Region:	Piedmont		Archetype code:
Building category:	Residential buildings - Single family houses		RES_SINGLE_1971-1980_F_PIE
Period of construction:	1971-1980		
Climatic zone:	F	**Number of records:** 678	

Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014):

<u>External walls</u>: hollow brick masonry with thermal insulation (cod. MCV02).

<u>Roof slabs</u>: reinforced concrete floor slab for non-walkable flat roof (cod. COP01) or for pitched roof (cod. CIN04).

Data sources:
EPC databases (100%)

	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	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	125.0	64.4	82.7	111.3	156.7
	Heated gross volume	$V_{H;g}$	m³	488.2	252.7	313.0	440.4	603.9
	Heated net volume	$V_{H;n}$	m³	-	-	-	-	-
	Compactness ratio	$A_{env}/V_{H;g}$	m⁻¹	0.86	0.20	0.74	0.88	0.99
	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}	-	0.18	0.06	0.14	0.17	0.21
ENVELOPE	Roof type		-					
	U-value of the roof	$U_{fl;up}$	W/(m²·K)	-	-	-	-	-
	External walls type		Hollow brick masonry: 64%; Solid Brick masonry: 27%; Unknown: 8%; Prefabricated panels: 1%					
	U-value of the wall	U_{wl}	W/(m²·K)	-	-	-	-	-
	Slab on ground floor type		-					
	U-value of the floor	$U_{fl;lw}$	W/(m²·K)	-	-	-	-	-
	Windows type		-					
	U-value of the windows	U_W	W/(m²·K)	2.80	1.28	1.66	2.85	3.54
	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		Autonomous: 100%					
	Heating generator		-					
	Daily operating time of the heating system *	t_H	h	No limitation				
	Energy carrier		Natural Gas: 46%; Solid biomass: 20%; Gas Oil: 13%; LPG: 10%; Electricity: 9%; Thermal energy from solar collectors: 2%					
	Heating emission sub-system		-					
	Cooling system type		-					
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system		-					
	DHW system type		Autonomous, coupled with heating: 67%; Autonomous, detached from heating: 26%; Centralized, coupled with heating: 6%; Centralized, detached from heating: 1%					
	DHW generator		-					

* These values are derived from UNI EN ISO Standards

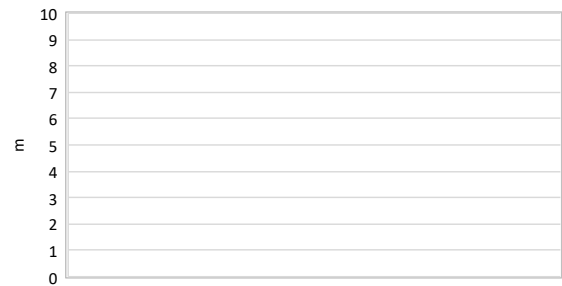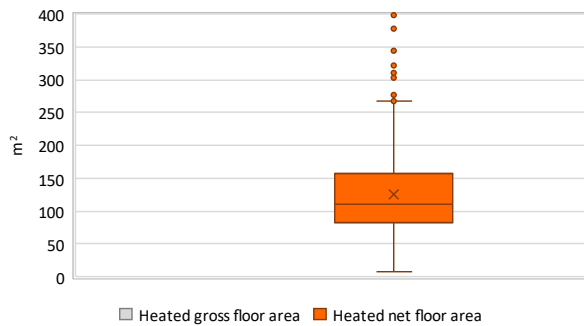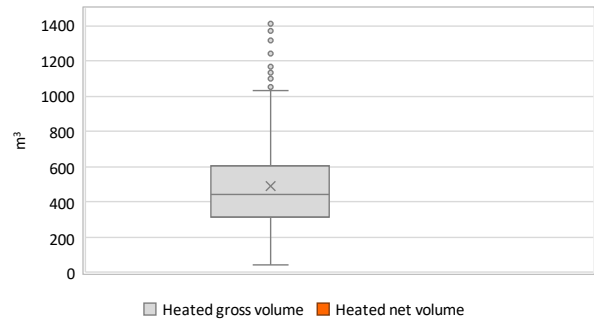| Region:	Piedmont		Archetype code:
Building category:	Residential buildings - Single family houses		RES_SINGLE_1971-1980_F_PIE
Period of construction:	1971-1980		
Climatic zone:	F	Number of records: 678	

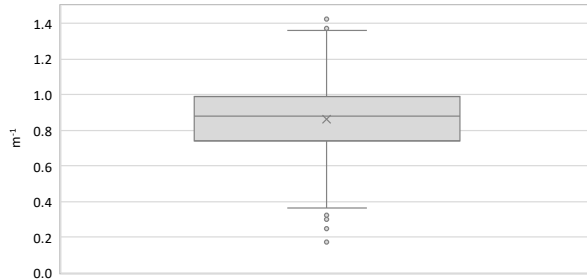## Numerical variables – GEOMETRY

NUMBER OF FLOORS

GROSS HEIGHT

AREA

☐ Heated gross floor area ■ Heated net floor area

VOLUME
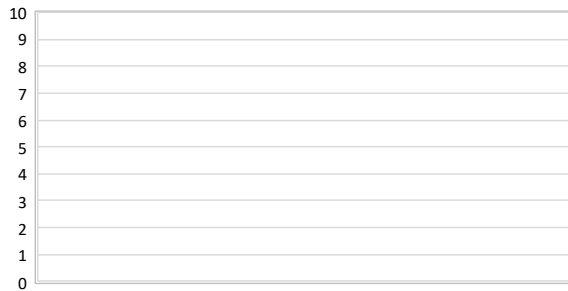
☐ Heated gross volume ■ Heated net volume

COMPACTNESS RATIO

WINDOWS TO WALL RATIO

☐ WWR_N ■ WWR_S ■ WWR_E ☐ WWR_W ■ Awi/Ause
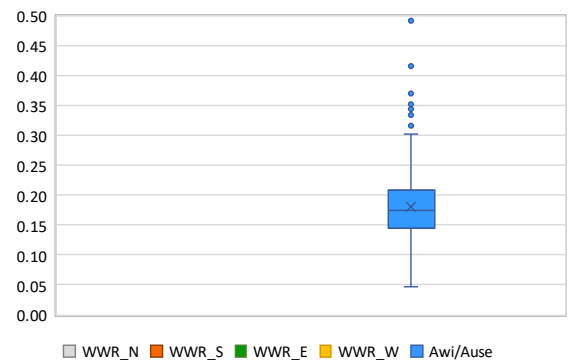
Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE

☐ External Walls ■ Slab on Ground Floor ■ Roof

WINDOWS U-VALUE

Region:	Piedmont	Archetype code:
Building category:	Residential buildings - Single family houses	RES_SINGLE_1971-1980_F_PIE
Period of construction:	1971-1980	
Climatic zone:	F	Number of records:	678

ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
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	27.8	15.9	23.8	27.6	31.4
	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	8.8	6.3	5.0	6.9	9.0
	Temperature of DHW	ϑ_W	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power	$P_{W;gen}$	kW	26.3	101.6	13.8	24.5	30.0

## Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

AIR EXCHANGE RATE

OCCUPACY DENSITY

INTERNAL GAINS POWER DENSITY

DAILY OPERATING TIME

☐ Heating ☐ Cooling

Region:	Piedmont		Archetype code:
Building category:	Residential buildings - Single family houses		RES_SINGLE_1971-1980_F_PIE
Period of construction:	1971-1980		
Climatic zone:	F	Number of records: 678	

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

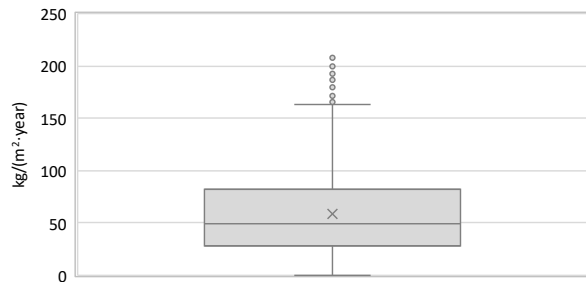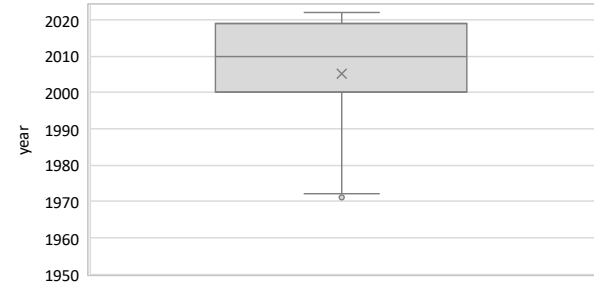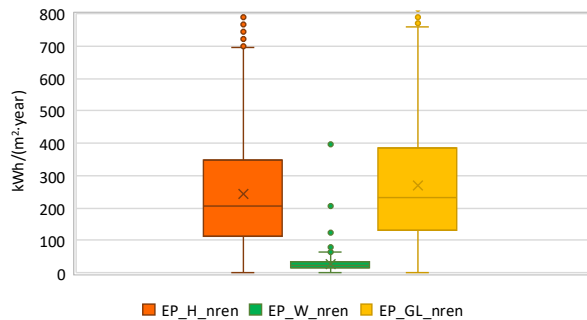### DHW SUPPLY TEMPERATURE

SYSTEM POWER
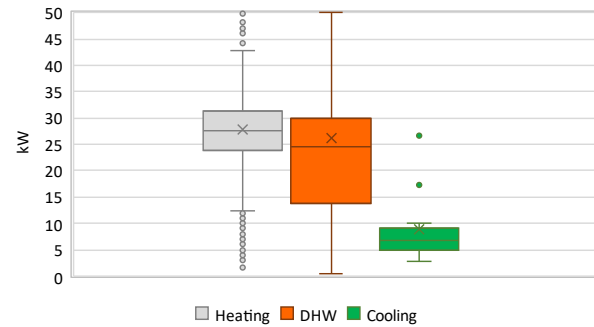
CO₂ EMISSION

HEATING SYSTEM INSTALLATION YEAR

NON-RENEWABLE PRIMARY ENERGY USE

RENEWABLE PRIMARY ENERGY USE