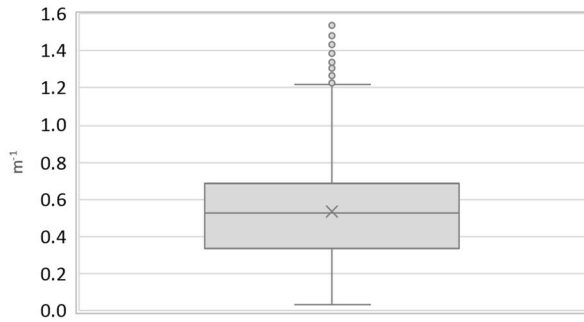


Region:	Liguria					Archetype code: RES_APPBLOCK_ 1971-1980_D_LIG		
Building category:	Residential buildings – Apartments in multi-family block							
Period of construction:	1971-1980							
Climatic zone:	D	Number of records:			5932			
Description: <u>External walls</u> : no data available <u>Roof slabs</u> : no data available							Data sources: EPC databases (100%)	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Q2 (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	-	-	-	-	-
	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	0.53	0.23	0.33	0.53	0.69
	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}	-	0.11	0.07	0.09	0.10	0.12
ENVELOPE	Roof type	-						
	U-value of the roof	$U_{fi,up}$	W/(m ² ·K)	1.39	0.59	1.05	1.53	1.73
	External walls type	-						
	U-value of the wall	U_{wl}	W/(m ² ·K)	1.20	0.42	1.02	1.16	1.35
	Slab on ground floor type	-						
	U-value of the floor	$U_{fi,lw}$	W/(m ² ·K)	1.48	0.42	1.36	1.52	1.67
	Windows type	-						
	U-value of the windows	U_W	W/(m ² ·K)	4.08	1.25	3.12	4.32	5.07
GAINS and VENTILATION	Shading system type	-						
	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	Unknown: 93%; Autonomous: 7%						
	Heating generator	Traditional boiler: 49%; Unknown: 32%; Condensing boiler: 16%; Air-source heat pump: 2%; Fireplace: 1%						
	Daily operating time of the heating system *	t_H	h	12	0	12	12	12
	Energy carrier	Natural gas: 42%; Unknown: 33%; Electricity and natural gas: 20%; Electricity: 2%; LPG: 1%; Gas Oil: 1%; Electricity and solid biomass: 1%						
	Heating emission sub-system	Radiators: 64%; Unknown: 32%; Fan-coil: 2%; Radiant panels: 1%; Air Ducts: 1%						
	Cooling system type	Unknown: 92%; Heat pump air-air: 6%; Heat pump air-water: 2%						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	-						
	DHW generator	Unknown: 70%; Condensing boiler: 13%; Electric boiler: 7%; Natural gas boiler: 5%; Electric heat pump: 5%						
* These values were not available in the considered sources, and are thus derived from UNI EN Standards								

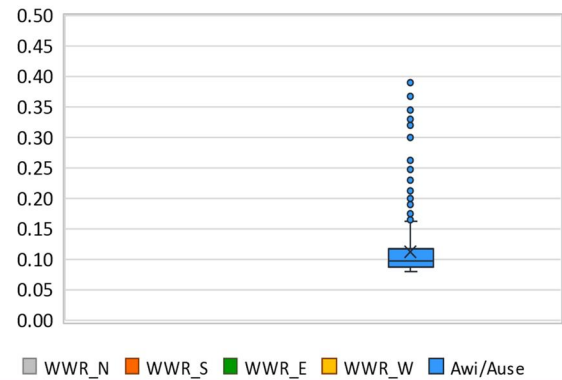
Region:	Liguria	Archetype code: RES_APPBLOCK_ 1971-1980_D_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1971-1980	
Climatic zone:	D	
Number of records:		5932

Numerical variables – GEOMETRY

COMPACTNESS RATIO

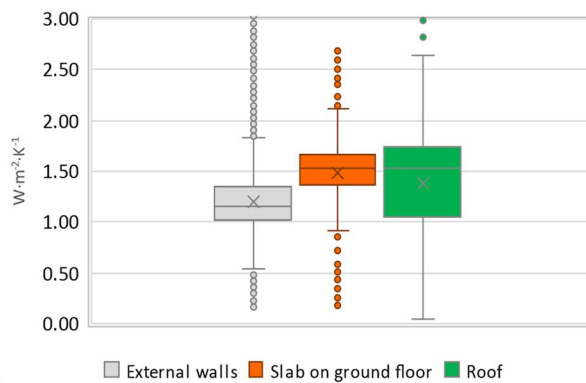


WINDOWS TO WALL RATIO

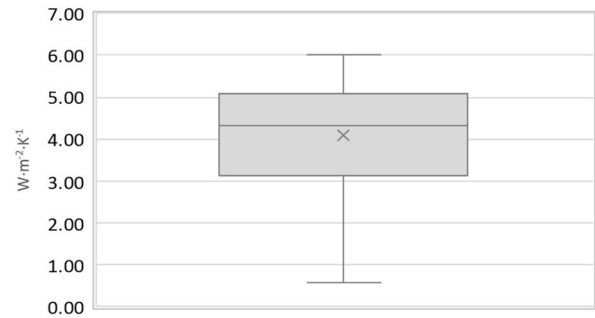


Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



WINDOWS U-VALUE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE (Standard Values)

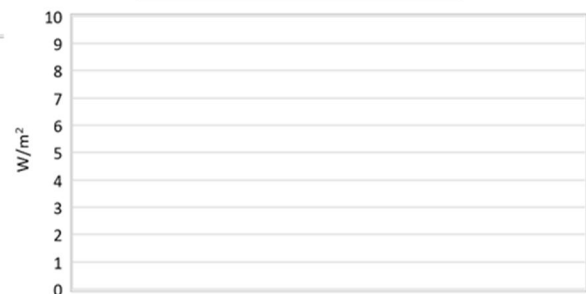
AIR EXCHANGE RATE



OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



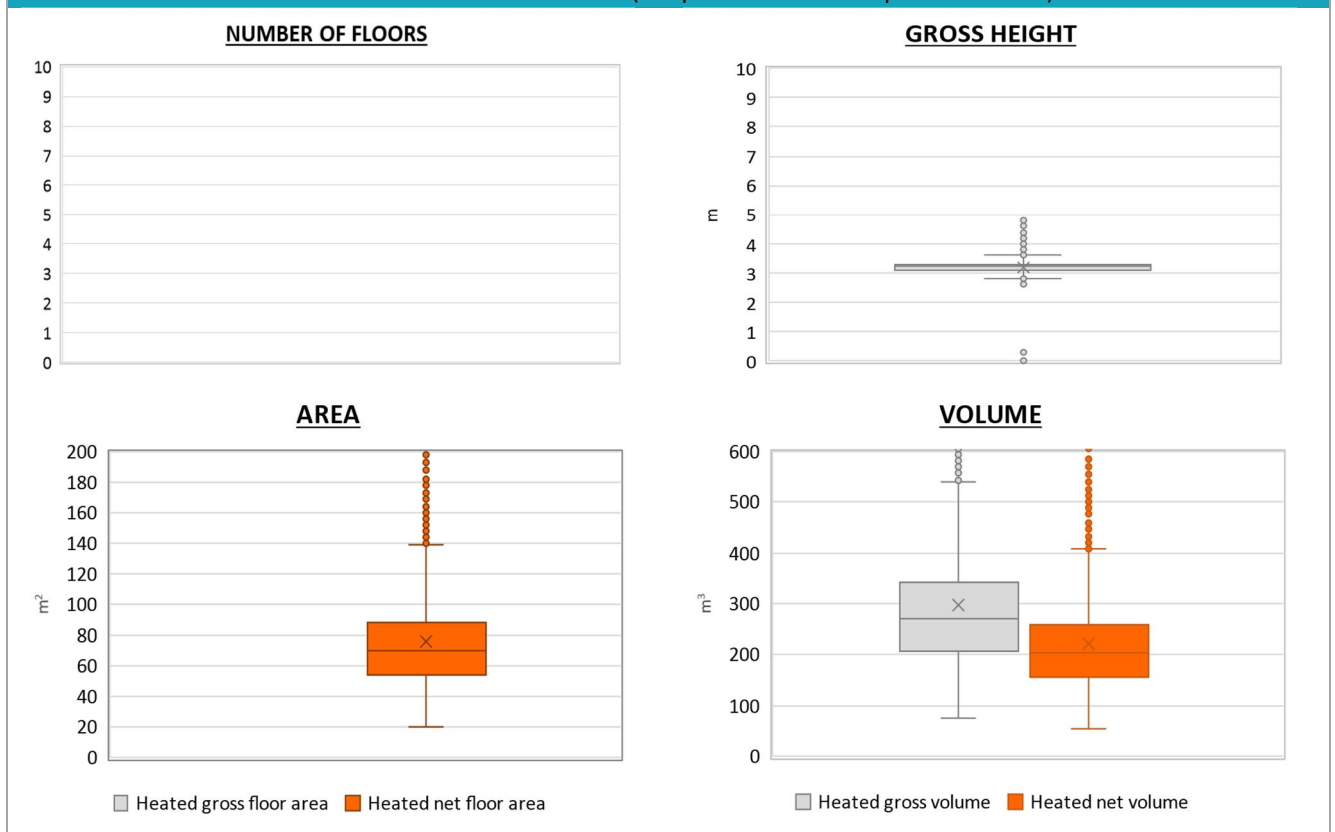
DAILY OPERATING TIME

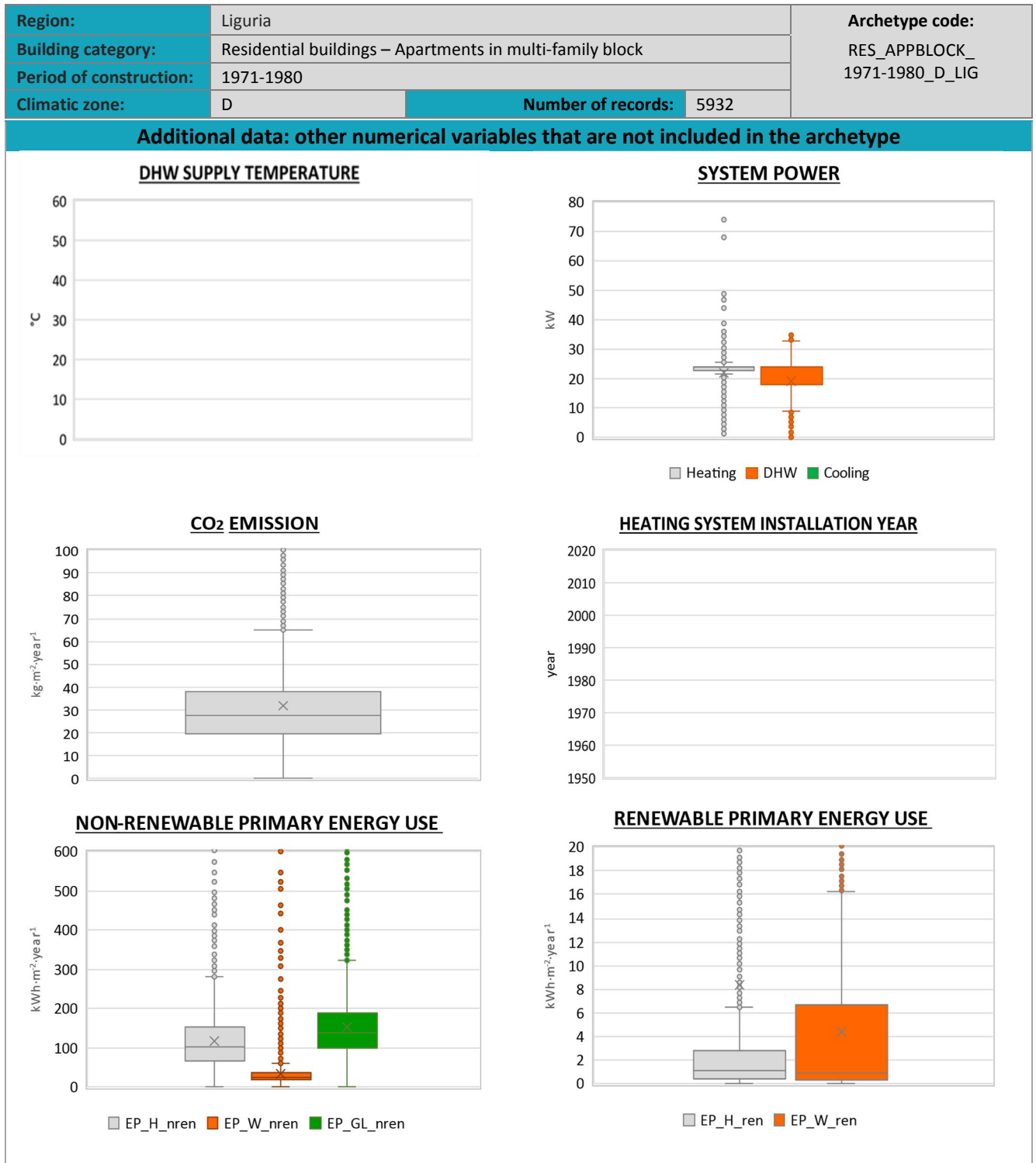


Region:	Liguria	Archetype code: RES_APPBLOCK_ 1971-1980_D_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1971-1980	
Climatic zone:	D	
Number of records:		5932

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	3.2	0.2	3.1	3.3	3.3
	Heated gross floor area	$A_{H,g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m ²	75.9	38.1	54.0	70.5	88.2
	Heated gross volume	$V_{H,g}$	m ³	298.5	272.2	208.0	270.9	342.0
	Heated net volume	$V_{H,n}$	m ³	220.9	112.7	157.1	205.4	257.8
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	21.9	6.7	23.0	24.0	24.0
	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	-	-	-	-	-
	DHW system power *	$P_{W,gen}$	kW	19.2	9.2	18.0	24.0	24.0
* These values refer to the apartment scale								

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





NOTE: Sample size of the analysed data.

Compactness ratio: 5878; Window to useful floor area ratio: 874; U-value of the roof: 1021; U-value of the wall: 5228; U-value of the floor: 408; U-value of the windows: 5932; Inter-storey height: 5906; Heated net floor area: 5906; Heated gross volume: 5878; Heated net volume: 5878; Total heating power: 2078; DHW system power: 3767; CO₂ Emission: 5859; EP_H_nren: 5910; EP_W_nren: 5805; EP_GL_nren: 5902; EP_H_ren: 4695; EP_W_ren: 3788