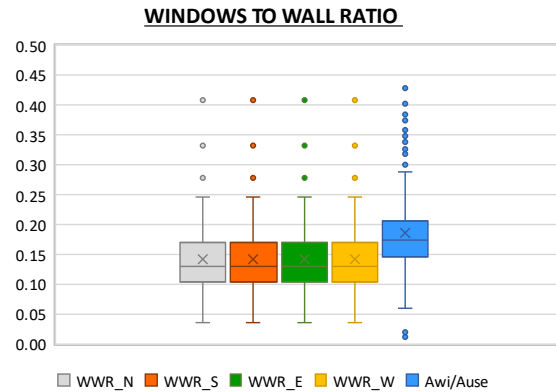
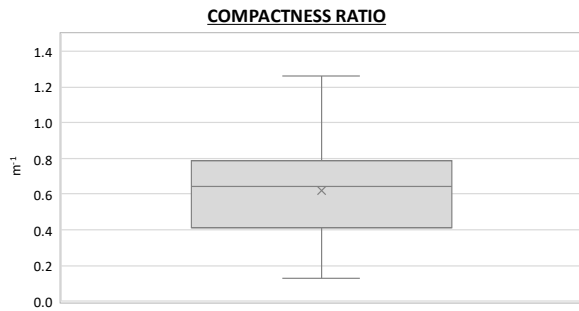


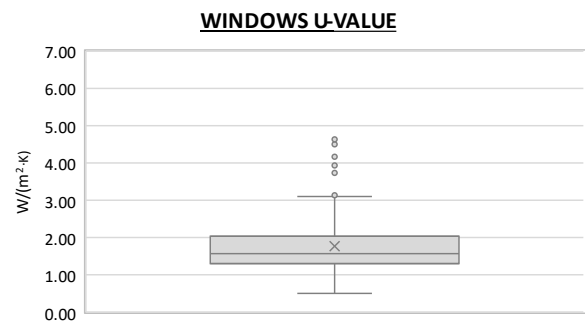
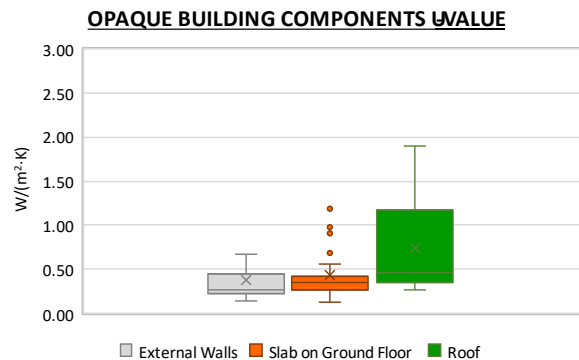
Region:	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)						Archetype code: RES_APPBLOCK_2006- _E_VAL	
Building category:	Residential buildings - Apartments (in multifamily blocks)							
Period of construction:	> 2005							
Climatic zone:	E	Number of records:		494				
Description (the codes 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>	0.62	0.24	0.41	0.64	0.79
	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	$A_{wi}/A_{\text{use}}$	-	0.19	0.09	0.15	0.17	0.21
ENVELOPE	Roof type	-						
	U-value of the roof **	$U_{fi,up}$	W/(m <sup>2</sup> ·K)	0.74	0.49	0.34	0.46	1.17
	External walls type	Hollow brick masonry: 66%; Solid Brick masonry: 27%; Unknown: 5%; Prefabricated panels: 1%; Concrete wall: 1%						
	U-value of the wall	$U_{wl}$	W/(m <sup>2</sup> ·K)	0.38	0.25	0.23	0.27	0.44
	Slab on ground floor type	-						
	U-value of the floor **	$U_{fi,lw}$	W/(m <sup>2</sup> ·K)	0.43	0.27	0.27	0.35	0.42
	Windows type	Double glazing, wooden frame: 86%; Double glazing, PVC frame: 10%; Triple glazing, PVC frame: 2%; Triple glazing, wooden frame: 2%						
	U-value of the windows	$U_W$	W/(m <sup>2</sup> ·K)	1.75	0.66	1.31	1.56	2.03
	Shading system type	-						
GAINS and VENTILATION	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%						
	Air exchange rate *	$n$	h <sup>-1</sup>	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Autonomous: 62%; Centralized: 38%						
	Heating generator	Boiler (unknown type): 32%; Condensing Boiler: 24%; Traditional Boiler: 14%; Air-source heat pump: 12%; Heat exchanger of district heating/cooling: 10%; Water-source heat pump: 4%; Unknown: 2%; Fireplace: 2%						
	Daily operating time of the heating system *	$t_H$	h	14.0	0.0	14.0	14.0	14.0
	Energy carrier	Natural Gas: 73%; District heating: 10%; LPG: 8%; Solid biomass: 6%; Gas Oil: 3%						
	Heating emission sub-system	-						
	Cooling system type	Absent: 87%; Water-cooled chiller: 5%; Air-cooled chiller: 5%; Unknown: 3%						
	Daily operating time of the cooling system *	$t_C$	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	Autonomous, coupled with heating: 54%; Centralized, coupled with heating: 33%; Autonomous, detached from heating: 13%						
DHW generator	Unknown: 43%; Natural gas boiler: 36%; Electric Heat Pump: 16%; Electric boiler: 5%							
* 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>	> 2005	
<b>Climatic zone:</b>	E	
<b>Number of records:</b>		494

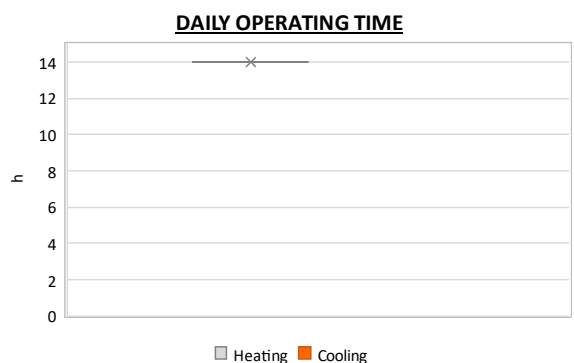
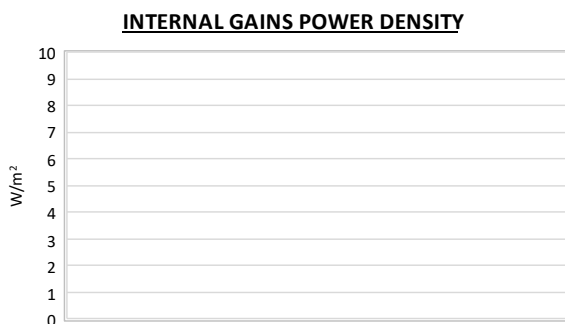
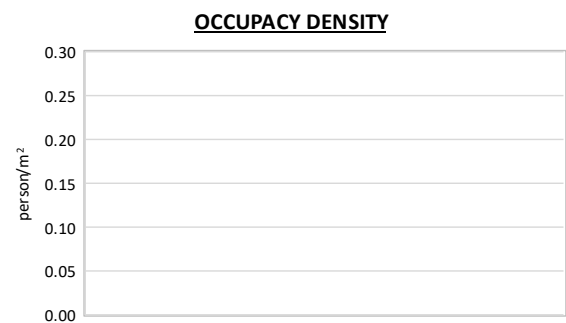
### Numerical variables – GEOMETRY



### Numerical variables – ENVELOPE



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



The data can be used for analysis, modeling, and research purposes, as long as it remains unaltered in its original form. Users are free to publish results based on the data, provided they credit the original source.

<b>Region:</b>	Aosta Valley (Aosta, Quart, Saint-Christophe, and Sarre)	<b>Archetype code:</b> RES_APPBLOCK_2006- _E_VAL
<b>Building category:</b>	Residential buildings - Apartments (in multifamily blocks)	
<b>Period of construction:</b>	> 2005	
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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	2.7	0.2	2.6	2.6	2.7
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	78.0	36.4	55.6	70.6	92.6
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	309.2	155.6	211.1	269.3	375.6
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	185.2	92.4	128.5	171.5	214.5
<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	20.5	9.7	13.0	24.0	26.6
	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	11.7	12.0	2.3	5.2	23.9
	Temperature of DHW	$\vartheta_W$	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power *	$P_{W,gen}$	kW	19.1	10.8	8.0	23.8	26.0

\* These values refer to the apartment scale

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



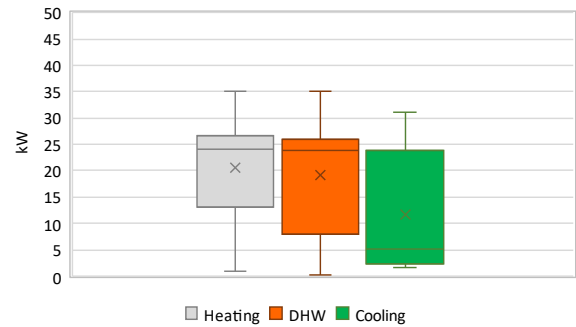
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<b>Building category:</b>	Residential buildings - Apartments (in multifamily blocks)	
<b>Period of construction:</b>	> 2005	
<b>Climatic zone:</b>	E	
<b>Number of records:</b>		494

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

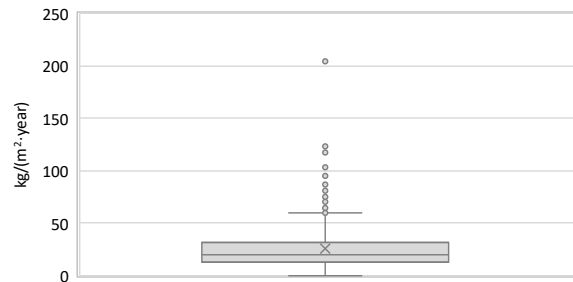
**DHW SUPPLY TEMPERATURE**



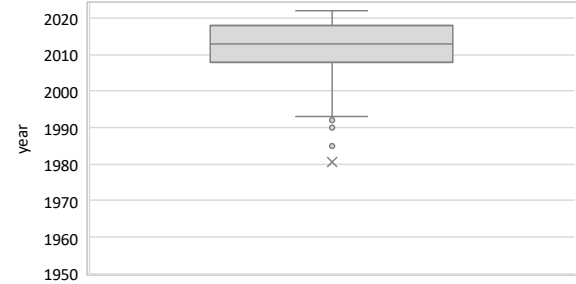
**SYSTEM POWER**



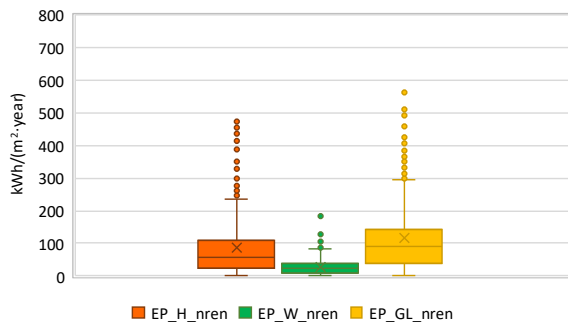
**CO<sub>2</sub> EMISSION**



**HEATING SYSTEM INSTALLATION YEAR**



**NON-RENEWABLE PRIMARY ENERGY USE**



**RENEWABLE PRIMARY ENERGY USE**

