Region:	Liguria	Archetype code:
Building category:	Residential buildings – Apartments in multi-family block	RES_APPBLOCK_ 1971-1980_C_LIG
Period of construction:	1971-1980	
Climatic zone:	C	Number of records: 4084	

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	0.56	0.24	0.36	0.55	0.71
	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	0.12
ENVELOPE	Roof type		-					
	U-value of the roof	$U_{fl;up}$	W/(m²·K)	1.46	0.51	1.27	1.61	1.73
	External walls type		-					
	U-value of the wall	U_{wl}	W/(m²·K)	1.22	0.34	1.10	1.23	1.36
	Slab on ground floor type		-					
	U-value of the floor	$U_{fl;lw}$	W/(m²·K)	1.45	0.39	1.36	1.54	1.63
	Windows type		-					
	U-value of the windows	U_W	W/(m²·K)	4.23	1.24	3.32	4.52	5.24
	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: 95%; Autonomous: 5%				
	Heating generator			Traditional boiler: 46%; Unknown: 34%; Condensing boiler: 16%; Air-source heat pump: 3%; Fireplace: 1%				
	Daily operating time of the heating system *	t_H	h	10	0	10	10	10
	Energy carrier			Natural gas: 44%; Unknown: 34%; Electricity and natural gas: 13%; Electricity: 3%; Gas Oil: 3%; LPG: 1%; Electricity and gas oil: 1%; Electricity and solid biomass: 1%				
	Heating emission sub-system			Radiators: 62%; Unknown: 34%; Fan-coil: 1%; Air Ducts: 1%; Convectors: 1%; Radiant panels: 1%				
	Cooling system type			Unknown: 93%; Heat pump air-air: 7%				
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system			-				
	DHW system type			-				
	DHW generator			Unknown: 63%; Electric boiler: 20%; Condensing boiler: 7%; Electric heat pump: 6%; Natural gas boiler: 4%				
	* These values were not available in the considered sources, and are thus derived from UNI EN Standards							

Residential buildings – Apartment blocks – 1971-1980 – Zone C – Italy

Region:	Liguria		Archetype code:
Building category:	Residential buildings – Apartments in multi-family block		RES_APPBLOCK_ 1971-1980_C_LIG
Period of construction:	1971-1980		
Climatic zone:	C	Number of records: 4084	

Numerical variables – GEOMETRY

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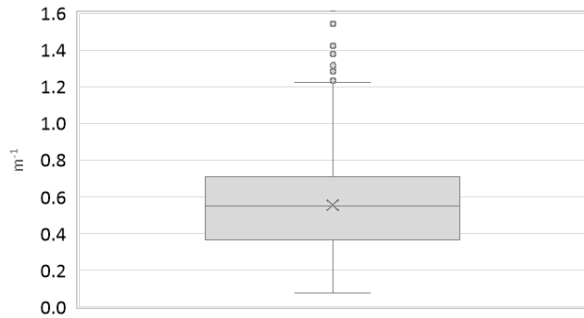
WINDOWS TO WALL RATIO
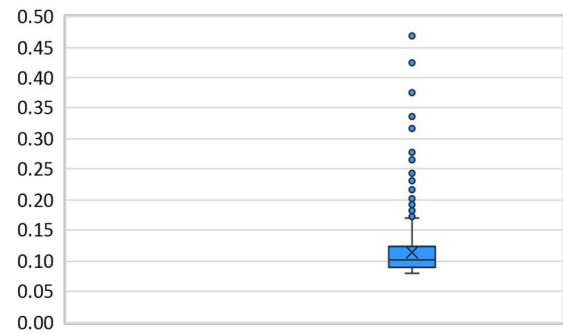
☐ WWR_N ☐ WWR_S ☐ WWR_E ☐ WWR_W ☐ Awi/Ause

Numerical variables – ENVELOPE

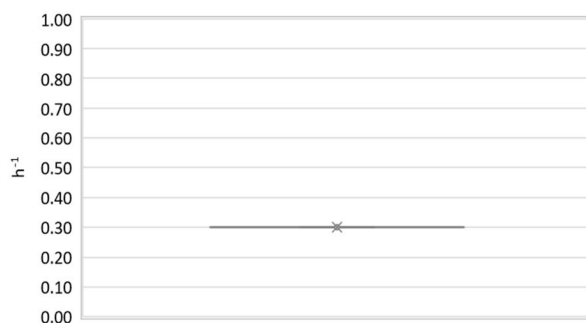### OPAQUE BUILDING COMPONENTS U-VALUE
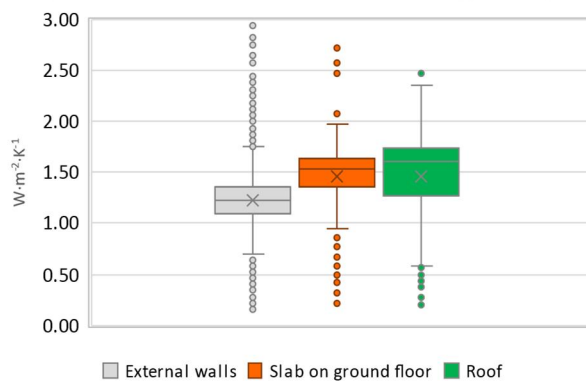
☐ External walls ☐ Slab on ground floor ☐ Roof

WINDOWS U-VALUE
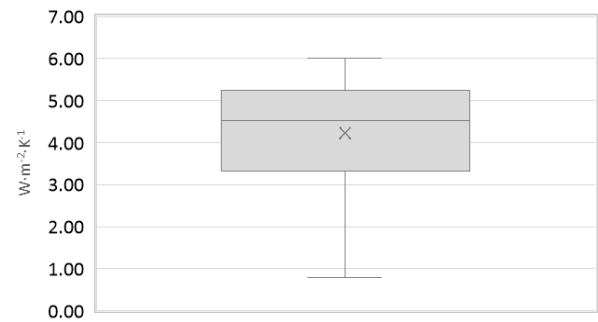
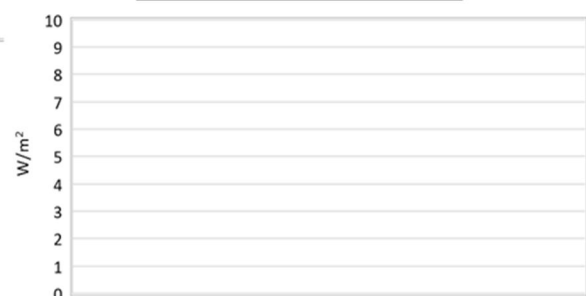## Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE (Standard Values)

AIR EXCHANGE RATE

OCCUPANCY DENSITY

INTERNAL GAINS POWER DENSITY
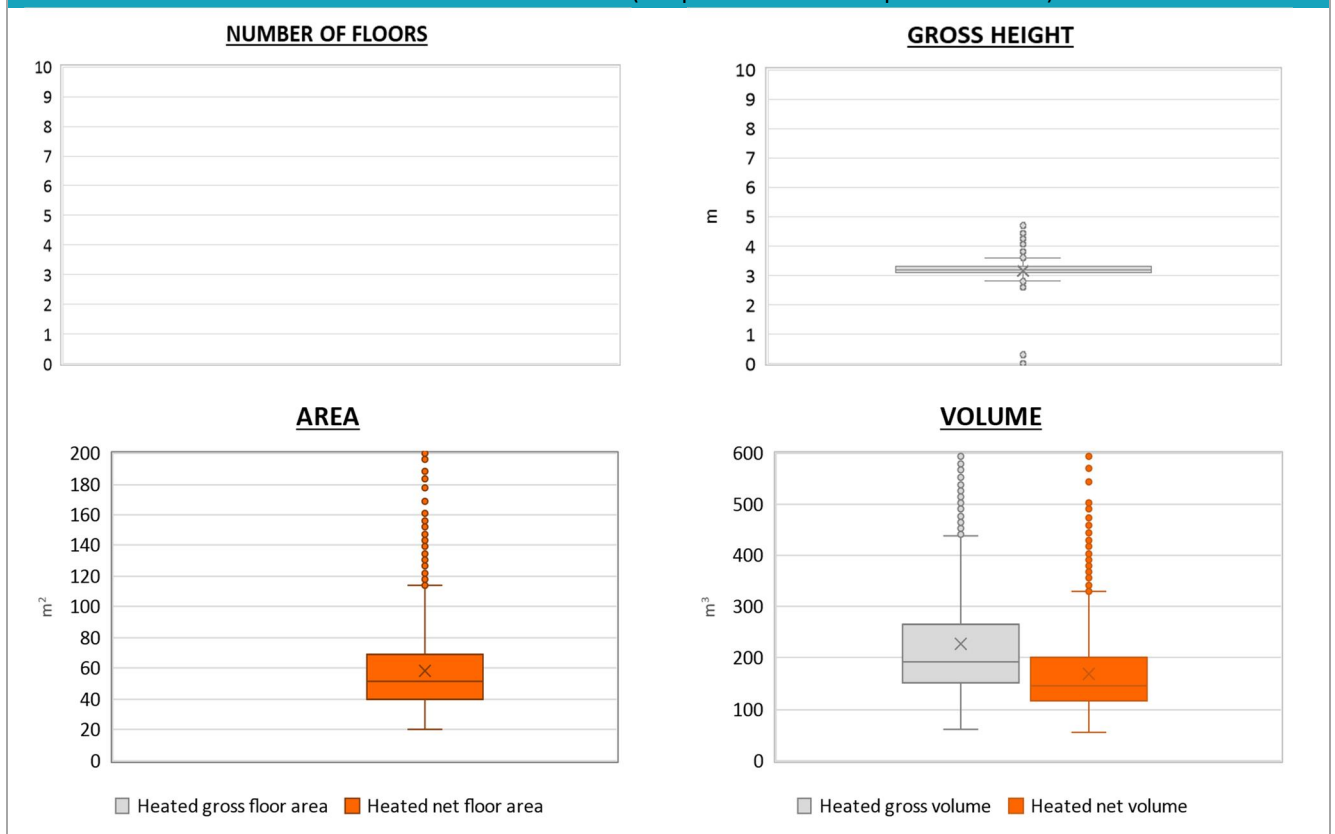

DAILY OPERATING TIME

☐ Heating ☐ Cooling

Region:	Liguria		Archetype code:
Building category:	Residential buildings – Apartments in multi-family block		RES_APPBLOCK_ 1971-1980_C_LIG
Period of construction:	1971-1980		
Climatic zone:	C	Number of records: 4084	

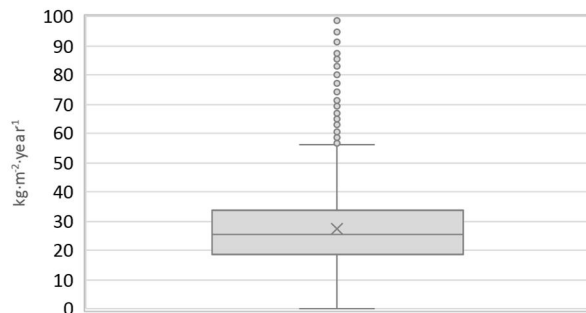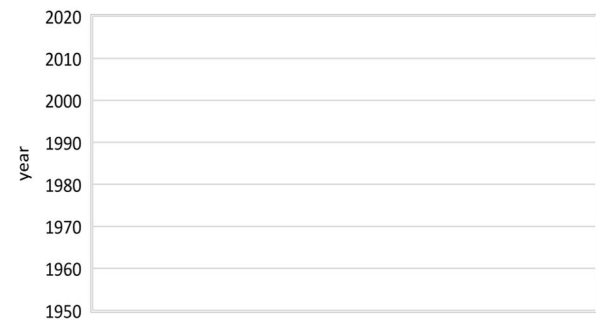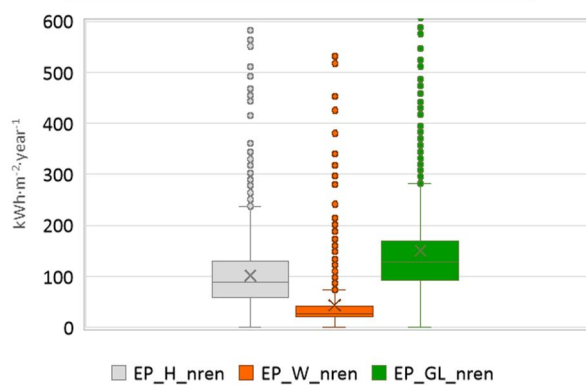|	ADDITIONAL DATA							
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
GEOMETRY: apartments	Inter-storey height	H_n	m	3.2	0.2	3.1	3.2	3.3
	Heated gross floor area	$A_{H;g}$	m^2	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m^2	58.2	29.1	39.9	51.0	69.4
	Heated gross volume	$V_{H;g}$	m^3	227.2	160.4	152.9	193.9	267.1
	Heated net volume	$V_{H;n}$	m^3	168.7	87.3	115.4	146.3	201.0
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	21.3	8.2	20.0	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	15.2	11.1	1.2	22.0	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

Region:	Liguria		Archetype code:
Building category:	Residential buildings – Apartments in multi-family block		RES_APPBLOCK_ 1971-1980_C_LIG
Period of construction:	1971-1980		
Climatic zone:	C	Number of records: 4084	

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

DHW SUPPLY TEMPERATURE

SYSTEM POWER

☐ Heating ☐ DHW ☐ Cooling
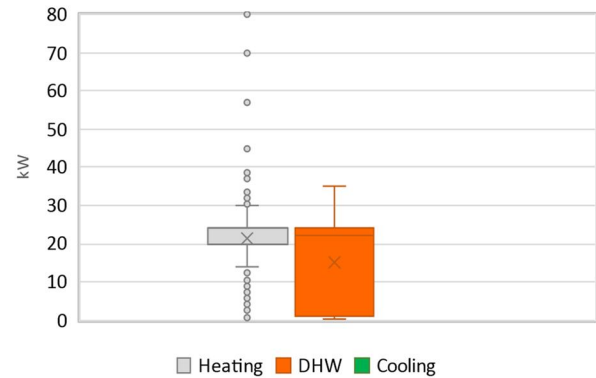
CO₂ EMISSION

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

Residential buildings – Apartment blocks – 1971-1980 – Zone C – Italy