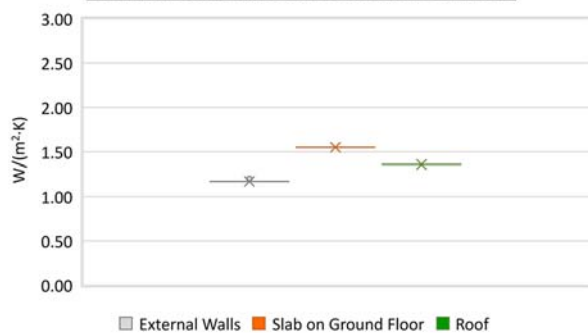


WINDOWS TO WALL RATIO



Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



WINDOWS U-VALUE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

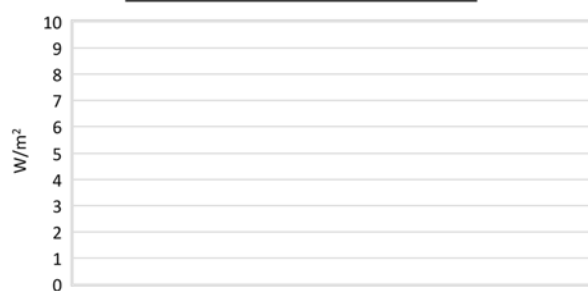
AIR EXCHANGE RATE



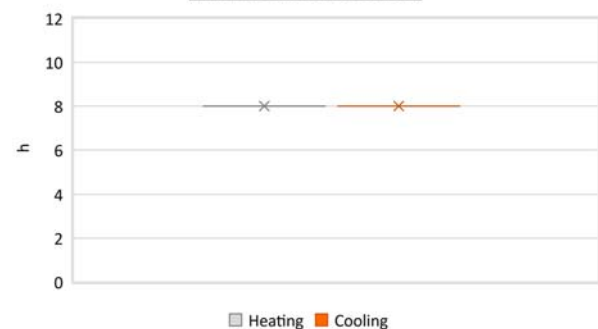
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



DAILY OPERATING TIME

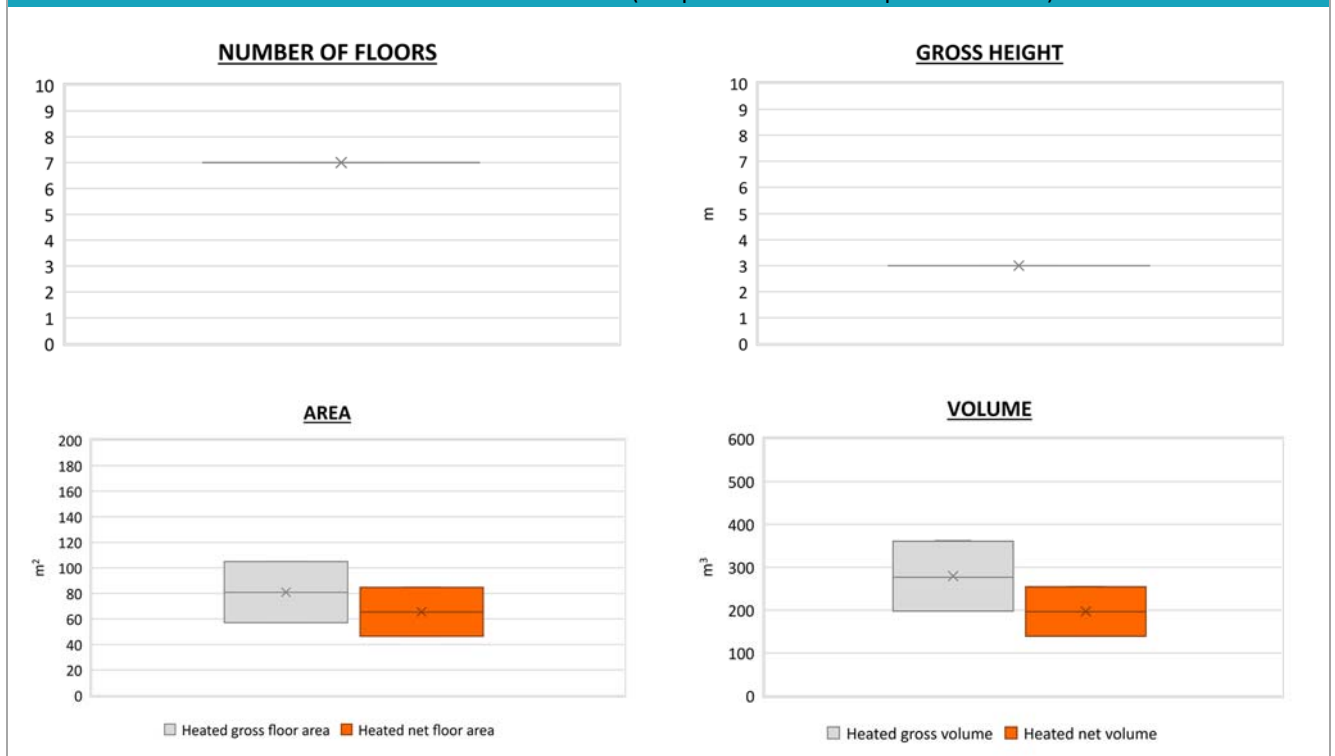


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ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
GEOMETRY: apartments	Inter-storey height	H_n	m	3.00	0.00	3.00	3.00	3.00
	Heated gross floor area	$A_{H,g}$	m ²	80.92	24.26	57.10	80.80	104.62
	Heated net floor area	$A_{H,n}$	m ²	65.53	19.45	46.44	65.38	84.48
	Heated gross volume	$V_{H,g}$	m ³	279.37	83.05	197.80	276.70	360.52
	Heated net volume	$V_{H,n}$	m ³	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 *	$P_{H,gen}$	kW	6.36	1.17	4.80	7.20	7.20
	Cooling efficiency or EER	$\eta_{C,gen}$ or $EER_{C,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power *	$P_{C,gen}$	kW	2.30	0.00	2.30	2.30	2.30
	Temperature of DHW	θ_w	°C	40.00	0.00	40.00	40.00	40.00
	DHW system power *	$P_{W,gen}$	kW	3.74	6.43	1.20	1.20	1.20

* These values refer to the apartment scale

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



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

