Region:	Tuscany			**Archetype code:** RES_APPBLOCK_ 1951-1960_D_TUS
Building category:	Entire multi-family block			
Period of construction:	1951-1960			
Climatic zone:	D	**Number of records:**	44	

Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:2014):

External walls: plaster (2 cm) - solid brick (38 cm) - plaster (2 cm) (cod. MLP01).
Roof slabs: reinforced brick-concrete slab (20-22 cm) - uninsulated concrete screed (-)

Data sources:
Visual inspection (39%)
National database (15%)
Standards (15%)
Others (31%) #

	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	3.36	0.47	3.00	3.00	4.00
	Gross height	H_g	m	11.30	1.55	10.20	10.20	13.50
	Footprint area	$A_{footprint}$	m^2	316.04	128.56	220.30	279.40	397.30
	Heated gross floor area	$A_{H;g}$	m^2	1019.55	509.91	607.88	899.67	1216.61
	Heated net floor area	$A_{H;n}$	m^2	881.66	451.35	521.27	768.23	1039.40
	Heated gross volume	$V_{H;g}$	m^3	3428.87	1727.63	2058.49	3058.88	4111.42
	Heated net volume	$V_{H;n}$	m^3	2622.68	1364.75	1563.82	2304.68	3118.20
	Compactness ratio	$A_{env}/V_{H;g}$	m^{-1}	0.55	0.06	0.51	0.56	0.60
	WWR – North orientation	WWR_N	-	0.10	0.07	0.03	0.11	0.16
	WWR – South orientation	WWR_S	-	0.12	0.07	0.06	0.14	0.17
	WWR – East orientation	WWR_E	-	0.12	0.07	0.06	0.13	0.18
	WWR – West orientation	WWR_W	-	0.13	0.07	0.06	0.13	0.18
	Window to useful floor area ratio	A_{wi}/A_{use}	-	0.16	0.03	0.14	0.16	0.17
ENVELOPE	Roof type	Reinforced brick-concrete slab: 100%.						
	U-value of the roof	$U_{fl;up}$	W/(m²·K)	1.70	0.39	1.50	1.50	2.20
	External walls type	Solid Brick masonry: 61%; Hollow brick masonry: 21%; Masonry with local stones: 18%						
	U-value of the wall	U_{wl}	W/(m²·K)	1.31	0.19	1.34	1.34	1.34
	Slab on ground floor type	Reinforced brick-concrete slab: 70%; Ventilated crawl space: 30%.						
	U-value of the floor	$U_{fl;lw}$	W/(m²·K)	1.41	0.14	1.30	1.30	1.58
	Windows type	Unknown: 100%						
	U-value of the windows	U_W	W/(m²·K)	-	-	-	-	-
	Shading system type	Roller blinds: 100%.						
GAINS and VENTILATION	Occupancy density *	O_C	person/m²	UNI EN 16798-1 - Table A.19				
	Lighting power density	W_L	W/m²	UNI EN 16798-1 - A.8.3				
	Equipment power density *	W_A	W/m²	UNI EN 16798-1 - A.8.3				
	Type of ventilation	Natural: 100%						
	Air exchange rate *	*n*	h^{-1}	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Autonomous: 70%; Centralized: 23%; Unknown: 7%.						
	Heating generator	Boiler (unknown type): 91%; Unknown: 7%; Condensing boiler: 2%.						
	Daily operating time of the heating system *	t_H	h	12.00	0.00	12.00	12.00	12.00
	Energy carrier	Natural gas: 100%.						
	Heating emission sub-system	Unknown: 100%						
	Cooling system type	Unknown: 55%; Absent: 25%; Air-cooled chiller: 20%.						
	Daily operating time of the cooling system	t_C	h	12.00	0.00	12.00	12.00	12.00
	Cooling emission sub-system	Multisplit: 100%.						
	DHW system type	Autonomous, coupled with heating: 70%; Autonomous, detached from heating: 23%. Unknown: 7%.						
	DHW generator	Natural gas boiler: 73%; Unknown: 20%; Electric boiler: 7%.						

Measured data (13%), Local database (8%), Other (6%), Standards (4%).
* These values are derived from UNI EN ISO Standards

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Period of construction:	1951-1960			
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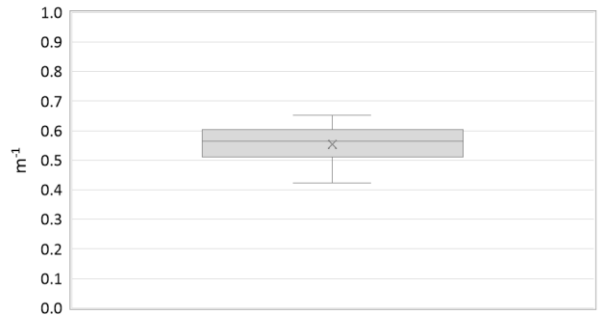
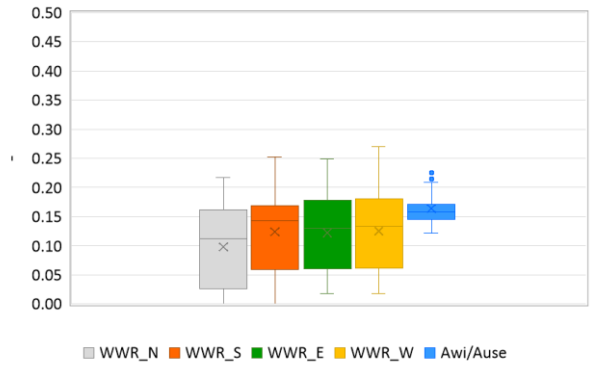
Numerical variables – GEOMETRY

COMPACTNESS RATIO

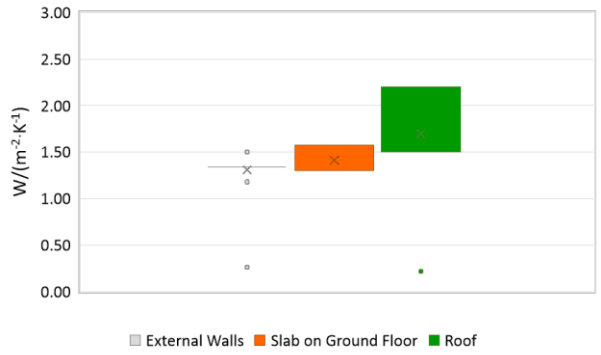


WINDOWS TO WALL RATIO

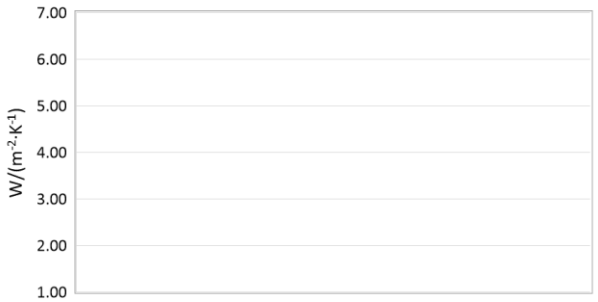


Numerical variables – ENVELOPE

OPAQUE BUIDING COMPONENTS U-VALUE

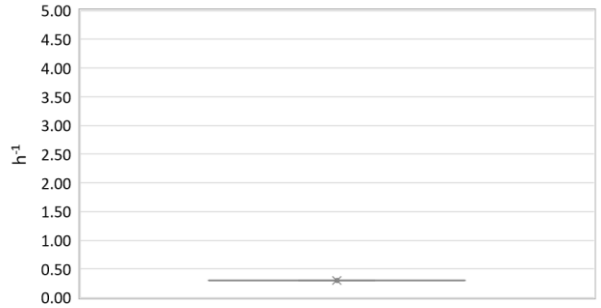


WINDOWS U-VALUE

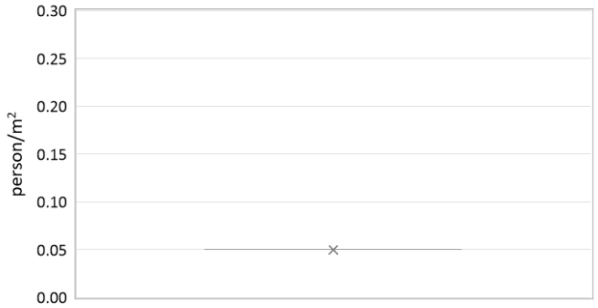


Numerical variables – GAINS. VENTILATION and SYSTEMS USAGE

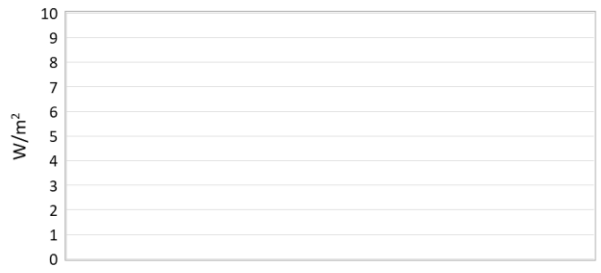
AIR EXCHANGE RATE



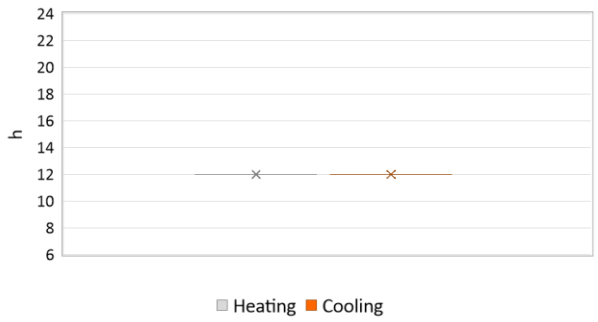
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



DAILY OPERATING TIME



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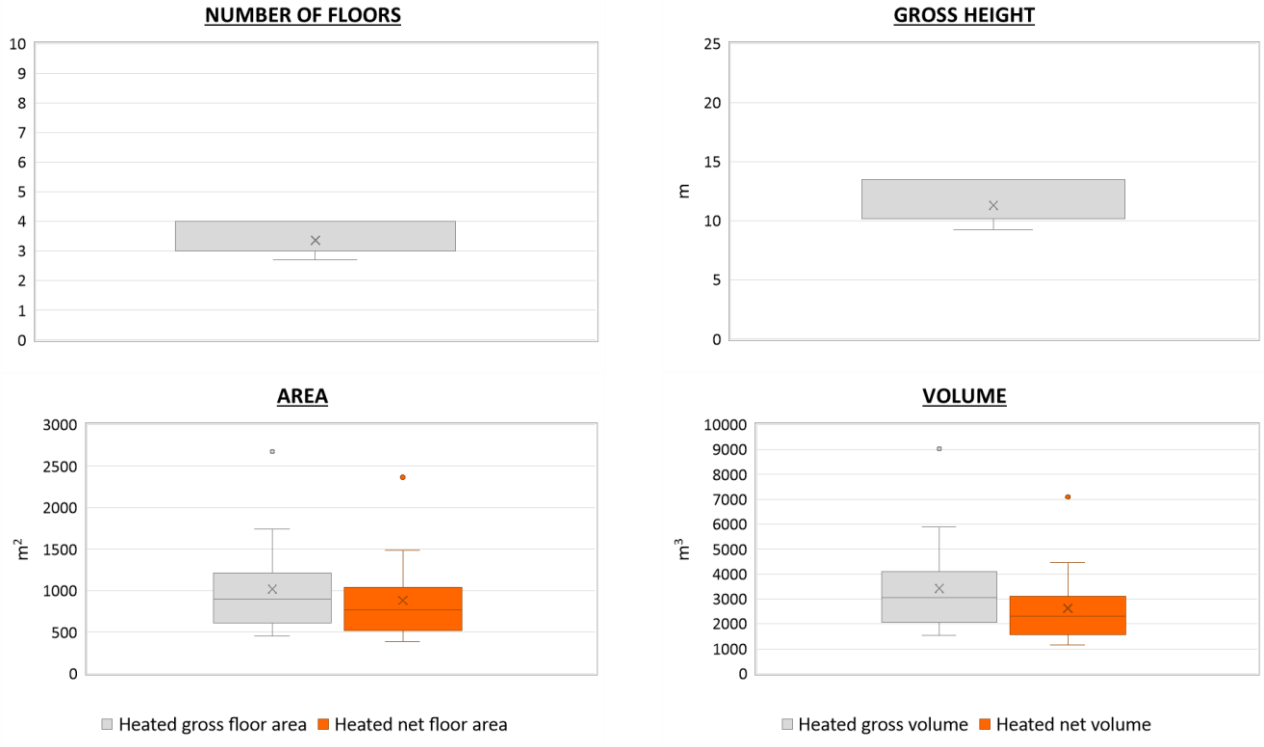
Building category:	Entire multi-family block			RES_APPBLOCK_ 1951-1960_D_TUS
Period of construction:	1951-1960			
Climatic zone:	D	**Number of records:**	44	

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	-	-	-	-	-
	Heated gross volume	$V_{H;g}$	m^3	-	-	-	-	-
	Heated net volume	$V_{H;n}$	m^3	-	-	-	-	-
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	-	-	-	-	-
	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	-	-	-	-	-
	Temperature of DHW	θ_W	°C	40.00	0.00	40.00	40.00	40.00
	DHW system power *	$P_{W;gen}$	kW	-	-	-	-	-
	* These values refer to the apartment scale							

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



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Building category:	Entire multi-family block			RES_APPBLOCK_ 1951-1960_D_TUS
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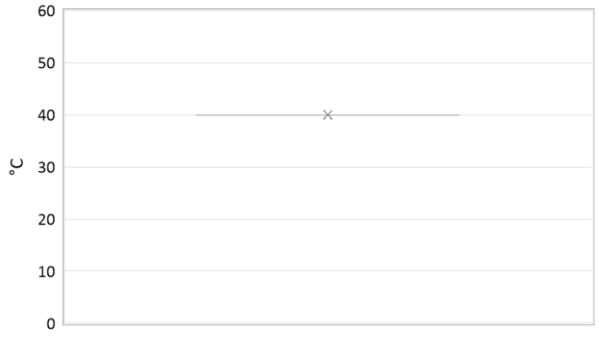
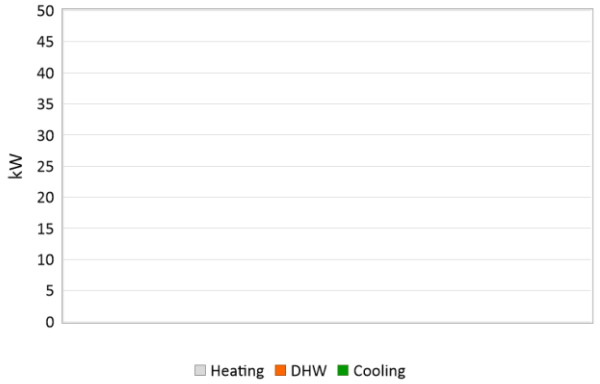
Climatic zone:	D	**Number of records:**	44	

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

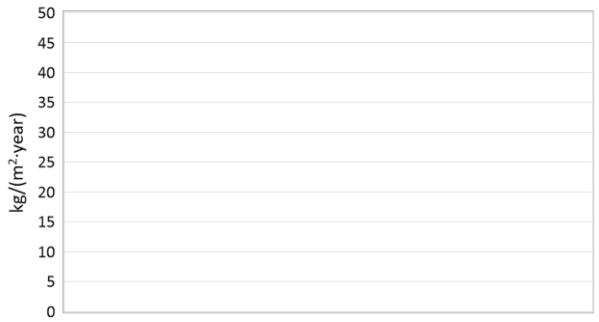
DHW SUPPLY TEMPERATURE



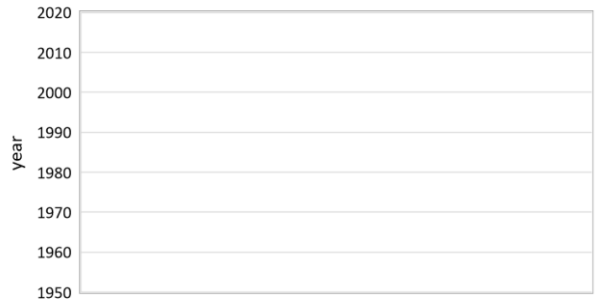
SYSTEM POWER



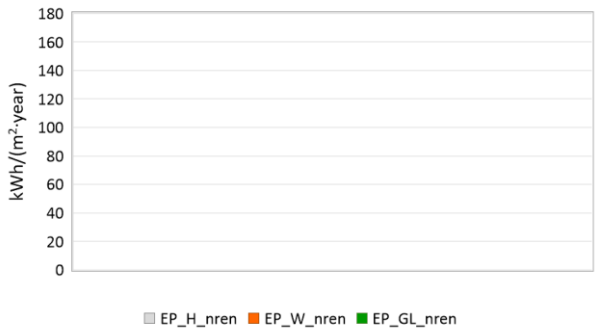
CO_2 EMISSION



HEATING SYSTEM INSTALLATION YEAR



NON-RENWABLE PRIMARY ENERGY USE



RENWABLE PRIMARY ENERGY USE