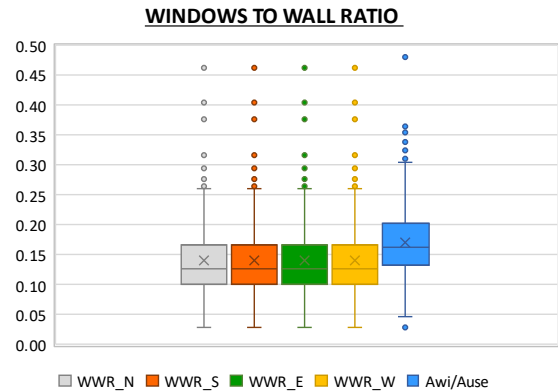
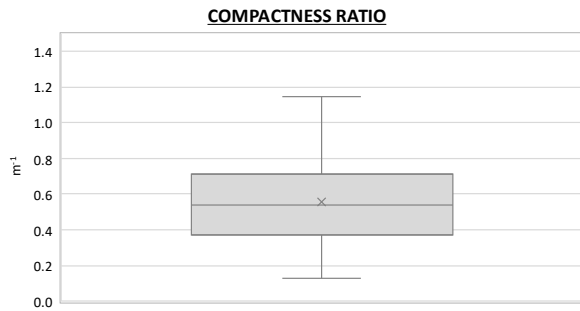


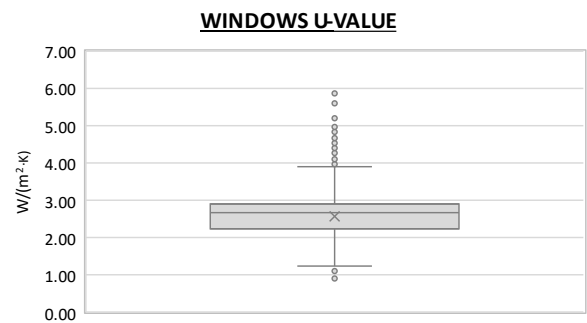
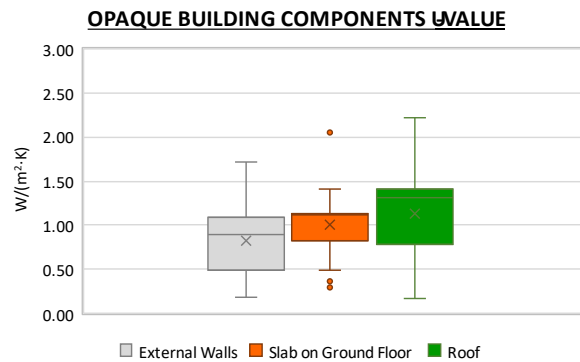
Region:	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)					Archetype code: RES_APPBLOCK_1982-1991_E_VAL		
Building category:	Residential buildings - Apartments (in multifamily blocks)							
Period of construction:	1982 - 1991							
Climatic zone:	E	Number of records:		645				
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: hollow brick masonry with thermal insulation (cod. MCV02). Roof slabs: reinforced concrete floor slab (cod. SOL04).						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>	0.56	0.23	0.37	0.54	0.71
	WWR – North orientation	$WWR_N$	-	0.14	0.06	0.10	0.13	0.17
	WWR – South orientation	$WWR_S$	-	0.14	0.06	0.10	0.13	0.17
	WWR – East orientation	$WWR_E$	-	0.14	0.06	0.10	0.13	0.17
	WWR – West orientation	$WWR_W$	-	0.14	0.06	0.10	0.13	0.17
	Window to useful floor area ratio	$A_{wi}/A_{\text{use}}$	-	0.17	0.06	0.13	0.16	0.20
ENVELOPE	Roof type	-						
	U-value of the roof **	$U_{fi,up}$	W/(m <sup>2</sup> ·K)	1.13	0.45	0.78	1.32	1.42
	External walls type	Hollow brick masonry: 80%; Solid Brick masonry: 15%; Unknown: 3%; Concrete wall: 2%						
	U-value of the wall	$U_{wl}$	W/(m <sup>2</sup> ·K)	0.82	0.35	0.48	0.90	1.09
	Slab on ground floor type	-						
	U-value of the floor **	$U_{fi,lw}$	W/(m <sup>2</sup> ·K)	1.00	0.30	0.83	1.11	1.13
	Windows type	Double glazing, wooden frame: 83%; Double glazing, PVC frame: 14%; Single glazing, wooden frame: 2%; Triple glazing, PVC frame: 1%						
	U-value of the windows	$U_W$	W/(m <sup>2</sup> ·K)	2.56	0.78	2.23	2.67	2.90
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	Centralized: 72%; Autonomous: 28%						
	Heating generator	Boiler (unknown type): 51%; Heat exchanger of district heating/cooling: 18%; Traditional Boiler: 17%; Condensing Boiler: 11%; Fireplace: 2%; Unknown: 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: 59%; Gas Oil: 23%; District heating: 9%; LPG: 7%; Solid biomass: 2%						
	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, detached from heating: 39%; Centralized, coupled with heating: 38%; Autonomous, coupled with heating: 22%; Centralized, detached from heating: 1%						
DHW generator	Unknown: 64%; Natural gas boiler: 24%; Electric boiler: 12%							
* 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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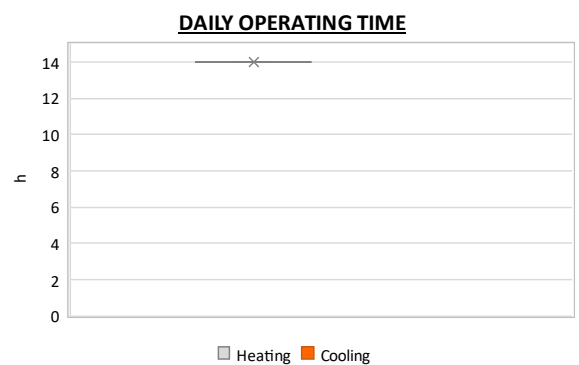
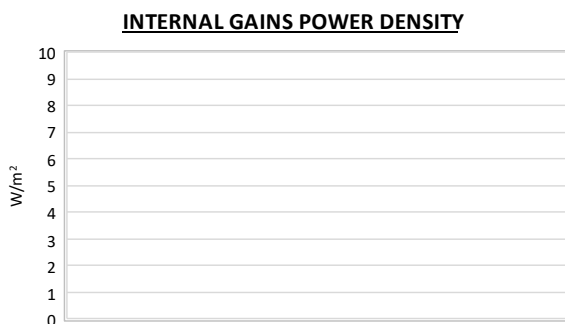
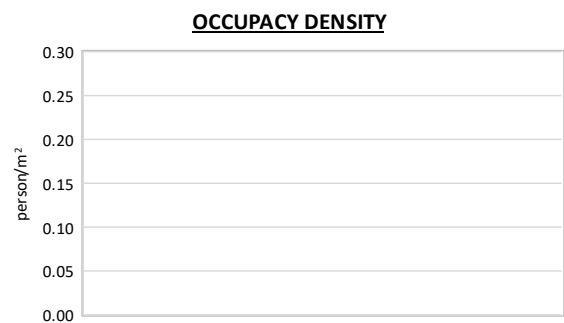
### Numerical variables – GEOMETRY



### Numerical variables – ENVELOPE



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

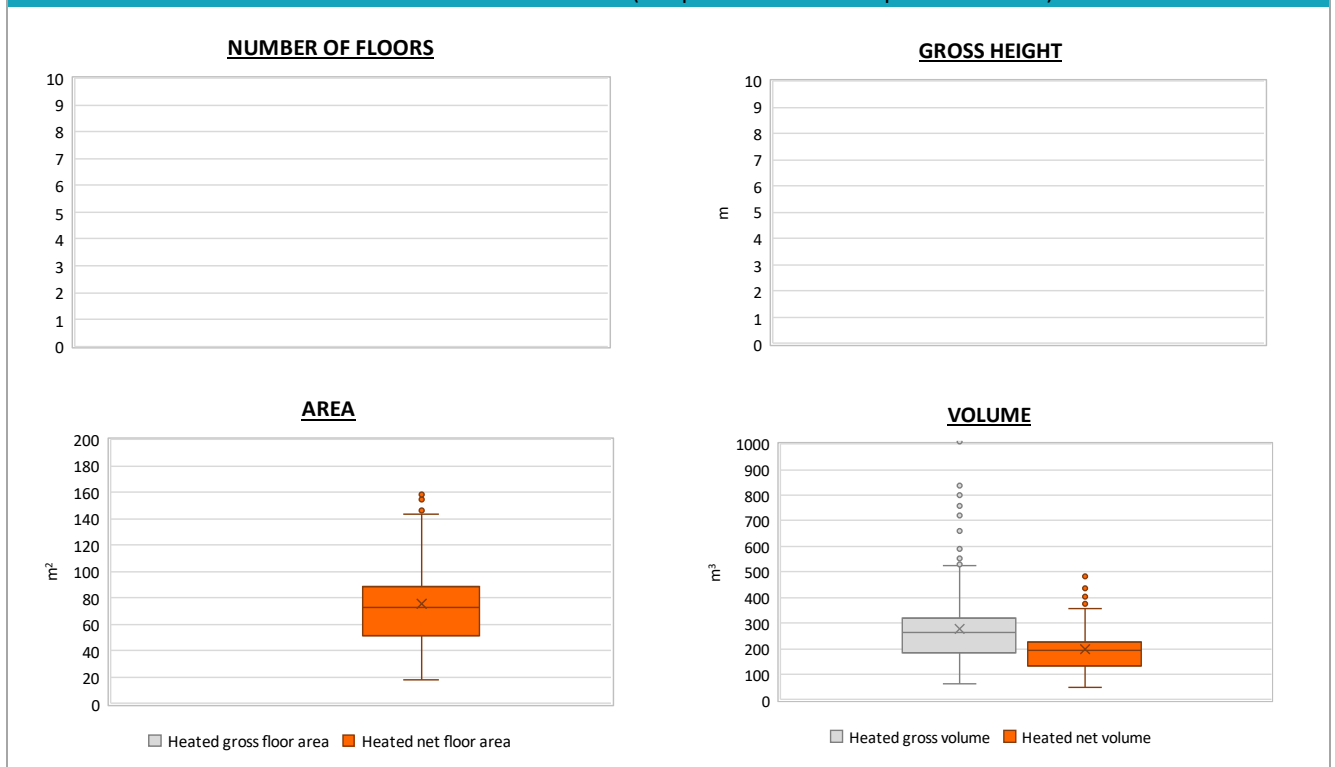


Region:	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)			Archetype code: RES_APPBLOCK_1982- 1991_E_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)			
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ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
GEOMETRY: apartments	Inter-storey height	$H_n$	m	2.7	0.2	2.6	2.7	2.7
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	75.9	53.9	51.3	72.7	88.2
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	275.9	202.3	183.0	262.8	320.1
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	196.4	165.4	132.6	192.8	226.0
THERMAL SYSTEMS	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	24.0	7.8	22.8	24.6	29.4
	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	4.7	2.4	2.9	4.6	5.0
	Temperature of DHW	$\vartheta_w$	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power *	$P_{W,gen}$	kW	11.7	12.4	1.2	2.0	24.0

\* These values refer to the apartment scale

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



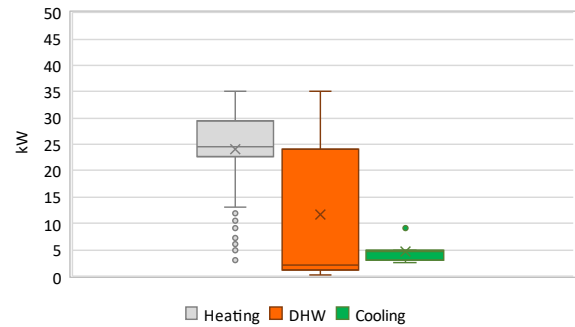
<b>Region:</b>	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)	<b>Archetype code:</b> RES_APPBLOCK_1982- 1991_E_VAL
<b>Building category:</b>	Residential buildings - Apartments (in multifamily blocks)	
<b>Period of construction:</b>	1982 - 1991	
<b>Climatic zone:</b>	E	
<b>Number of records:</b>		645

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

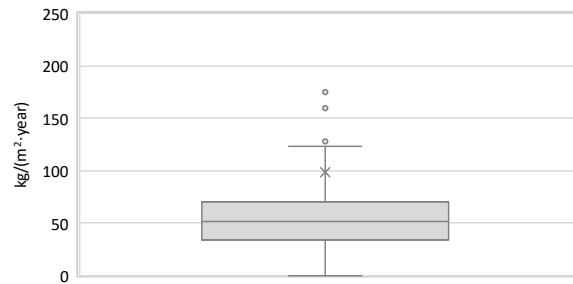
**DHW SUPPLY TEMPERATURE**



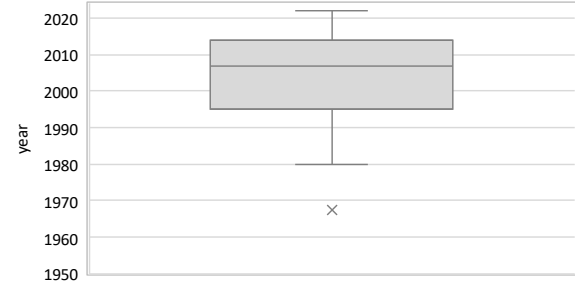
**SYSTEM POWER**



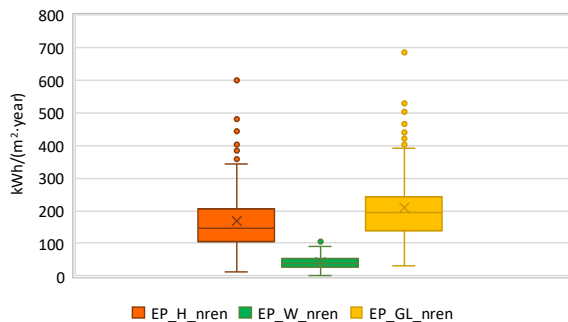
**CO<sub>2</sub> EMISSION**



**HEATING SYSTEM INSTALLATION YEAR**



**NON-RENEWABLE PRIMARY ENERGY USE**



**RENEWABLE PRIMARY ENERGY USE**

