Region:	Liguria		Archetype code:
Building category:	Residential buildings – Apartments in multi-family block		RES_APPBLOCK_ 1991-2000_D_LIG
Period of construction:	1991-2000		
Climatic zone:	D	Number of records: 1435	

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	0.58	0.24	0.36	0.59	0.73
	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	0.07	0.09	0.10	0.13
ENVELOPE	Roof type					-		
	U-value of the roof	$U_{fl;up}$	W/(m²·K)	1.23	0.67	0.64	1.24	1.69
	External walls type					-		
	U-value of the wall	U_{wl}	W/(m²·K)	1.07	0.49	0.72	1.09	1.27
	Slab on ground floor type					-		
	U-value of the floor	$U_{fl;lw}$	W/(m²·K)	1.43	0.48	1.20	1.50	1.64
	Windows type					-		
	U-value of the windows	U_W	W/(m²·K)	3.63	1.13	2.79	3.48	4.48
	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: 96%; Mechanical: 4%				
	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: 47%; Unknown: 37%; Condensing boiler: 11%; Air-source heat pump: 3%; Fireplace: 1%; Heat exchanger of district heating/cooling: 1%				
	Daily operating time of the heating system *	t_H	h	12	0	12	12	12
	Energy carrier			Natural gas: 38%; Unknown: 38%; Electricity and natural gas: 19%; Electricity: 3%; LPG: 1%; Electricity and solid biomass: 1%				
	Heating emission sub-system			Radiators: 57%; Unknown: 37%; Fan-coil: 3%; Air Ducts: 1%; Radiant panels: 1%; Convectors: 1%				
	Cooling system type			Unknown: 90%; Heat pump air-air: 7%; Heat pump air-water: 2%; Heat pump water-air:1%				
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system			-				
	DHW system type			-				
	DHW generator			Unknown: 81%; Condensing boiler: 10%; Electric boiler: 6%; Natural gas boiler: 1%; Electric heat pump: 1%; Other: 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_ 1991-2000_D_LIG
Period of construction:	1991-2000		
Climatic zone:	D	Number of records:	1435

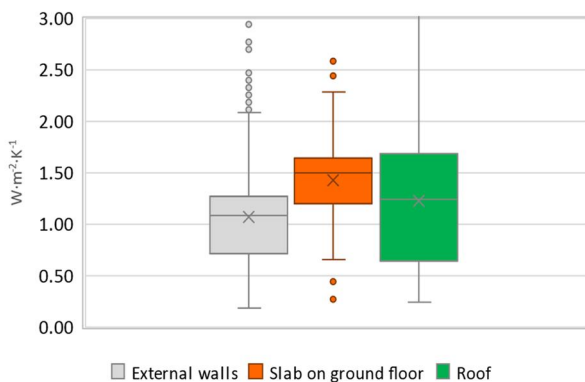## Numerical variables – GEOMETRY

COMPACTNESS RATIO
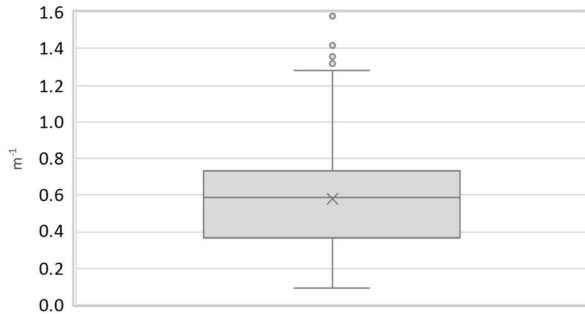
WINDOWS TO WALL RATIO
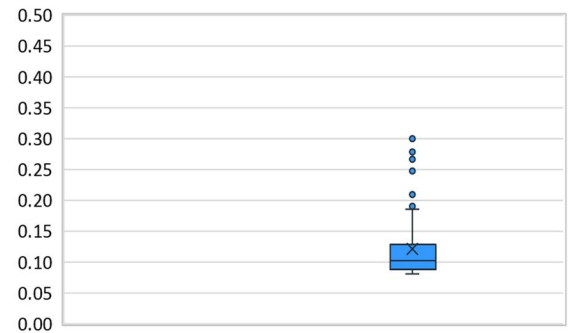
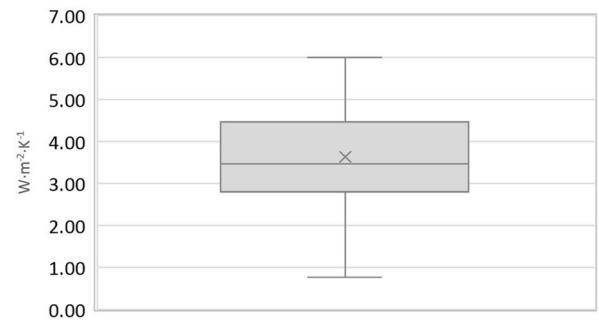☐ WWR_N ☐ WWR_S ☐ WWR_E ☐ WWR_W ☐ Awi/Ause

Numerical variables – ENVELOPE
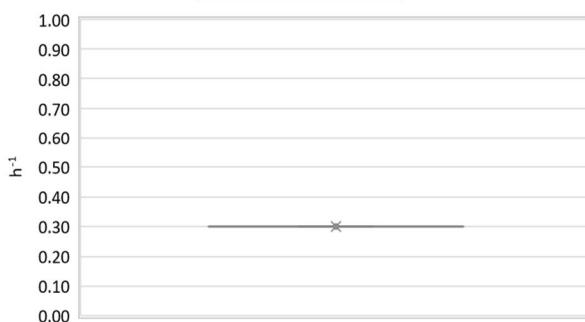
OPAQUE BUILDING COMPONENTS U-VALUE

WINDOWS U-VALUE

☐ External walls ☐ Slab on ground floor ☐ Roof

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

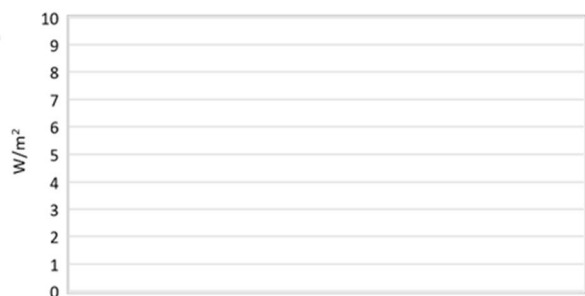### AIR EXCHANGE RATE

OCCUPANCY DENSITY

INTERNAL GAINS POWER DENSITY
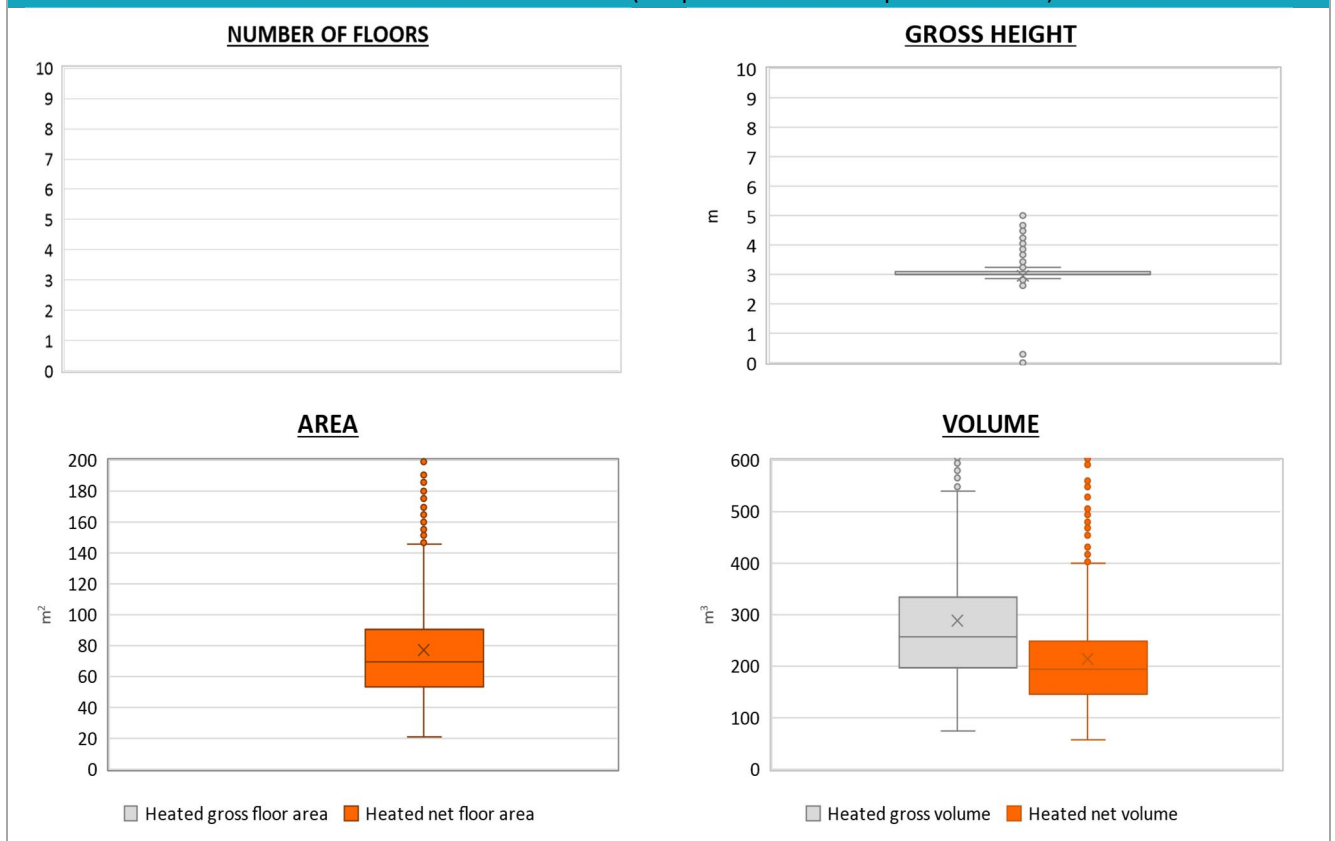
DAILY OPERATING TIME

☐ Heating ☐ Cooling

Residential buildings – Apartment blocks – 1991-2000 – Zone D – Italy

Region:	Liguria		Archetype code:
Building category:	Residential buildings – Apartments in multi-family block		RES_APPBLOCK_ 1991-2000_D_LIG
Period of construction:	1991-2000		
Climatic zone:	D	Number of records: 1435	

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	3.1
	Heated gross floor area	$A_{H;g}$	m²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m²	77.3	37.5	53.0	69.4	90.2
	Heated gross volume	$V_{H;g}$	m³	289.9	153.8	195.8	255.8	335.3
	Heated net volume	$V_{H;n}$	m³	214.4	110.7	147.0	193.0	249.1
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	23.6	4.3	23.8	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	22.2	6.9	23.5	24.0	24.1
	* 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_ 1991-2000_D_LIG
Period of construction:	1991-2000		
Climatic zone:	D	Number of records: 1435	

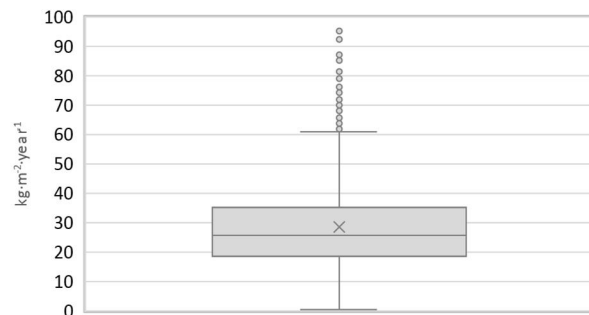## Additional data: other numerical variables that are not included in the archetype
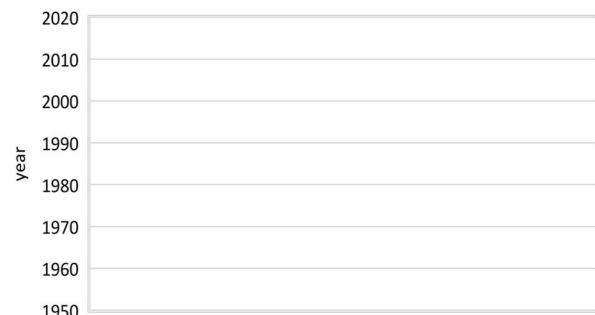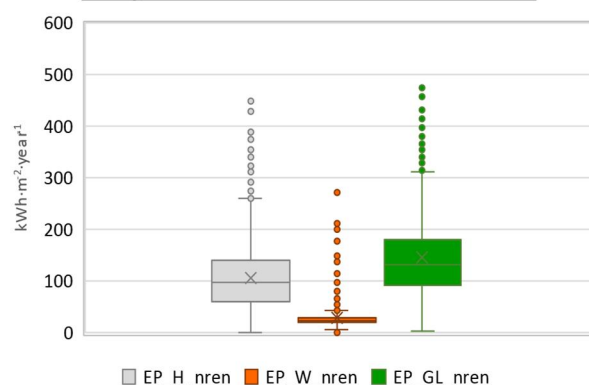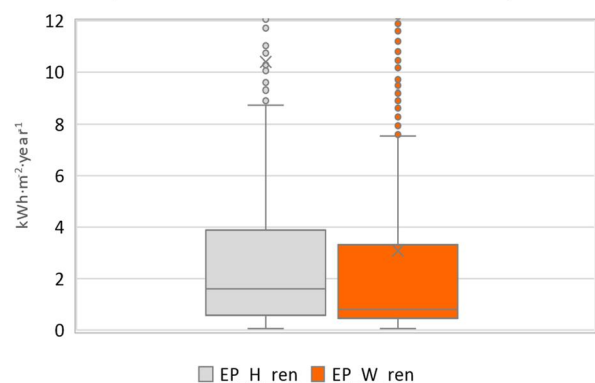
DHW SUPPLY TEMPERATURE

SYSTEM POWER

☐ Heating ■ DHW ■ Cooling
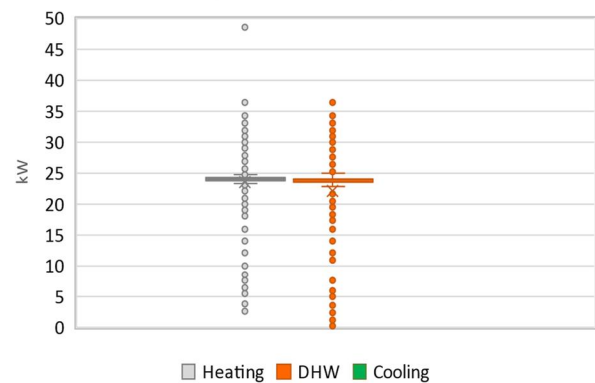
CO₂ EMISSION

HEATING SYSTEM INSTALLATION YEAR

NON-RENEWABLE PRIMARY ENERGY USE

☐ EP_H_nren ■ EP_W_nren ■ EP_GL_nren

RENEWABLE PRIMARY ENERGY USE

☐ EP_H_ren ■ EP_W_ren

NOTE: Sample size of the analysed data.

Compactness ratio: 1390; Window to useful floor area ratio: 188; U-value of the roof: 327; U-value of the wall: 1258; U-value of the floor: 126; U-value of the windows: 1435; Inter-storey height: 1390; Heated net floor area: 1390; Heated gross volume: 1370; Heated net volume: 1370; Total heating power: 663; DHW system power: 1035; CO2 Emission: 1392; EP_H_nren: 1423; EP_W_nren: 1342; EP_GL_nren: 1411; EP_H_ren: 1056; EP_W_ren: 754