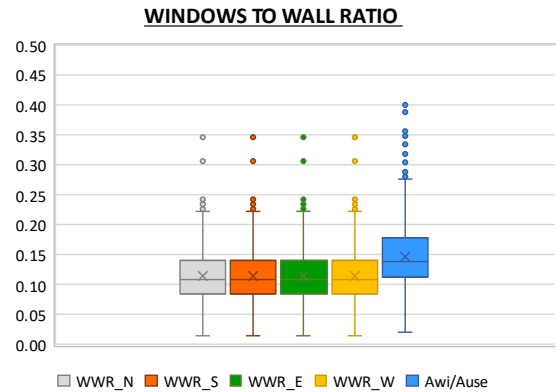
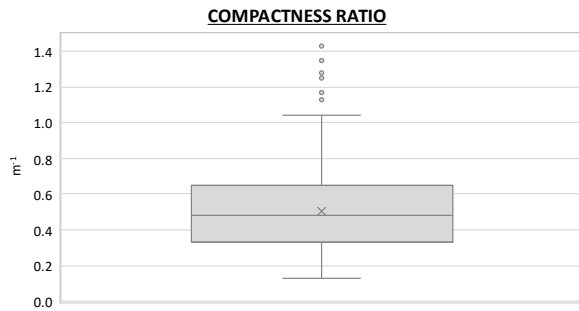


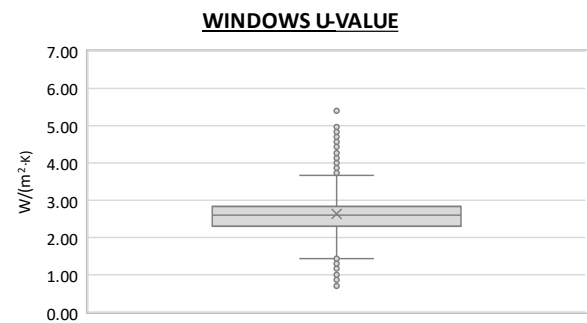
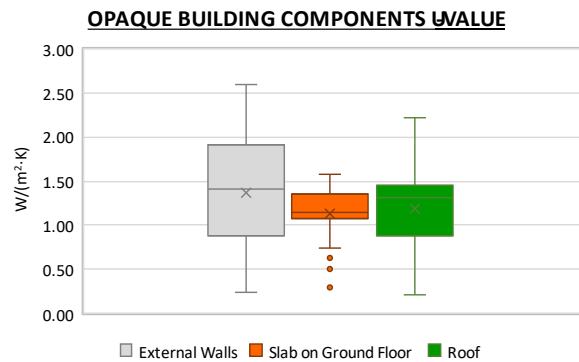
Region:	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)						Archetype code: RES_APPBLOCK_1919-1945_E_VAL	
Building category:	Residential buildings - Apartments (in multifamily blocks)							
Period of construction:	1919 - 1945							
Climatic zone:	E	Number of records:				849		
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: solid brick masonry (cod. MLP01) or stone wall (cod. MPI02). Roof slabs: concrete floor slab (cod. SOL06).							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	$A_{\text{footprint}}$	m <sup>2</sup>	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	-	-	-	-	-
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	-	-	-	-	-
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	-	-	-	-	-
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m <sup>-1</sup>	0.51	0.21	0.33	0.48	0.65
	WWR – North orientation	$WWR_N$	-	0.11	0.04	0.08	0.11	0.14
	WWR – South orientation	$WWR_S$	-	0.11	0.04	0.08	0.11	0.14
	WWR – East orientation	$WWR_E$	-	0.11	0.04	0.08	0.11	0.14
	WWR – West orientation	$WWR_W$	-	0.11	0.04	0.08	0.11	0.14
	Window to useful floor area ratio	$A_{wi}/A_{\text{use}}$	-	0.15	0.06	0.11	0.14	0.18
ENVELOPE	Roof type	-						
	U-value of the roof **	$U_{fi,up}$	W/(m <sup>2</sup> ·K)	1.19	0.48	0.88	1.32	1.45
	External walls type	Solid Brick masonry: 58%; Masonry with local stones: 25%; Hollow brick masonry: 12%; Unknown: 4%; Concrete wall: 1%						
	U-value of the wall	$U_{wl}$	W/(m <sup>2</sup> ·K)	1.37	0.61	0.87	1.40	1.91
	Slab on ground floor type	-						
	U-value of the floor **	$U_{fi,lw}$	W/(m <sup>2</sup> ·K)	1.13	0.28	1.07	1.15	1.36
	Windows type	Double glazing, wooden frame: 76%; Single glazing, wooden frame: 13%; Double glazing, PVC frame: 11%						
	U-value of the windows	$U_W$	W/(m <sup>2</sup> ·K)	2.63	0.80	2.28	2.61	2.85
GAINS and VENTILATION	Shading system type	-						
	Occupancy density *	$O_C$	person/m <sup>2</sup>	UNI EN 16798-1 - Table A.19				
	Lighting power density *	$W_L$	W/m <sup>2</sup>	UNI EN 16798-1 - A.8.3				
	Equipment power density *	$W_A$	W/m <sup>2</sup>	UNI EN 16798-1 - A.8.3				
	Type of ventilation	Natural: 100%						
THERMAL SYSTEMS	Air exchange rate *	$n$	h <sup>-1</sup>	0.30	0.00	0.30	0.30	0.30
	Heating system type	Autonomous: 72%; Centralized: 28%						
	Heating generator	Boiler (unknown type): 40%; Traditional Boiler: 33%; Heat exchanger of district heating/cooling: 12%; Condensing Boiler: 9%; Fireplace: 4%; Unknown: 1%; Air-source heat pump: 1%						
	Daily operating time of the heating system *	$t_H$	h	14.0	0.0	14.0	14.0	14.0
	Energy carrier	Natural Gas: 68%; Gas Oil: 10%; District heating: 9%; Solid biomass: 7%; LPG: 6%						
	Heating emission sub-system	-						
	Cooling system type	Absent: 99%; Air-cooled chiller: 1%						
	Daily operating time of the cooling system *	$t_C$	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	Autonomous, coupled with heating: 61%; Autonomous, detached from heating: 26%; Centralized, coupled with heating: 11%; Centralized, detached from heating: 2%						
DHW generator	Unknown: 55%; Natural gas boiler: 38%; Electric boiler: 6%; Electric Heat Pump: 1%							
* These values are derived from UNI EN ISO Standards; ** U-values of the upper and lower slabs face unconditioned spaces (i.e., attic, basement, etc.)								

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<b>Period of construction:</b>	1919 - 1945	
<b>Climatic zone:</b>	E	
<b>Number of records:</b>		849

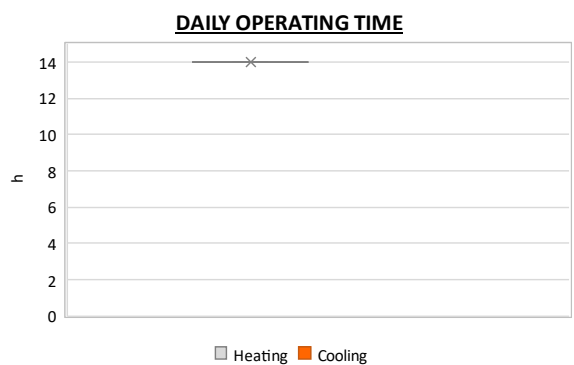
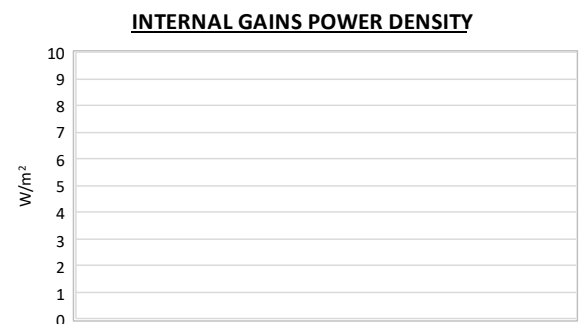
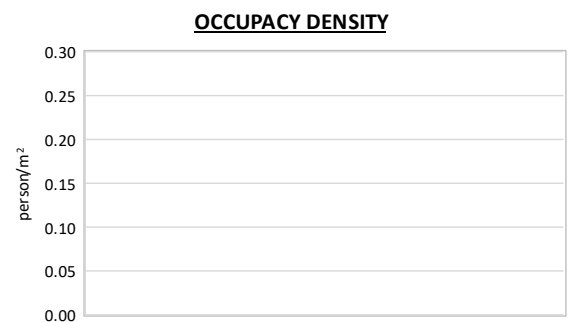
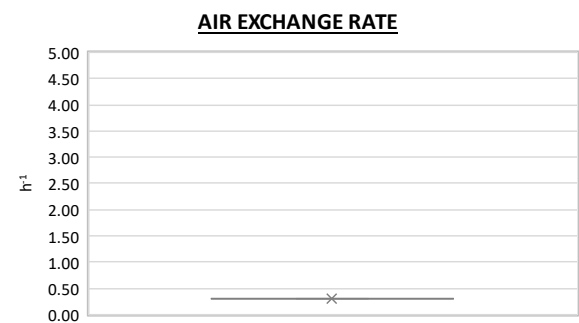
### Numerical variables – GEOMETRY



### Numerical variables – ENVELOPE



### Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

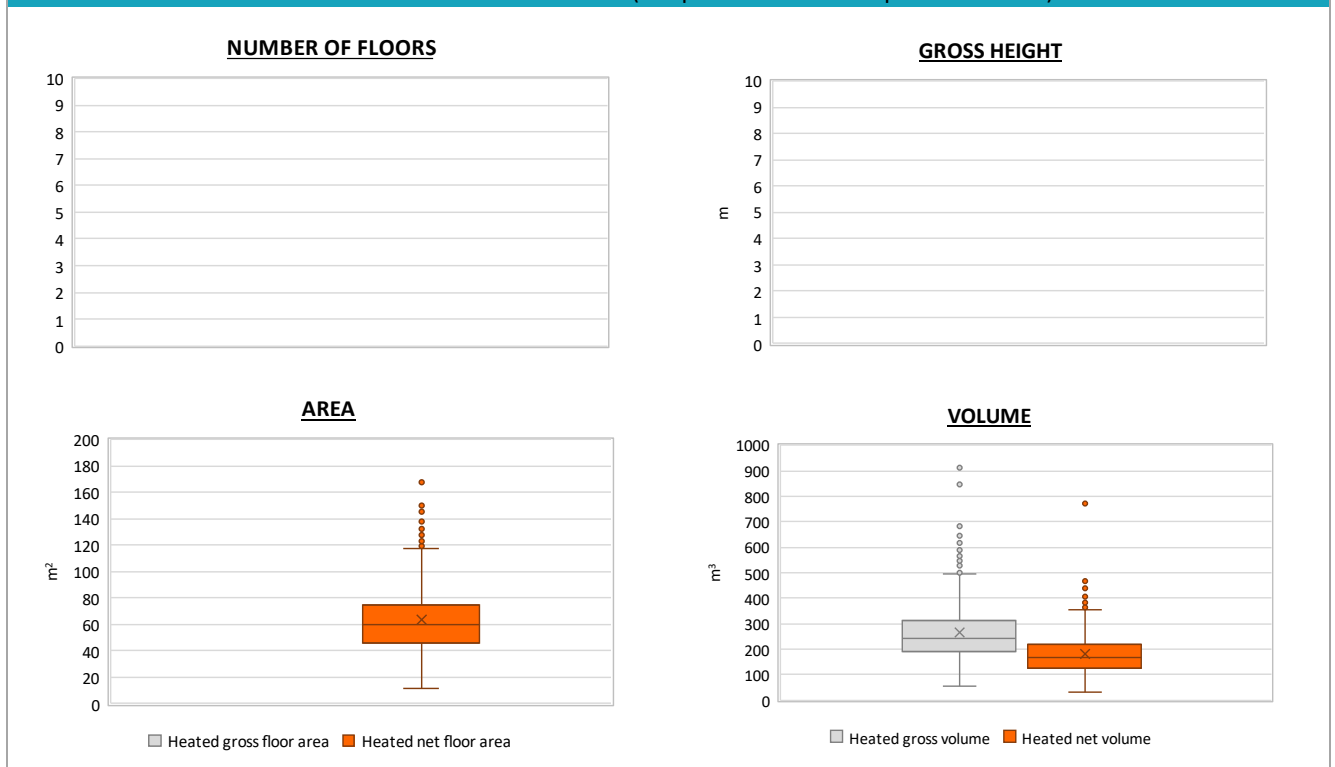


Region:	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)			Archetype code: RES_APPBLOCK_1919- 1945_E_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)			
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Climatic zone:	E	Number of records:	849	

ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
<b>GEOMETRY:</b> apartments	Inter-storey height	$H_n$	m	2.8	0.5	2.6	2.8	3.0
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	63.2	25.4	45.9	60.1	74.8
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	265.5	111.0	189.0	244.2	312.4
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	181.4	82.8	125.0	167.8	218.0
<b>THERMAL SYSTEMS</b>	Heating efficiency or <i>COP</i>	$\eta_{H,gen}$ or $COP_{H,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total heating power *	$P_{H,gen}$	kW	22.8	6.3	23.0	24.0	25.1
	Cooling efficiency or <i>EER</i>	$\eta_{C,gen}$ or $EER_{C,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power *	$P_{C,gen}$	kW	4.6	2.3	2.5	3.5	6.7
	Temperature of DHW	$\vartheta_w$	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power *	$P_{W,gen}$	kW	18.0	10.6	4.6	23.5	24.4

\* These values refer to the apartment scale

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



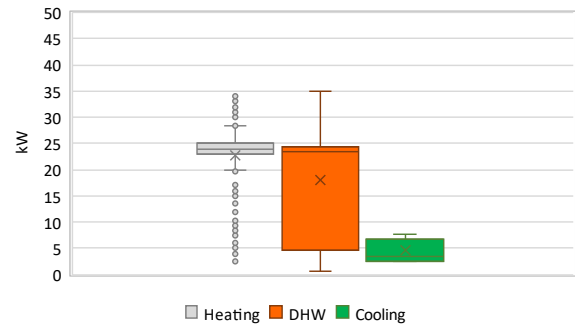
<b>Region:</b>	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)	<b>Archetype code:</b> RES_APPBLOCK_1919- 1945_E_VAL
<b>Building category:</b>	Residential buildings - Apartments (in multifamily blocks)	
<b>Period of construction:</b>	1919 - 1945	
<b>Climatic zone:</b>	E	
<b>Number of records:</b>		849

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

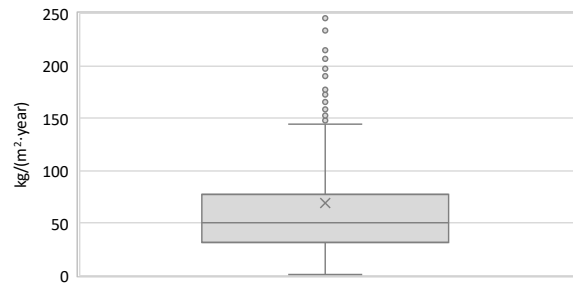
**DHW SUPPLY TEMPERATURE**



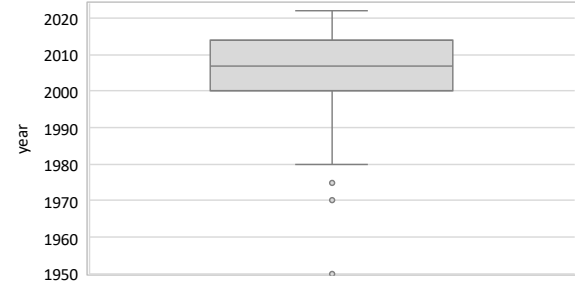
**SYSTEM POWER**



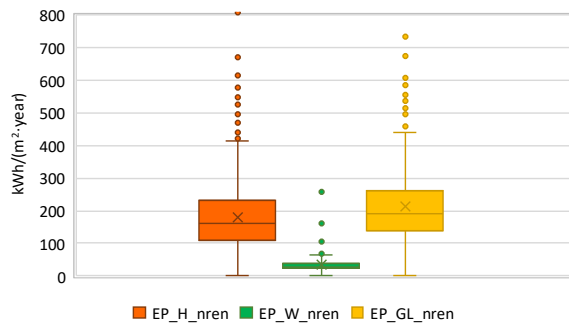
**CO<sub>2</sub> EMISSION**



**HEATING SYSTEM INSTALLATION YEAR**



**NON-RENEWABLE PRIMARY ENERGY USE**



**RENEWABLE PRIMARY ENERGY USE**

