

Region:	Lombardy						Archetype code: OFF_1931-1970_E_LOM	
Building category:	Office buildings							
Period of construction:	1931-1970							
Climatic zone:	E	Number of records:				10		
Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014): External walls: Solid Brick masonry (60 cm) (cod. MLP01) Roof slabs: Concrete floor (cod. SOL06)							Data sources: Local database (72%) Expert assumption (18%) Standards (10%)	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	2.77	1.17	2.00	3.00	3.50
	Gross height	H_g	m	-	-	-	-	-
	Footprint area	$A_{\text{footprint}}$	m ²	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m ²	3273.38	3906.04	598.77	1497.37	4668.99
	Heated net floor area	$A_{H,n}$	m ²	2897.96	3517.58	531.39	1356.40	3983.09
	Heated gross volume	$V_{H,g}$	m ³	22558.35	35951.08	2146.48	4867.90	29512.30
	Heated net volume	$V_{H,n}$	m ³	18525.53	28380.84	1780.75	5819.82	23233.48
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m ⁻¹	0.52	0.23	0.37	0.43	0.69
	WWR – North orientation	WWR_N	-	0.19	0.09	0.13	0.20	0.25
	WWR – South orientation	WWR_S	-	0.19	0.09	0.13	0.20	0.25
	WWR – East orientation	WWR_E	-	0.19	0.09	0.13	0.20	0.25
	WWR – West orientation	WWR_W	-	0.19	0.09	0.13	0.20	0.25
Window to useful floor area ratio	A_{wi}/A_{use}	-	-	-	-	-	-	
ENVELOPE	Roof type	Reinforced brick-concrete slab: 75%; Wood structure and planking with tiles: 25%						
	U-value of the roof	$U_{fi,up}$	W/(m²·K)	1.24	0.35	1.04	1.21	1.56
	External walls type	Solid Brick masonry: 75%; Hollow brick masonry: 17%; Prefabricated panels: 8%						
	U-value of the wall	U_{wl}	W/(m²·K)	1.18	0.43	0.87	1.08	1.40
	Slab on ground floor type	Concrete floor: 57%; Ventilated crawl space: 43%						
	U-value of the floor	$U_{fi,lw}$	W/(m²·K)	0.72	0.45	0.40	0.51	1.21
	Windows type	Double glazing, aluminum frame with thermal break: 37%; Double glazing, aluminum frame, no thermal break: 30%; Double glazing, wooden frame: 17%; Single glazing, wooden frame: 8%; Single glazing, aluminum frame: 8%						
	U-value of the windows	U_w	W/(m²·K)	3.09	0.59	2.66	2.96	3.50
GAINS and VENTILATION	Shading system type	Roller blinds: 100%						
	Occupancy density *	O_c	person/m²	UNI EN 16798-1				
	Lighting power density *	W_L	W/m²	UNI EN 16798-1				
	Equipment power density *	W_A	W/m²	UNI EN 16798-1				
	Type of ventilation	-						
THERMAL SYSTEMS	Air exchange rate *	n	h ⁻¹	0.50	0.00	0.50	0.50	0.50
	Heating system type	Centralized: 100%						
	Heating generator	Condensing boiler: 54%; Traditional boiler: 38%; Heat Exchanger Of District Heating/Cooling: 8%						
	Daily operating time of the heating system *	t_H	h	14.00	0.00	14.00	14.00	14.00
	Energy carrier	Natural gas: 92%; District Heating: 8%						
	Heating emission sub-system	Radiators: 92%; Fan coils: 8%						
	Cooling system type	Air-cooled chiller: 100%						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	Fan coil: 80%; Multisplit: 20%						
	DHW system type	Centralized - Coupled With Heating: 50%; Centralized - Detached From Heating: 38%; Autonomous - Detached From Heating: 12%						
	DHW generator	Electric boiler: 100%						
* These values were not available in the considered sources, and are thus derived from UNI EN Standards								

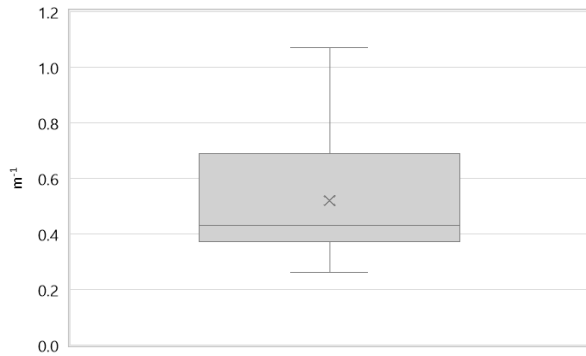


The data can be used for analysis, modeling, and research purposes, as long as it remains unaltered in its original form. Users are free to publish results based on the data, provided they credit the original source.

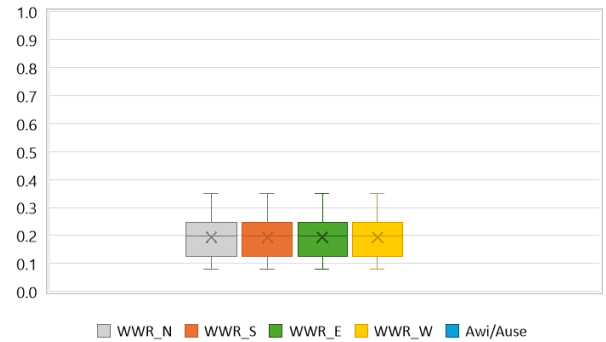
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Numerical variables – GEOMETRY

COMPACTNESS RATIO

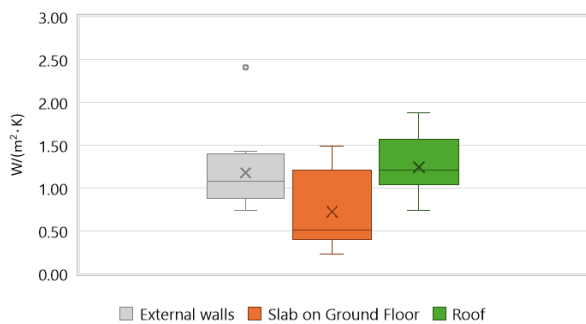


WINDOW TO WALL RATIO



Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE

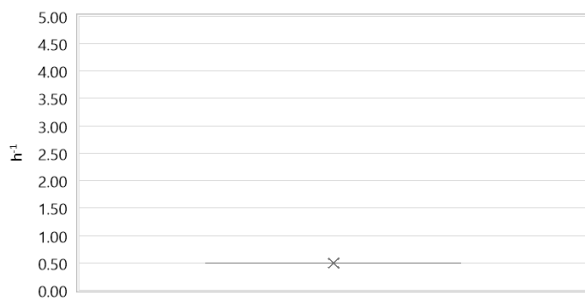


WINDOW U-VALUE

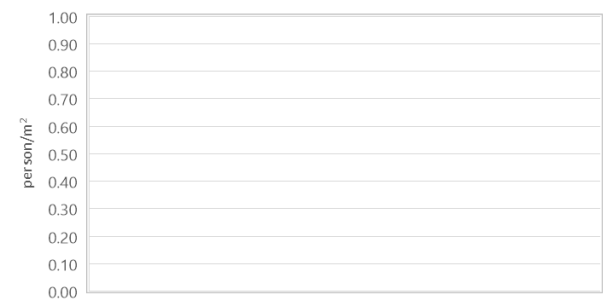


Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE

AIR EXCHANGE RATE



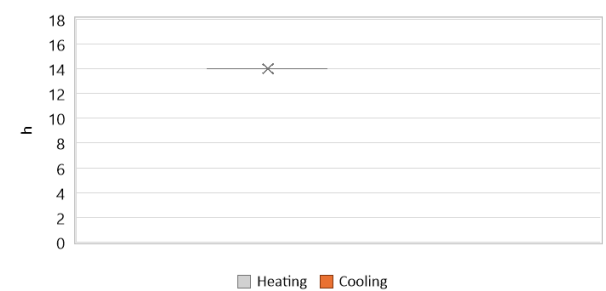
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY

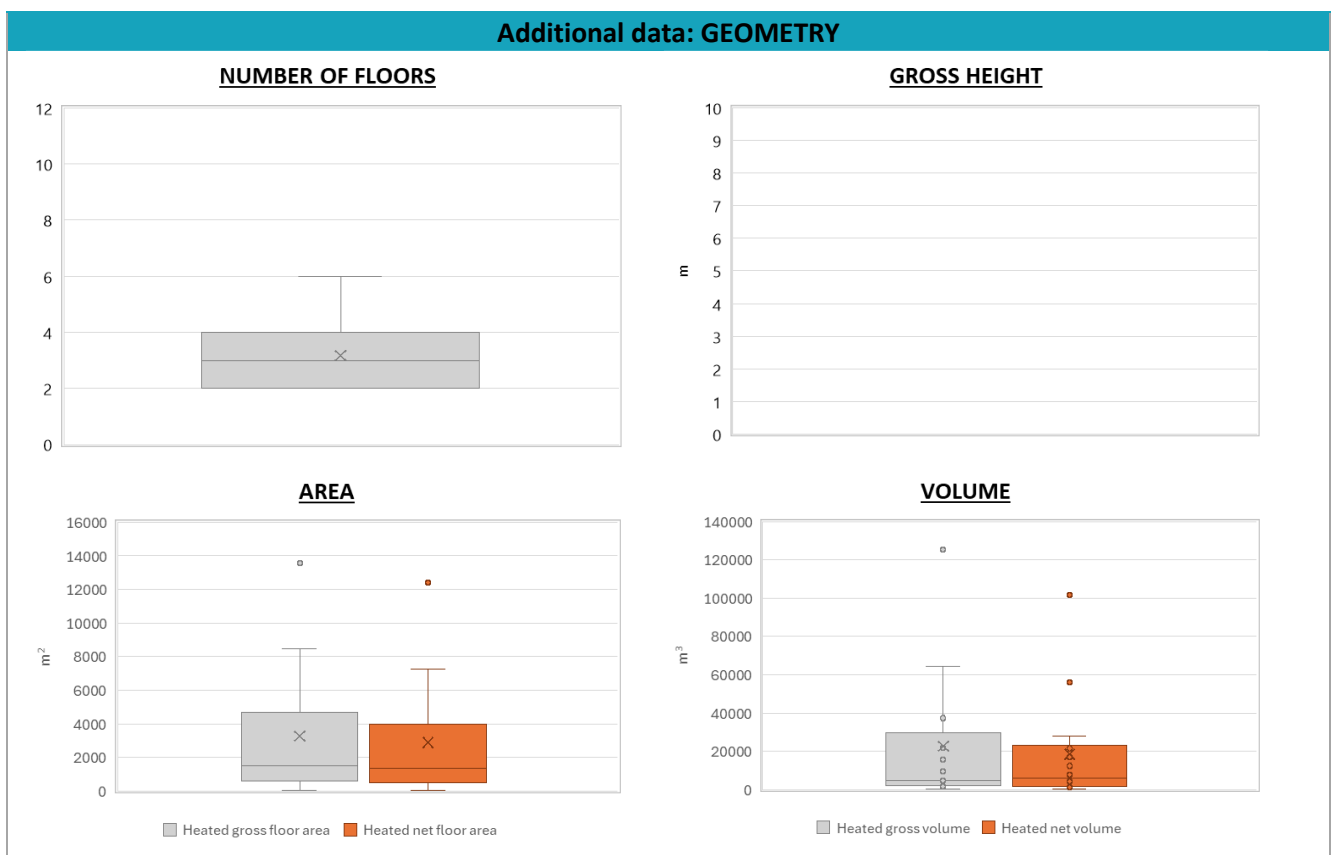


DAILY OPERATING TIME



Region:	Lombardy	Archetype code: OFF_1931-1970_E_LOM
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Period of construction:	1931-1970	
Climatic zone:	E	
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ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
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	644.22	649.25	226.50	350.00	1096.58
	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	-	-	-	-	-
	Temperature of DHW	ϑ_W	°C	40.00	0.00	40.00	40.00	40.00
	DHW system power	$P_{W,gen}$	kW	-	-	-	-	-



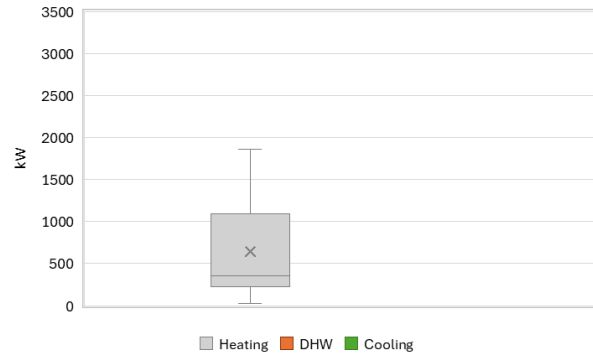
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Number of records:		10

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

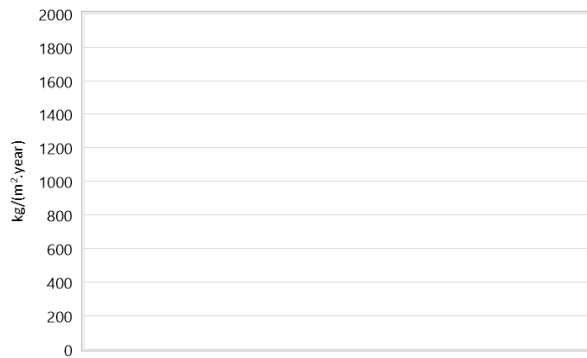
DHW SUPPLY TEMPERATURE



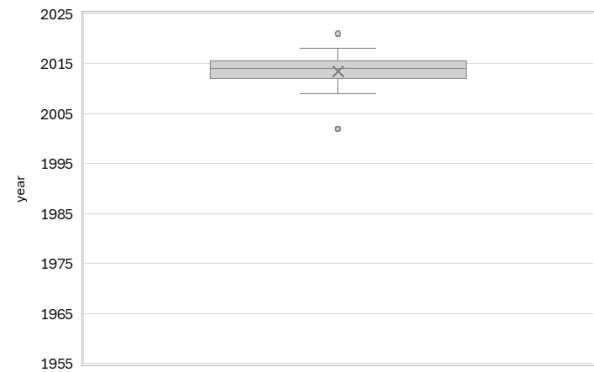
SYSTEM POWER



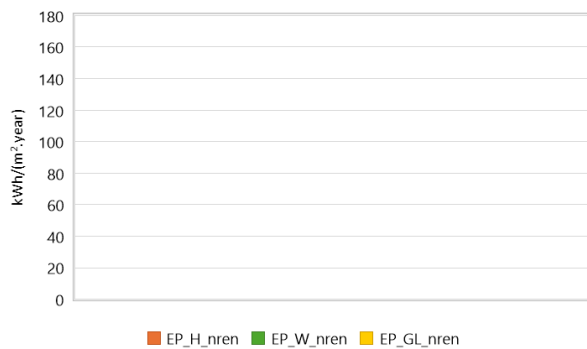
CO₂ EMISSION



HEATING SYSTEM INSTALLATION YEAR



NON-RENEWABLE PRIMARY ENERGY USE



RENEWABLE PRIMARY ENERGY USE

