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

Description:	Data sources:
External walls: no data available Roof slabs: no data available	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	$A_{footprint}$	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	$V_{H;n}$	m³	-	-	-	-	-
	Compactness ratio	$A_{env}/V_{H;g}$	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	$U_{fl;up}$	W/(m²·K)	1.39	0.59	1.05	1.53	1.73
	External walls type		-					
	U-value of the wall	U_{wl}	W/(m²·K)	1.20	0.42	1.02	1.16	1.35
	Slab on ground floor type		-					
	U-value of the floor	$U_{fl;lw}$	W/(m²·K)	1.48	0.42	1.36	1.52	1.67
	Windows type		-					
	U-value of the windows	U_W	W/(m²·K)	4.08	1.25	3.12	4.32	5.07
	Shading system type		-					
GAINS and VENTILATION	Occupancy density *	O_C	person/m²	UNI EN 16798-1 - Table A.19				
	Lighting power density *	W_L	W/m²	UNI EN 16798-1 - A.8.3				
	Equipment power density *	W_A	W/m²	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:
Building category:	Residential buildings – Apartments in multi-family block		RES_APPBLOCK_
Period of construction:	1971-1980		1971-1980_D_LIG
Climatic zone:	D	Number of records:	5932

Numerical variables – GEOMETRY

COMPACTNESS RATIO

WINDOWS TO WALL RATIO

◻ WWR_N ◻ WWR_S ◻ WWR_E ◻ WWR_W ◻ Awi/Ause
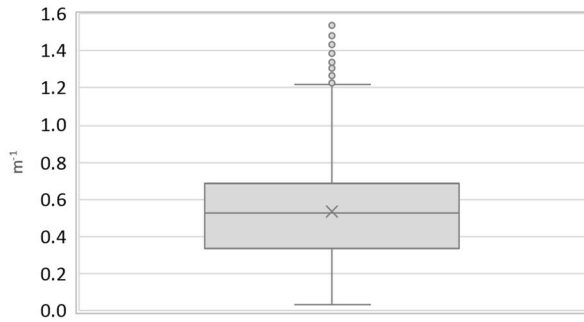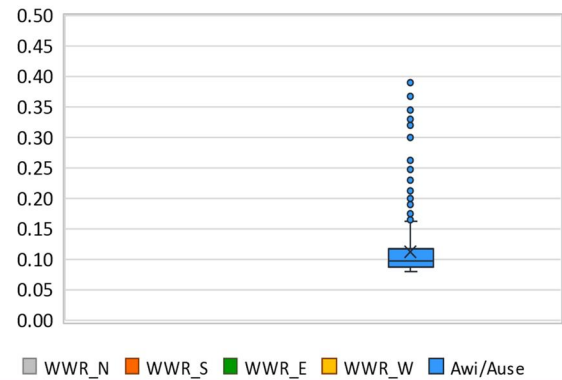
Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE

◻ External walls ◻ Slab on ground floor ◻ Roof
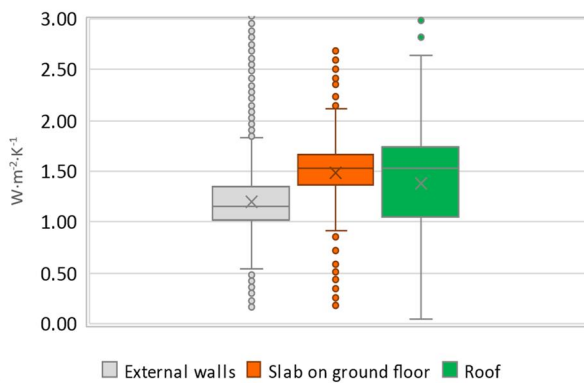
WINDOWS U-VALUE
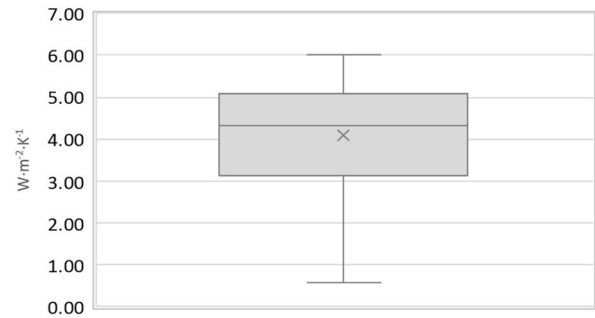
Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE (Standard Values)

AIR EXCHANGE RATE

OCCUPANCY DENSITY
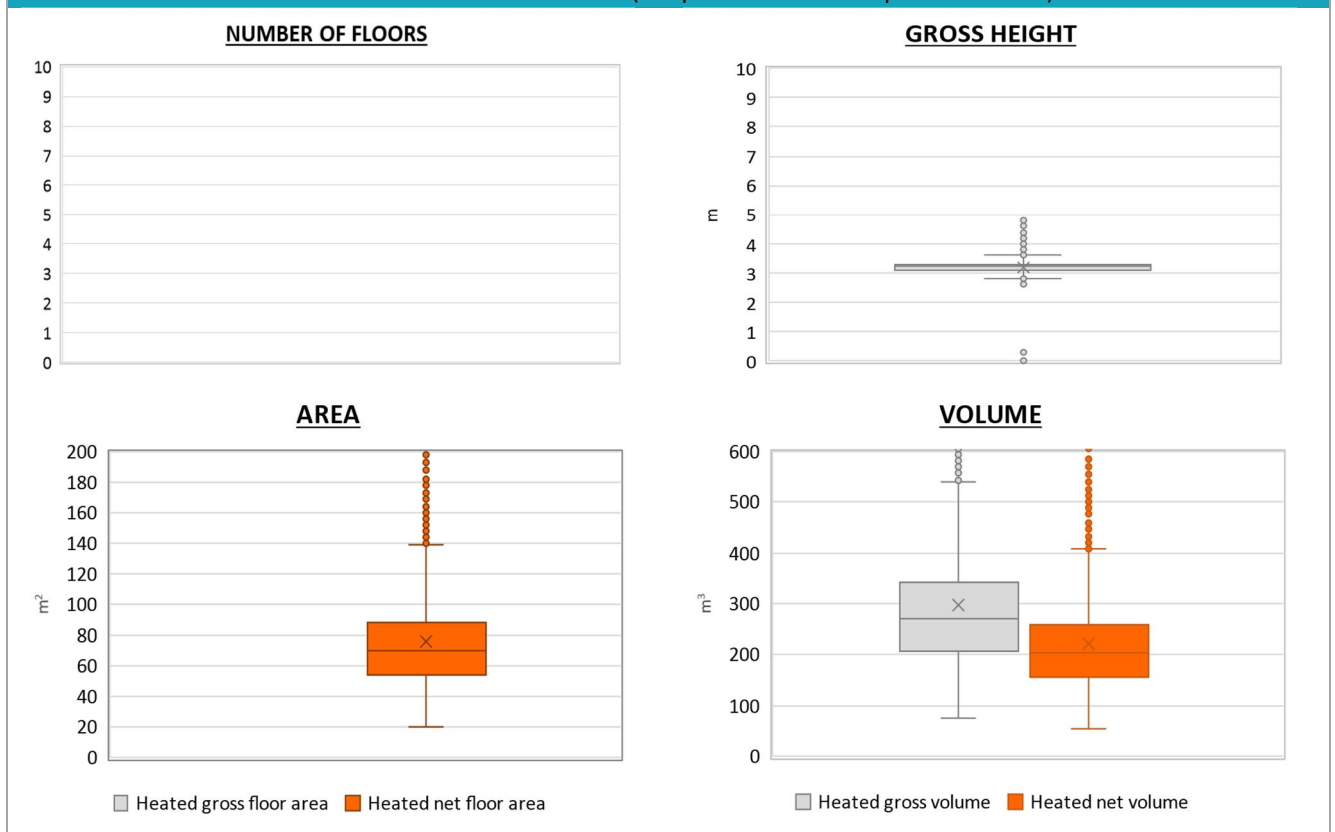

INTERNAL GAINS POWER DENSITY

DAILY OPERATING TIME

◻ Heating ◻ Cooling

Region:	Liguria		Archetype code:
Building category:	Residential buildings – Apartments in multi-family block		RES_APPBLOCK_ 1971-1980_D_LIG
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	$A_{H;g}$	m²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m²	75.9	38.1	54.0	70.5	88.2
	Heated gross volume	$V_{H;g}$	m³	298.5	272.2	208.0	270.9	342.0
	Heated net volume	$V_{H;n}$	m³	220.9	112.7	157.1	205.4	257.8
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	21.9	6.7	23.0	24.0	24.0
	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	-	-	-	-	-
	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)

NUMBER OF FLOORS

GROSS HEIGHT

AREA

VOLUME

☐ Heated gross floor area ☐ Heated net floor area

☐ Heated gross volume ☐ Heated net volume

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

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

DHW SUPPLY TEMPERATURE

SYSTEM POWER

CO₂ EMISSION

HEATING SYSTEM INSTALLATION YEAR

NON-RENEWABLE PRIMARY ENERGY USE

RENEWABLE PRIMARY ENERGY USE
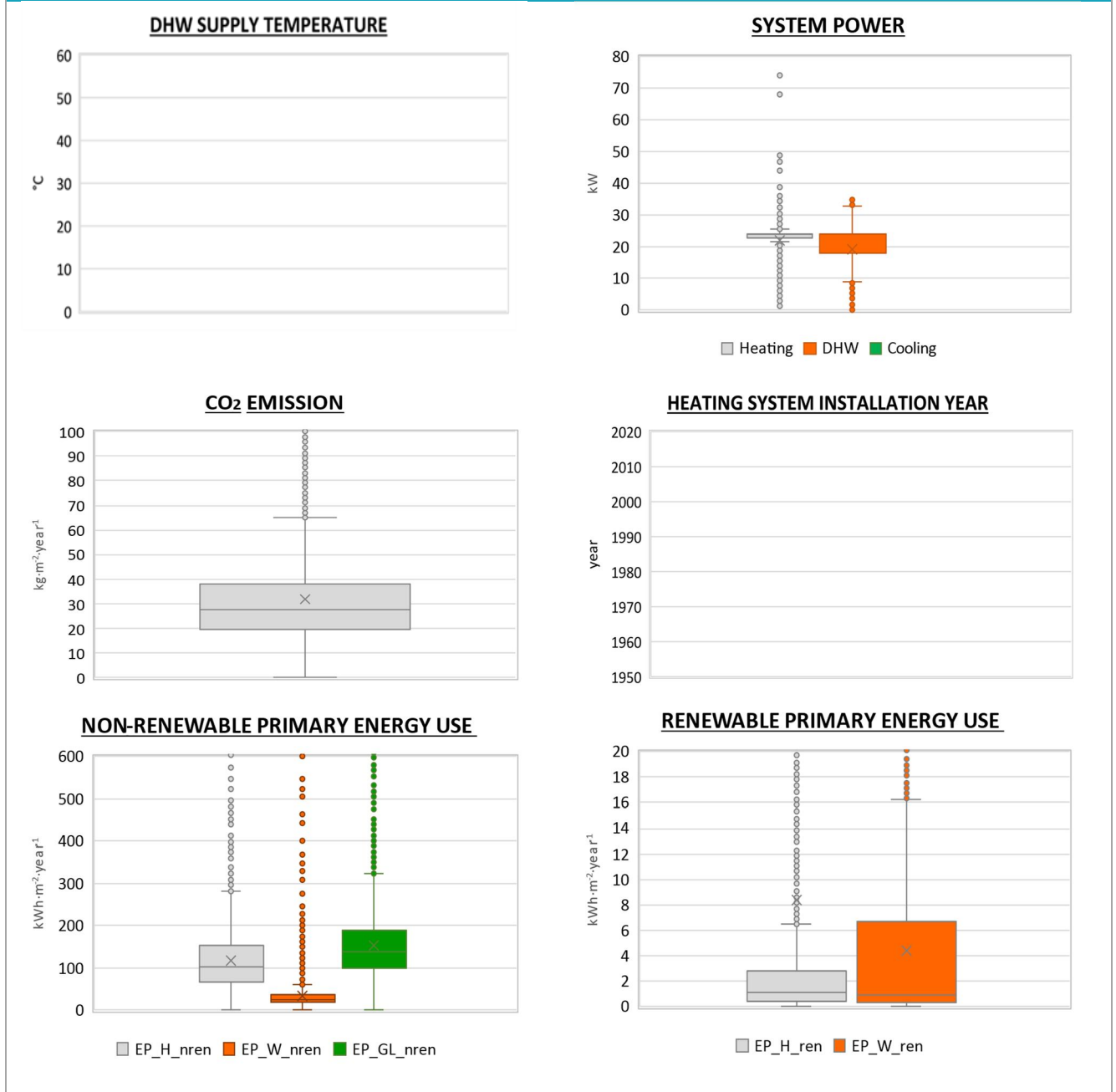
NOTE: Sample size of the analysed data.

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