Region:	Liguria			**Archetype code:** RES_APPBLOCK_ 1981-1990_D_LIG
Building category:	Residential buildings – Apartments in multi-family block			
Period of construction:	1981-1990			
Climatic zone:	D	**Number of records:**	2889	

Description:

External walls: no data available
Roof slabs: no data available

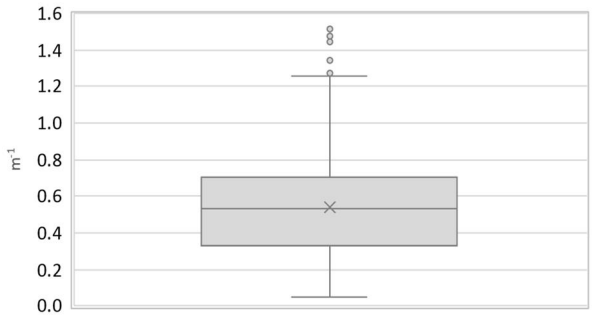
Data sources:
EPC databases (100%)

	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	$A_{footprint}$	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	$A_{env}/V_{H;g}$	m^{-1}	0.54	0.24	0.33	0.53	0.70
	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}	-	0.12	0.06	0.09	0.10	0.13
ENVELOPE	Roof type	-						
	U-value of the roof	$U_{fl;up}$	$W/(m^2 \cdot K)$	1.46	0.62	1.08	1.58	1.78
	External walls type	-						
	U-value of the wall	U_{wl}	$W/(m^2 \cdot K)$	1.17	0.51	0.90	1.13	1.36
	Slab on ground floor type	-						
	U-value of the floor	$U_{fl;lw}$	$W/(m^2 \cdot K)$	1.50	0.43	1.31	1.54	1.66
	Windows type	-						
	U-value of the windows	U_W	$W/(m^2 \cdot K)$	3.92	1.22	3.03	4.02	4.87
	Shading system type	-						
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: 97%; Mechanical: 3%						
	Air exchange rate *	n	h^{-1}	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Unknown: 94%; Autonomous: 5%; Centralized: 1%						
	Heating generator	Traditional boiler: 45%; Unknown: 40%; Condensing boiler: 12%; Air-source heat pump: 2%; Fireplace: 1%						
	Daily operating time of the heating system *	t_H	h	12	0	12	12	12
	Energy carrier	Unknown: 42%; Natural gas: 35%; Electricity and natural gas: 19%; Electricity: 2%; LPG: 1%; Electricity and solid biomass: 1%						
	Heating emission sub-system	Radiators: 56%; Unknown: 40%; Fan-coil: 2%; Air Ducts: 1%; Radiant panels: 1%						
	Cooling system type	Unknown: 93%; Heat pump air-air: 6%; Heat pump air-water: 1%						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	-						
	DHW generator	Unknown: 71%; Condensing boiler: 13%; Electric boiler: 10%; Natural gas boiler: 4%; Electric heat pump: 2%						
	* These values were not available in the considered sources, and are thus derived from UNI EN Standards							

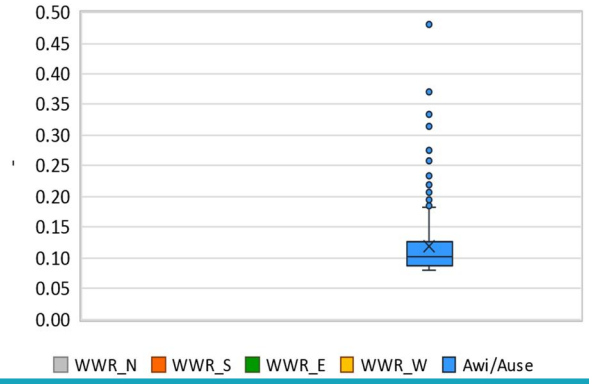
Region:	Liguria			**Archetype code:**
Building category:	Residential buildings – Apartments in multi-family block			RES_APPBLOCK_ 1981-1990_D_LIG
Period of construction:	1981-1990			
Climatic zone:	D	**Number of records:**	2889	

Numerical variables – GEOMETRY

COMPACTNESS RATIO

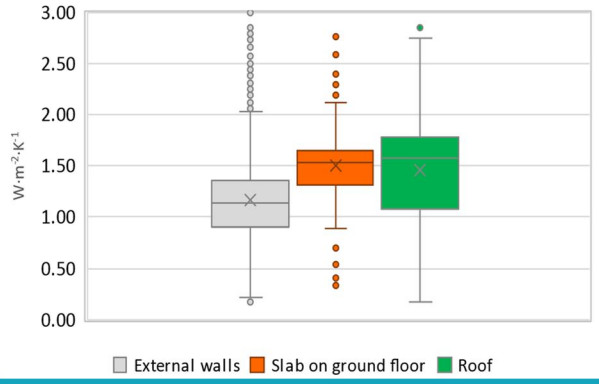


WINDOWS TO WALL RATIO

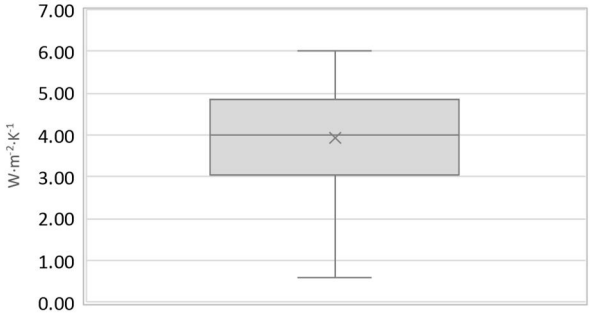


Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



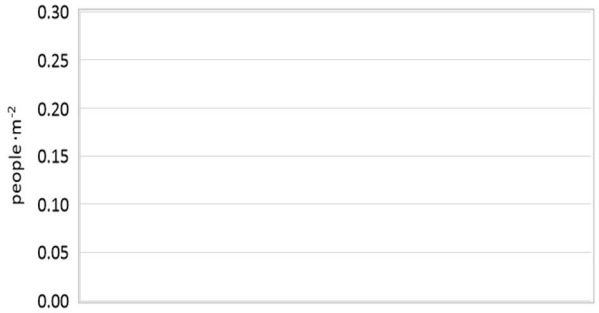
WINDOWS U-VALUE



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

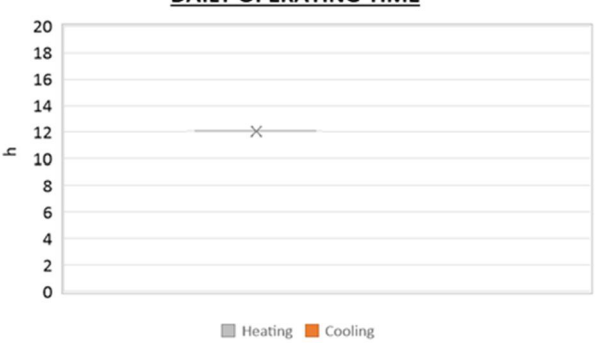
AIR EXCHANGE RATE

OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY

DAILY OPERATING TIME

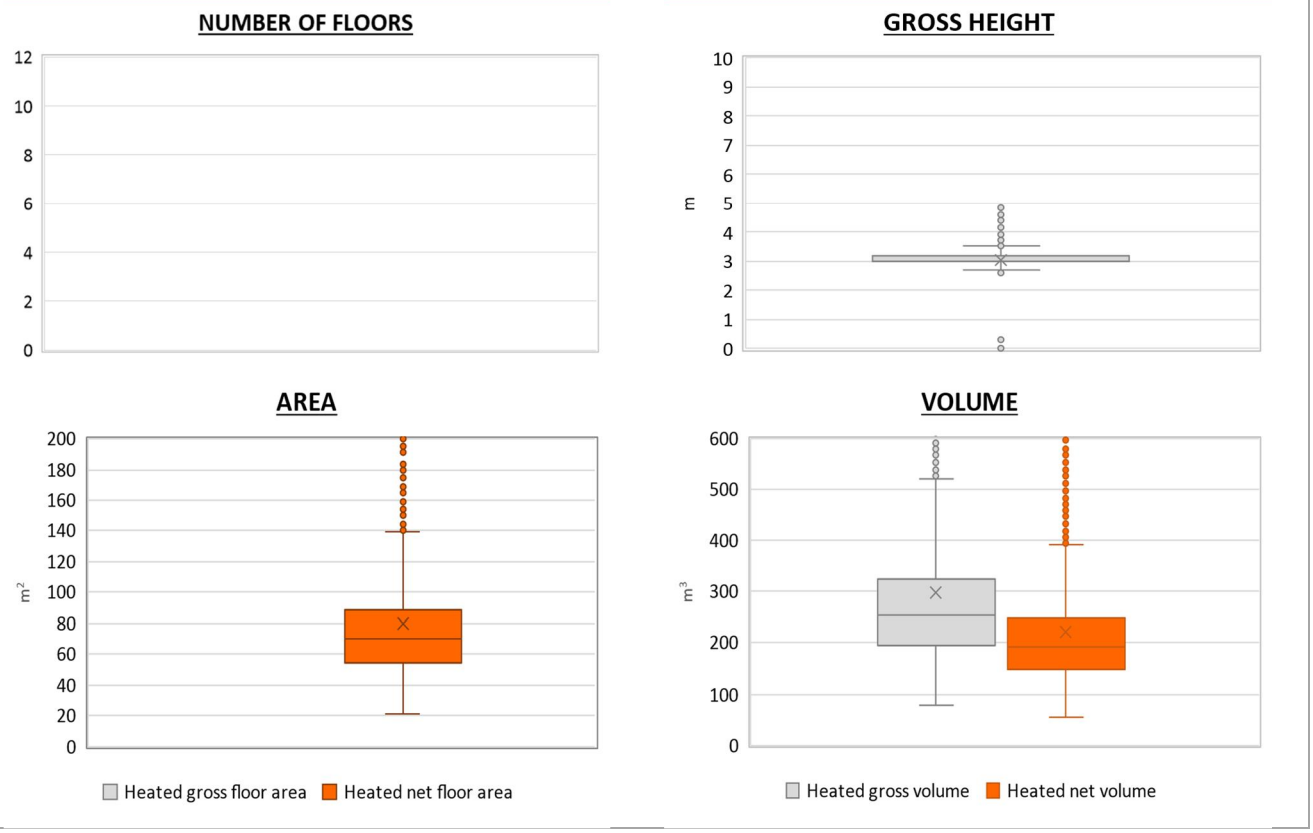


Region:	Liguria			**Archetype code:**
Building category:	Residential buildings – Apartments in multi-family block			RES_APPBLOCK_ 1981-1990_D_LIG
Period of construction:	1981-1990			
Climatic zone:	D	**Number of records:**	2889	

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	3.1	0.2	3.0	3.0	3.2
	Heated gross floor area	$A_{H;g}$	m^2	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m^2	80.1	55.4	54.0	69.9	88.3
	Heated gross volume	$V_{H;g}$	m^3	298.1	218.6	195.1	254.2	325.7
	Heated net volume	$V_{H;n}$	m^3	222.8	154.8	148.9	193.4	246.9
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	23.0	5.0	23.3	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	19.8	8.9	19.5	24.0	24.0
	* These values refer to the apartment scale							

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

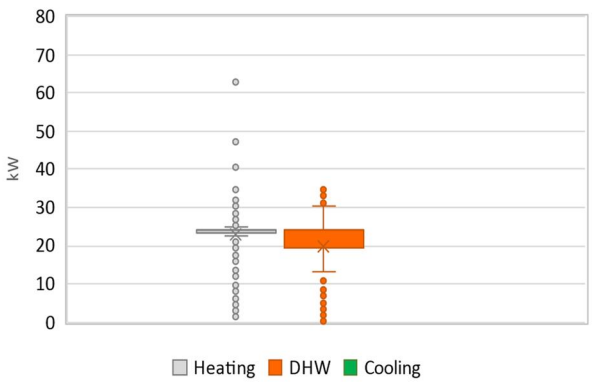


Region:	Liguria			**Archetype code:**
Building category:	Residential buildings – Apartments in multi-family block			RES_APPBLOCK_ 1981-1990_D_LIG
Period of construction:	1981-1990			
Climatic zone:	D	**Number of records:**	2889	

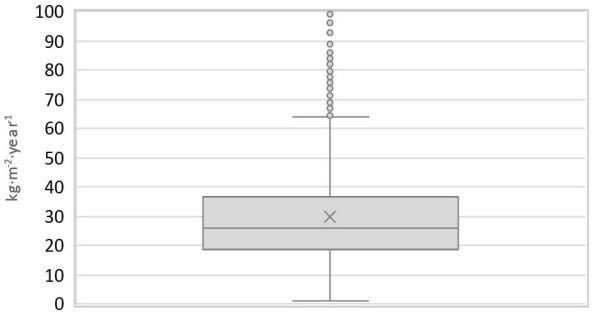
Additional data: other numerical variables that are not included in the archetype

DHW SUPPLY TEMPERATURE

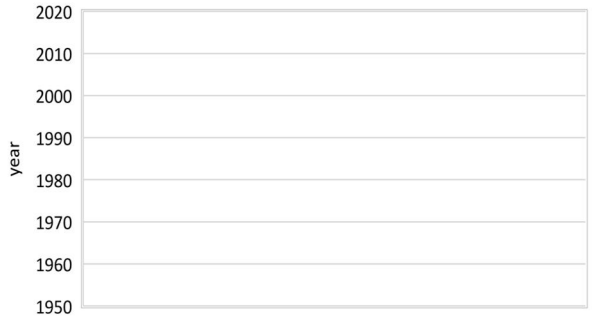
SYSTEM POWER



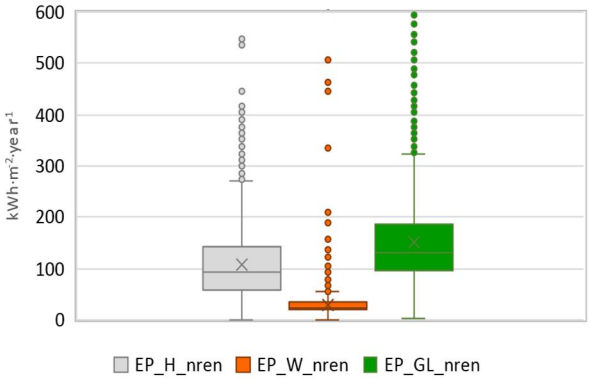
CO_2 EMISSION



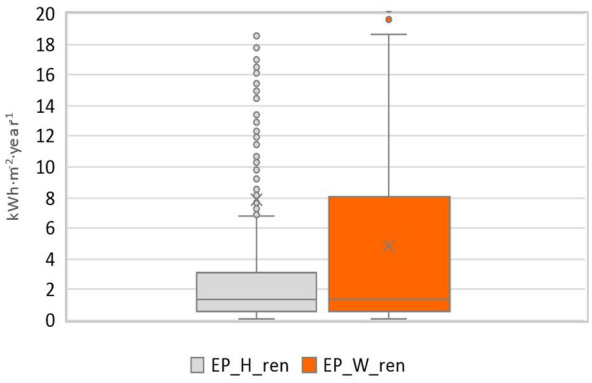
HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE



NOTE: Sample size of the analysed data.

Compactness ratio: 2889; Window to useful floor area ratio: 386; U-value of the roof: 567; U-value of the wall: 2562; U-value of the floor: 229; U-value of the windows: 2889; Inter-storey height: 2841; Heated net floor area: 2841; Heated gross volume: 2821; Heated net volume: 2821; Total heating power: 1145; DHW system power: 2043; CO2 Emission: 2841; EP_H_nren: 2880; EP_W_nren: 2768; EP_GL_nren: 2878; EP_H_ren: 2143; EP_W_ren: 1577