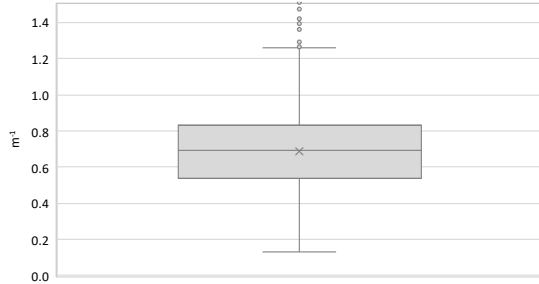


Region:	Aosta Valley						Archetype code: RES_APPBLOCK_1919-1945_E-F_VAL	
Building category:	Residential buildings - Apartments (in multifamily blocks)							
Period of construction:	1919 - 1945							
Climatic zone:	E-F		Number of records:		1486			
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: stone wall (cod. MPI02) or solid brick masonry (cod. MLP01). 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>	0.69	0.23	0.54	0.69	0.83
	WWR – North orientation	$WWR_N$	-	0.11	0.05	0.07	0.10	0.13
	WWR – South orientation	$WWR_S$	-	0.11	0.05	0.07	0.10	0.13
	WWR – East orientation	$WWR_E$	-	0.11	0.05	0.07	0.10	0.13
	WWR – West orientation	$WWR_W$	-	0.11	0.05	0.07	0.10	0.13
	Window to useful floor area ratio	$A_{wi}/A_{\text{use}}$	-	0.15	0.07	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	0.96	1.26	1.46
External walls type		Masonry with local stones: 46%; Solid Brick masonry: 45%; Hollow brick masonry: 6%; Unknown: 2%; Concrete wall: 1%						
U-value of the wall		$U_{wl}$	W/(m <sup>2</sup> ·K)	1.33	0.70	0.63	1.46	1.92
Slab on ground floor type		-						
U-value of the floor **		$U_{fi,lw}$	W/(m <sup>2</sup> ·K)	1.07	0.34	0.95	1.11	1.22
Windows type		Double glazing, wooden frame: 79%; Single glazing, wooden frame: 12%; Double glazing, PVC frame: 7%; Triple glazing, wooden frame: 2%						
U-value of the windows		$U_W$	W/(m <sup>2</sup> ·K)	2.59	0.95	1.86	2.60	2.97
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): 47%; Traditional Boiler: 22%; Fireplace: 12%; Condensing Boiler: 11%; Unknown: 5%; Heat exchanger of district heating/cooling: 2%; Air-source heat pump: 1%						
	Daily operating time of the heating system *	$t_H$	h	-				
	Energy carrier	Gas Oil: 29%; LPG: 27%; Natural Gas: 24%; Solid biomass: 20%						
	Heating emission sub-system	-						
	Cooling system type	Absent: 100%						
	Daily operating time of the cooling system *	$t_C$	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	Autonomous, coupled with heating: 51%; Autonomous, detached from heating: 31%; Centralized, coupled with heating: 18%; Centralized, detached from heating: 1%						
	DHW generator	Unknown: 60%; Natural gas boiler: 28%; Electric boiler: 10%; Electric Heat Pump: 2%						
* 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.)								

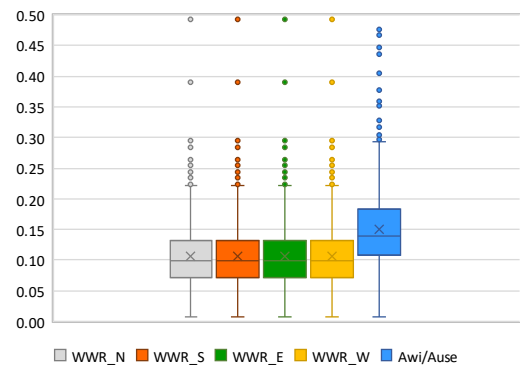
Region:	Aosta Valley			Archetype code: RES_APPBLOCK_1919- 1945_E-F_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)			
Period of construction:	1919 - 1945			
Climatic zone:	E-F	Number of records:	1486	

### Numerical variables – GEOMETRY

**COMPACTNESS RATIO**

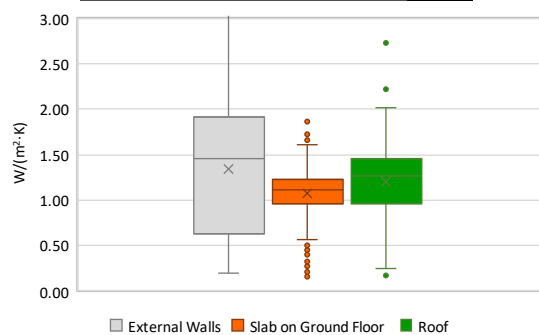


**WINDOWS TO WALL RATIO**

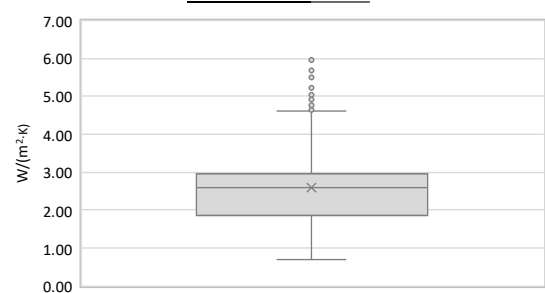


### Numerical variables – ENVELOPE

**OPAQUE BUILDING COMPONENTS U-VALUE**

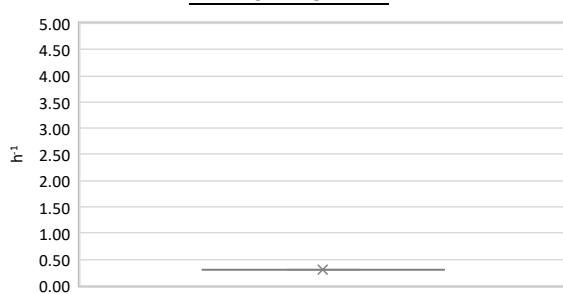


**WINDOWS U-VALUE**

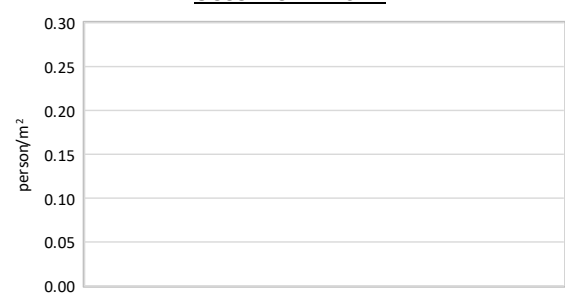


### Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

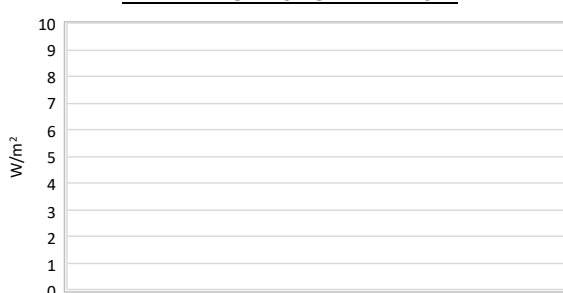
**AIR EXCHANGE RATE**



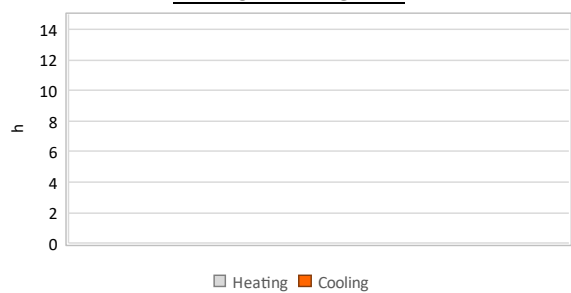
**OCCUPANCY DENSITY**



**INTERNAL GAINS POWER DENSITY**



**DAILY OPERATING TIME**

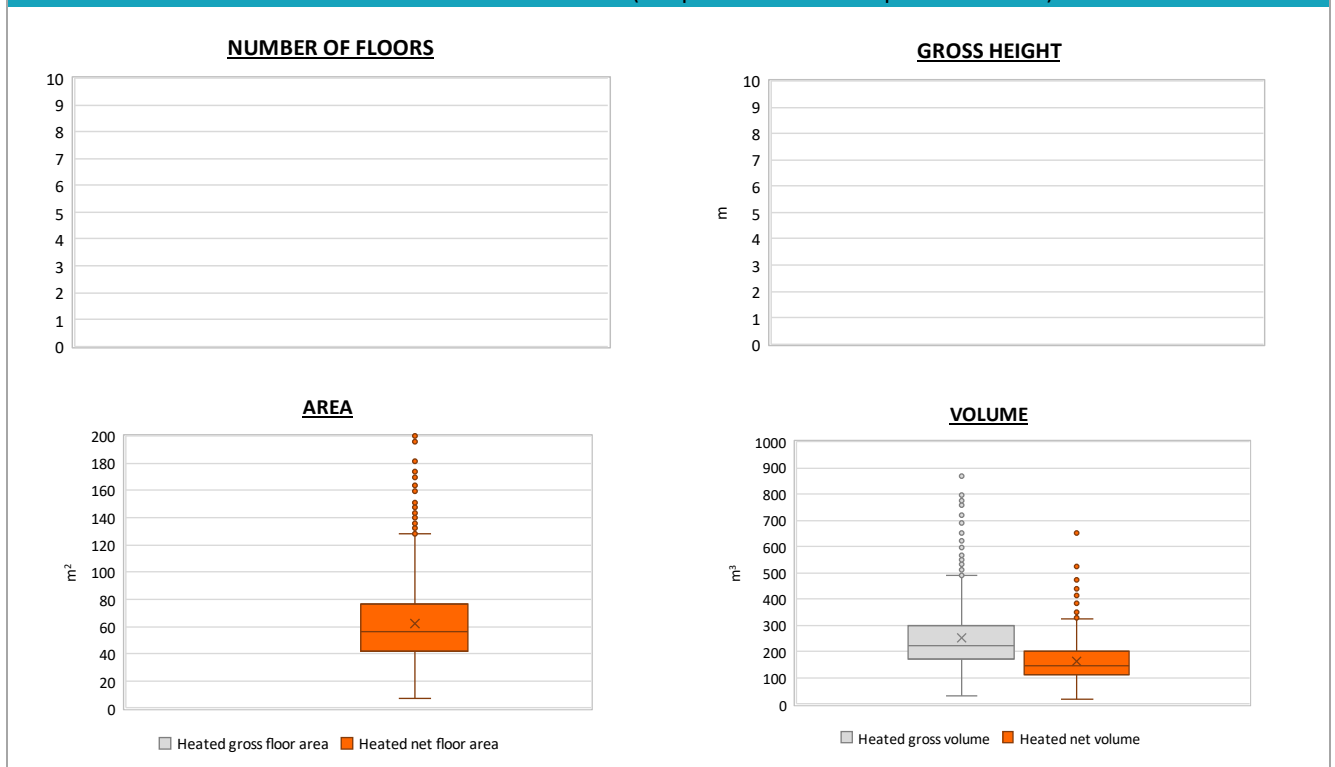


Region:	Aosta Valley			Archetype code: RES_APPBLOCK_1919- 1945_E-F_VAL
Building category:	Residential buildings - Apartments (in multifamily blocks)			
Period of construction:	1919 - 1945			
Climatic zone:	E-F	Number of records:	1486	

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	2.6	0.3	2.4	2.5	2.7
	Heated gross floor area	$A_{H,g}$	m <sup>2</sup>	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m <sup>2</sup>	62.4	28.9	42.2	55.9	76.7
	Heated gross volume	$V_{H,g}$	m <sup>3</sup>	250.5	117.7	171.0	223.2	298.8
	Heated net volume	$V_{H,n}$	m <sup>3</sup>	163.8	76.9	111.9	145.2	199.1
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	21.8	8.1	17.5	24.0	27.0
	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	2.7	1.5	1.9	2.3	3.1
	Temperature of DHW	$\vartheta_W$	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power *	$P_{W,gen}$	kW	17.3	11.8	1.5	23.7	26.0

\* These values refer to the apartment scale

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



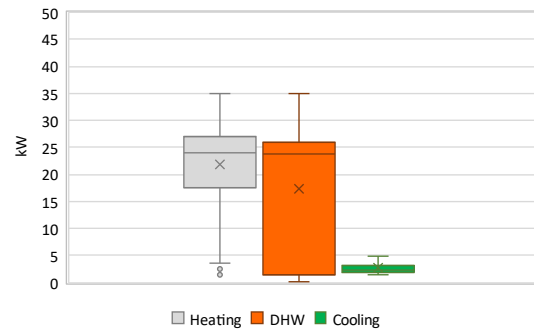
<b>Region:</b>	Aosta Valley	<b>Archetype code:</b> RES_APPBLOCK_1919- 1945_E-F_VAL
<b>Building category:</b>	Residential buildings - Apartments (in multifamily blocks)	
<b>Period of construction:</b>	1919 - 1945	
<b>Climatic zone:</b>	E-F	
<b>Number of records:</b>		1486

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

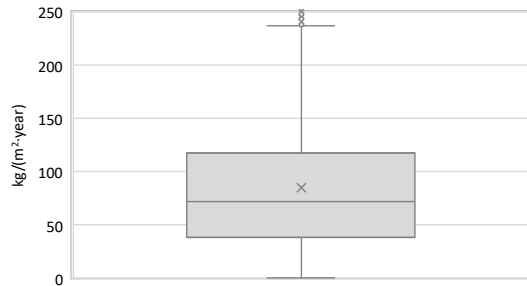
**DHW SUPPLY TEMPERATURE**



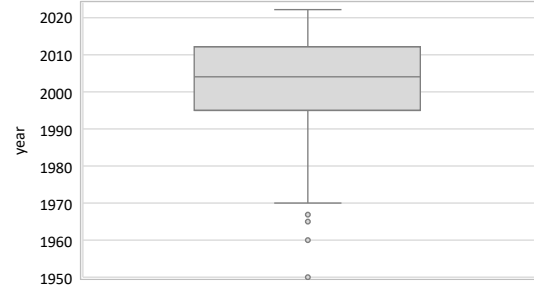
**SYSTEM POWER**



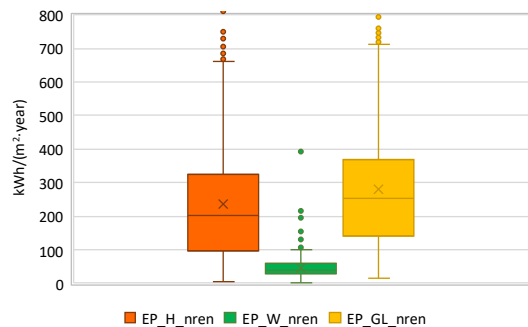
**CO<sub>2</sub> EMISSION**



**HEATING SYSTEM INSTALLATION YEAR**



**NON-RENEWABLE PRIMARY ENERGY USE**



**RENEWABLE PRIMARY ENERGY USE**

