Region:	Liguria			**Archetype code:** RES_APPBLOCK_ 2001-_D_LIG
Building category:	Residential buildings – Apartments in multi-family block			
Period of construction:	2001-			
Climatic zone:	D	**Number of records:**	3958	

Description:

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

Data sources:
EPC databases (100%)

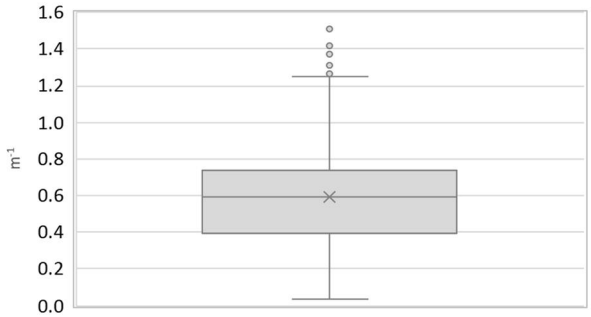
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Q2 (Median value)	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	-	-	-	-	-
	Gross height	H_g	m	-	-	-	-	-
	Footprint area	$A_{footprint}$	m^2	-	-	-	-	-
	Heated gross floor area	$A_{H;g}$	m^2	-	-	-	-	-
	Heated net 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}	0.59	0.27	0.39	0.59	0.74
	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}	-	0.14	0.14	0.09	0.10	0.13
ENVELOPE	Roof type	-						
	U-value of the roof	$U_{fl;up}$	$W/(m^2 \cdot K)$	0.62	0.56	0.27	0.35	0.71
	External walls type	-						
	U-value of the wall	U_{wl}	$W/(m^2 \cdot K)$	0.64	0.54	0.26	0.40	0.93
	Slab on ground floor type	-						
	U-value of the floor	$U_{fl;lw}$	$W/(m^2 \cdot K)$	0.73	0.60	0.29	0.41	1.23
	Windows type	-						
	U-value of the windows	U_W	$W/(m^2 \cdot K)$	2.66	1.22	1.64	2.46	3.41
	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: 95%; Mechanical: 5%						
	Air exchange rate *	n	h^{-1}	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Unknown: 95%; Autonomous: 5%						
	Heating generator	Unknown: 40%; Traditional boiler: 25%; Condensing boiler: 17%; Air-source heat pump: 14%; Solar thermal system: 2%; Heat exchanger of district heating/cooling: 1%; Water-source heat pump: 1%						
	Daily operating time of the heating system *	t_H	h	12	0	12	12	12
	Energy carrier	Unknown: 38%; Natural gas: 28%; Electricity: 15%; Electricity and natural gas: 15%; Thermal energy from solar collectors: 2%; LPG: 2%						
	Heating emission sub-system	Unknown: 39%; Radiators: 38%; Radiant panels: 14%; Fan-coil: 4%; Air Ducts: 4%; Convectors: 1%						
	Cooling system type	Unknown: 78%; Heat pump air-air: 13%; Heat pump air-water: 7%; Heat pump water-water: 2%						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	-						
	DHW generator	Unknown: 68%; Condensing boiler: 21%; Solar thermal: 5%; Electric boiler: 4%; Natural gas boiler: 1%; Electric heat pump: 1%						

* These values were not available in the considered sources, and are thus derived from UNI EN Standards

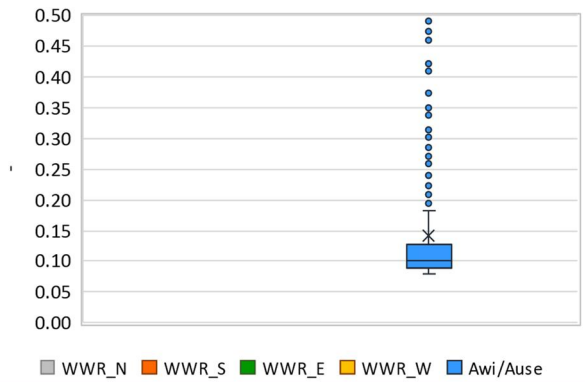
Region:	Liguria			**Archetype code:**
Building category:	Residential buildings – Apartments in multi-family block			RES_APPBLOCK_ 2001-_D_LIG
Period of construction:	2001-			
Climatic zone:	D	**Number of records:**	3958	

Numerical variables – GEOMETRY

COMPACTNESS RATIO

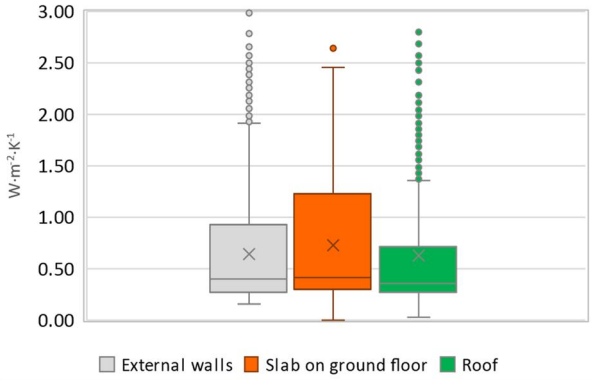


WINDOWS TO WALL RATIO

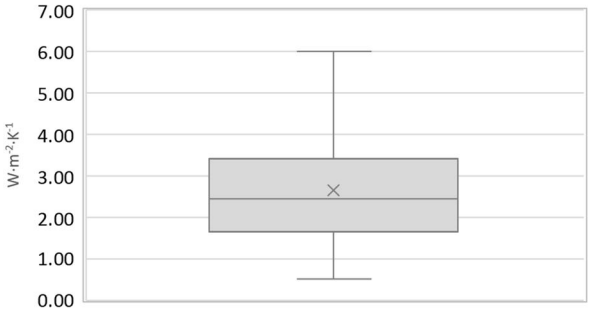


Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



WINDOWS U-VALUE

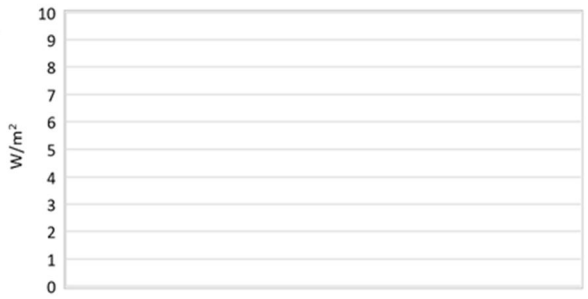


Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE (Standard Values)

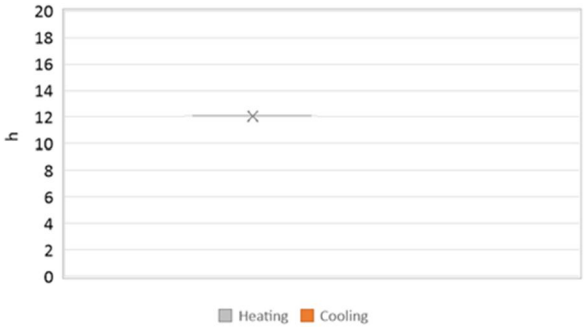
AIR EXCHANGE RATE

OCCUPANCY DENSITY

INTERNAL GAINS POWER DENSITY



DAILY OPERATING TIME

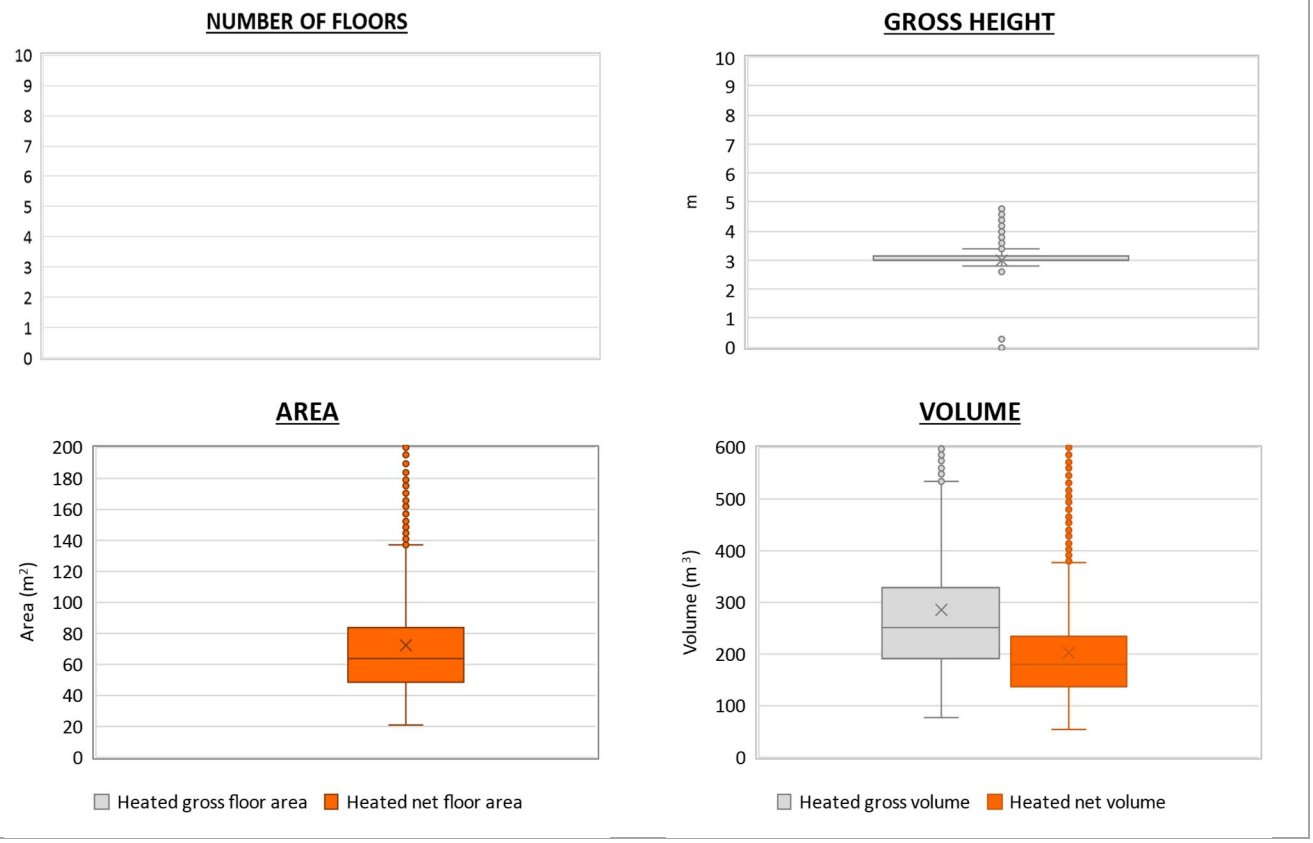


Region:	Liguria			**Archetype code:**
Building category:	Residential buildings – Apartments in multi-family block			RES_APPBLOCK_ 2001-_D_LIG
Period of construction:	2001-			
Climatic zone:	D	**Number of records:**	3958	

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	0.3	3.0	3.0	3.2
	Heated gross floor area	$A_{H;g}$	m²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m²	72.3	37.1	48.7	64.0	84.0
	Heated gross volume	$V_{H;g}$	m³	284.2	159.5	189.4	250.7	327.1
	Heated net volume	$V_{H;n}$	m³	201.7	109.1	135.2	178.8	232.6
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	21.5	7.2	23.2	24.0	24.2
	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	19.3	9.4	13.9	24.0	24.3
	* These values refer to the apartment scale							

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

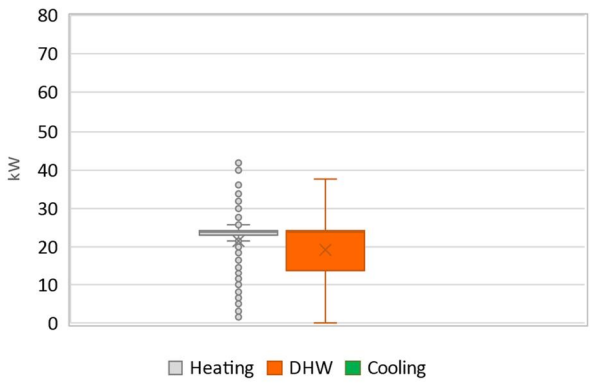


Region:	Liguria			**Archetype code:**
Building category:	Residential buildings – Apartments in multi-family block			RES_APPBLOCK_ 2001-_D_LIG
Period of construction:	2001-			
Climatic zone:	D	**Number of records:**	3958	

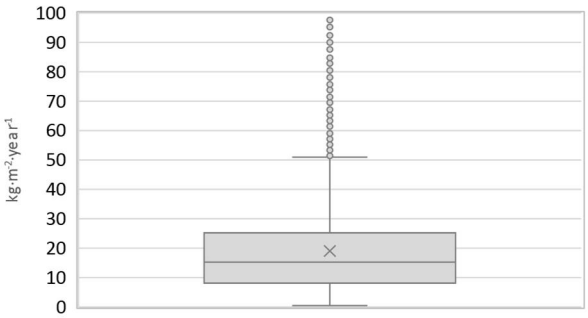
Additional data: other numerical variables that are not included in the archetype

DHW SUPPLY TEMPERATURE

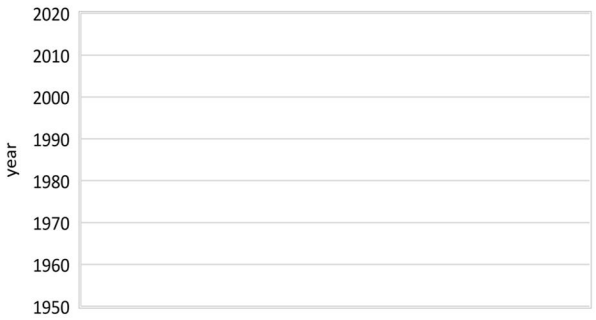
SYSTEM POWER



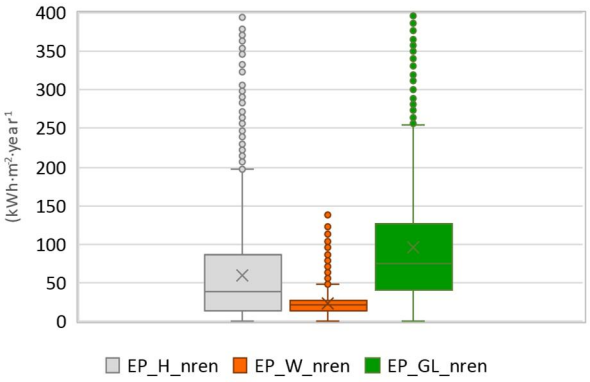
CO_2 EMISSION



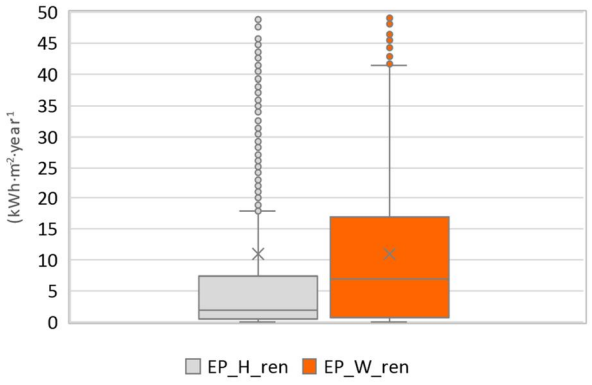
HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE



NOTE: Sample size of the analysed data.

Compactness ratio: 3796; Window to useful floor area ratio: 506; U-value of the roof: 1299; U-value of the wall: 3623; U-value of the floor: 380; U-value of the windows: 3958; Inter-storey height: 3866; Heated net floor area: 3866; Heated gross volume: 3796; Heated net volume: 3796; Total heating power: 1430; DHW system power: 2339; CO2 Emission: 3870; EP_H_nren: 3770; EP_W_nren: 3781; EP_GL_nren: 3901; EP_H_ren: 3079; EP_W_ren: 2793