

Region:		Trentino Alto Adige					Archetype code: RES_APPBLOCK_2011_E_TN	
Building category:		Residential buildings – Apartments (in multifamily blocks)						
Period of construction:		>2011						
Climatic zone:		E	Number of records:		2239			
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: no data available Roof slabs: no data available							Data sources: APE (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 ²	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m ²	1031	837	472	705	1169
	Heated gross volume	$V_{H,g}$	m ³	-	-	-	-	-
	Heated net volume	$V_{H,n}$	m ³	3972	3027	1906	2753	4447
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m ⁻¹	0.55	0.09	0.49	0.55	0.60
	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}	-	-	-	-	-	-
ENVELOPE	Roof type	-						
	U-value of the roof	$U_{fi,up}$	W/(m ² ·K)	-	-	-	-	-
	External walls type	-						
	U-value of the wall	U_{wl}	W/(m ² ·K)	-	-	-	-	-
	Slab on ground floor type	-						
	U-value of the floor	$U_{fi,lw}$	W/(m ² ·K)	-	-	-	-	-
	Windows type	-						
	U-value of the windows	U_W	W/(m ² ·K)	-	-	-	-	-
GAINS and VENTILATION	Shading system type	-						
	Occupancy density *	O_C	person/m ²	UNI EN 16798-1 - Table A.19				
	Lighting power density *	W_L	W/m ²	UNI EN 16798-1 - A.8.3				
	Equipment power density *	W_A	W/m ²	UNI EN 16798-1 - A.8.3				
	Type of ventilation	Natural: 100%						
THERMAL SYSTEMS	Air exchange rate *	n	h ⁻¹	0.30	-	0.30	0.30	0.30
	Heating system type	Autonomous: 22%, Centralized: 58%, Unknown: 20%						
	Heating generator	Boiler (unknown type): 75%, Air source heat pump: 10%, Condensing boiler: 7%, DHC: 6%,Traditional boiler: 2%						
	Daily operating time of the heating system *	t_H	h	14	-	14	14	14
	Energy carrier	Natural gas: 93%, Electricity from PV, wind turbines, hydraulic turbines: 4%, Electricity: 1%, Solid biomass: 1%, LPG: 1%						
	Heating emission sub-system	-						
	Cooling system type	Unknown: 95%, Air-cooled chiller: 5%						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	Centralized – coupled with heating: 48%, Autonomous – coupled with heating: 25%, Autonomous - detached from heating: 17%, District heating: 5%, Unknown: 5%						
	DHW generator	Natural gas boiler: 77%, Electric heat pump: 14%, Solar thermal: 4%, Unknown: 4%						
* These values were not available in the considered sources, and are thus derived from UNI EN Standards								

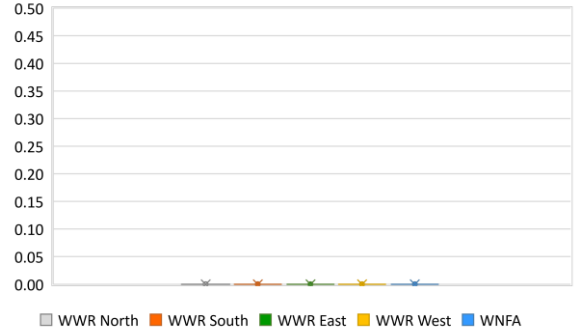
Region:	Trentino Alto Adige			Archetype code: RES_APPBLOCK_2011-_E_TN
Building category:	Residential buildings – Apartments (in multifamily blocks)			
Period of construction:	>2011			
Climatic zone:	E	Number of records:	2239	

Numerical variables – GEOMETRY

COMPACTNESS RATIO

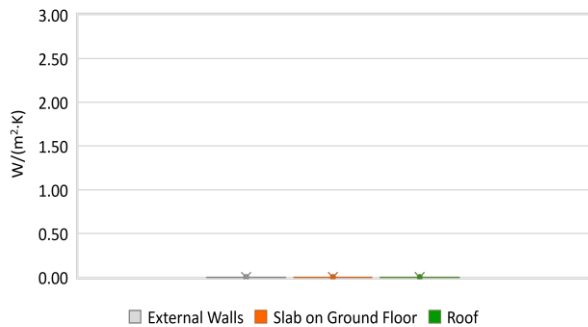


WINDOWS TO WALL RATIO

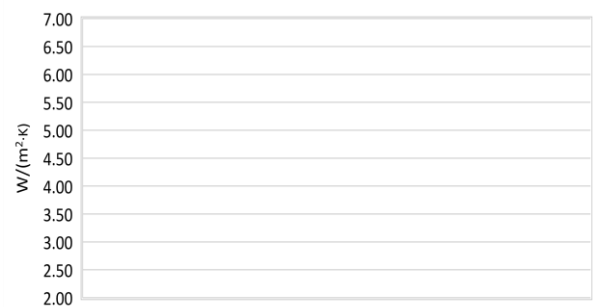


Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



WINDOWS U-VALUE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

AIR EXCHANGE RATE



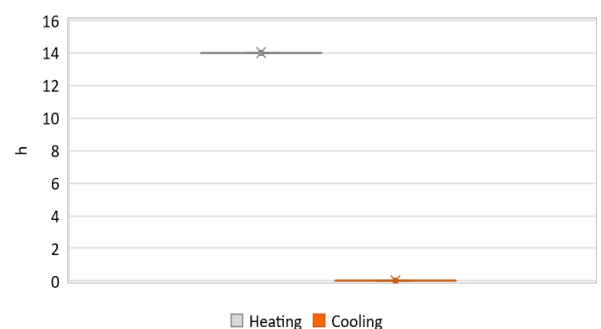
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



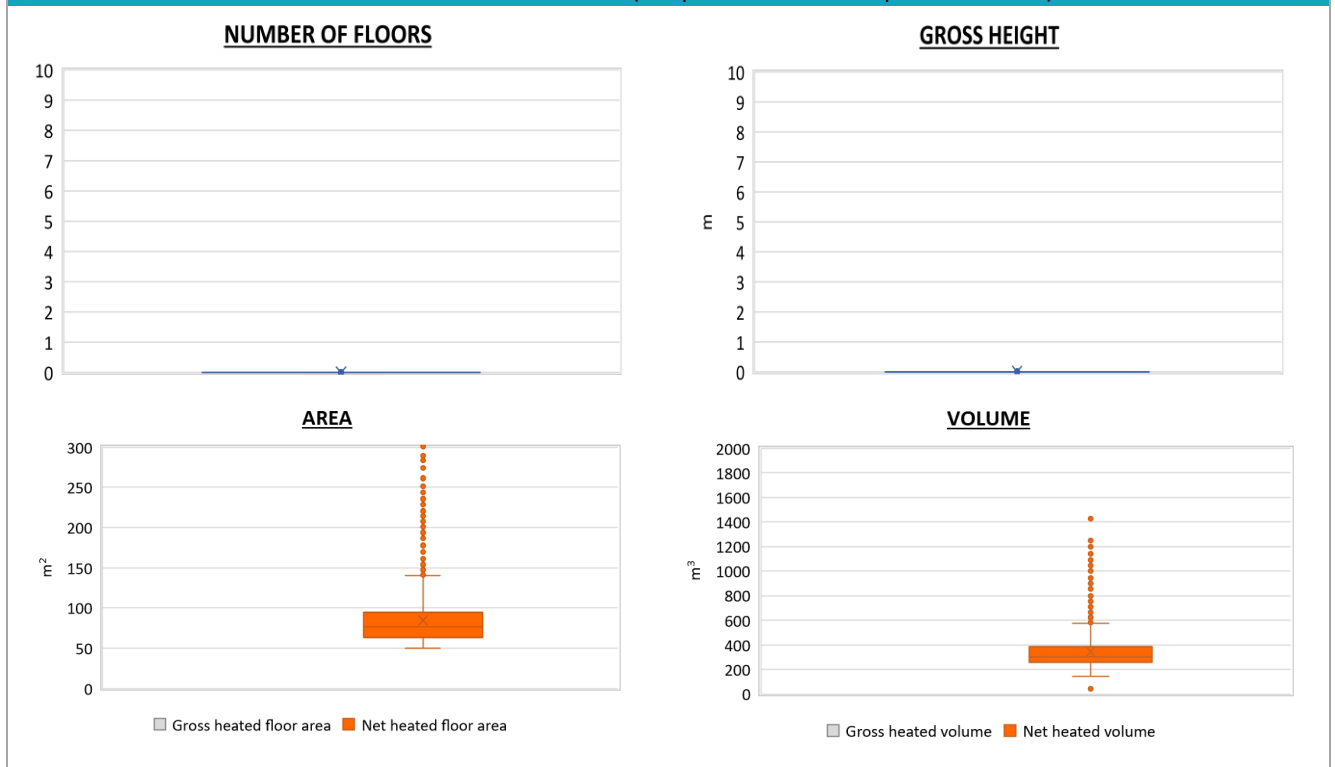
DAILY OPERATING TIME



Region:	Trentino Alto Adige			Archetype code: RES_APPBLOCK_2011-_E_TN
Building category:	Residential buildings – Apartments (in multifamily blocks)			
Period of construction:	>2011			
Climatic zone:	E	Number of records:	2239	

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	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m ²	34	85	63	76	94
	Heated gross volume	$V_{H,g}$	m ³	-	-	-	-	-
	Heated net volume	$V_{H,n}$	m ³	343	149	255	302	385
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	79	119	26	55	105
	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	37	24	17	34	52
	Temperature of DHW	ϑ_W	°C	40	-	40	40	40
	DHW system power *	$P_{W,gen}$	kW	79	119	26	55	105
* These values refer to the apartment scale								

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



Region:	Trentino Alto Adige	Archetype code: RES_APPBLOCK_2011-_E_TN
Building category:	Residential buildings – Apartments (in multifamily blocks)	
Period of construction:	>2011	
Climatic zone:	E	
Number of records:		2239

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

