

Region:	Sicily		Archetype code: RES_APPBLOCK_ 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):							Data sources: Municipal database (83%) Expert assumptions (2%) Others (15%) #	
External walls: double layer of hollow bricks (8 cm + 12 cm) with insulated air gap (cod. MCV04).								
Roof slabs: reinforced brick-concrete slab (22 cm) plus insulated concrete screed (4 cm) (cod. SOL04)								
	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 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	0.55	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_{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 ² ·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 ² ·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	$U_{f,lfw}$	W/(m ² ·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 ² ·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 ²	UNI EN 16798-1 – Table A.19				
	Lighting power density *	W_L	W/m ²	UNI EN 16798-1 – Table A.8.3				
	Equipment power density *	W_A	W/m ²	UNI EN 16798-1 – Table 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: 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%). * These values were not available in the considered sources, and are thus derived from UNI EN Standards							

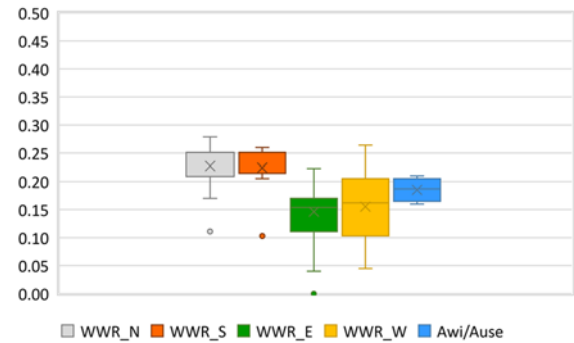
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Numerical variables – GEOMETRY

COMPACTNESS RATIO

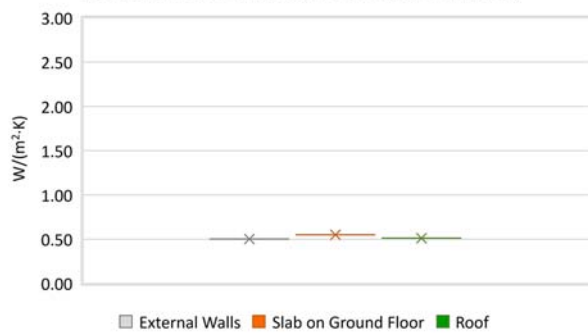


WINDOWS TO WALL RATIO



Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



WINDOWS U-VALUE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

AIR EXCHANGE RATE



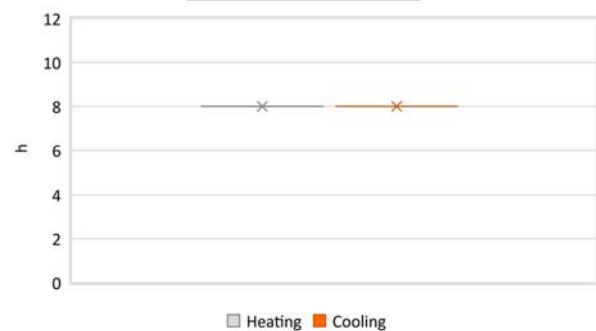
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



DAILY OPERATING TIME

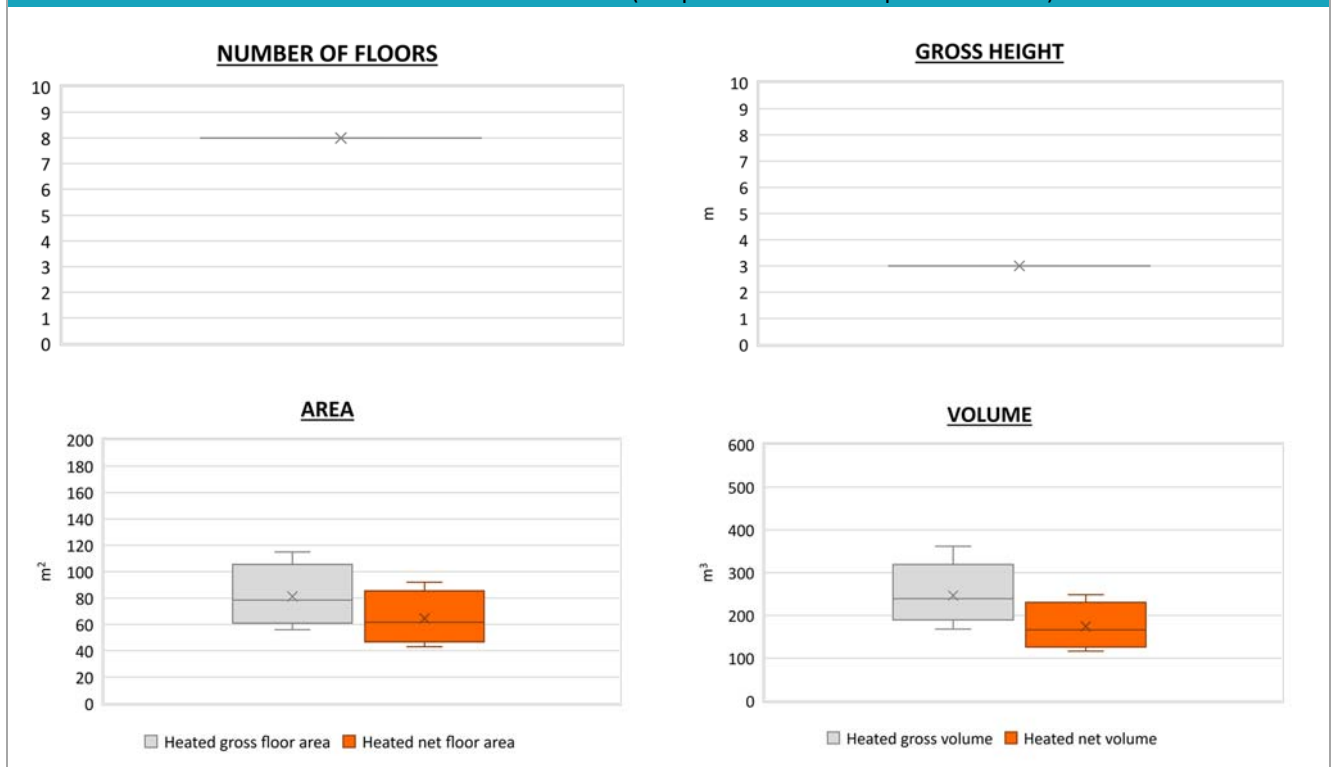


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ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
GEOMETRY: apartments	Inter-storey height	H_n	m	3.00	0.00	3.00	3.00	3.00
	Heated gross floor area	$A_{H,g}$	m ²	81.19	20.80	60.97	78.50	105.39
	Heated net floor area	$A_{H,n}$	m ²	64.54	17.87	46.55	61.56	85.42
	Heated gross volume	$V_{H,g}$	m ³	246.64	63.49	189.34	239.22	319.27
	Heated net volume	$V_{H,n}$	m ³	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	θ_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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Additional data: other numerical variables that are not included in the archetype

