

Region: Tuscany Archetype code:

Building category: Entire multi-family block RES_APPBLOCK_
Period of construction: 1941-1950

Climatic zone: D Number of records: 23

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

Description (the codes associated with walls and slabs refer to the structures described in UNI/TR 11552:20: <u>External walls</u>: plaster (2 cm) - mixed brick and stone (40 cm) - plaster (2 cm) (cod. MCO01).

Roof slabs: slab with brick reinforced beams and hollow brick tiles (6 cm) (cod. -)

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

				Others (31%) #						
	Data	Symbol	Unit of	Mean	Standard	Q1 (first	Median	Q3 (third		
			measure	value	deviation	quartile)	value	quartile)		
BUILDING GEOMETRY	Number of floors	nf	-	3.30	0.55	3.00	3.00	3.50		
	Gross height	Hg	m	11.21	1.80	10.20	10.20	11.90		
	Footprint area	A _{footprint}	m ²	314.57	114.86	207.55	301.40	361.20		
	Heated gross floor area	A _{H;g}	m ²	999.98	478.05	656.37	896.40	1100.16		
	Heated net floor area	A _{H;n}	m ²	852.18	410.37	560.47	765.44	939.43		
	Heated gross volume	V _{H;g}	m ³	3390.01	1606.69	2231.66	3047.76	3740.54		
	Heated net volume	V _{H;n}	m³	2559.01	1228.55	1681.42	2296.31	2818.28		
	Compactness ratio	$A_{ m env}/V_{ m H;g}$	m ⁻¹	0.53	0.04	0.50	0.52	0.55		
	WWR – North orientation	WWR _N	-	0.08	0.08	0.00	0.03	0.13		
	WWR – South orientation	WWR _S	-	0.09	0.06	0.03	0.11	0.13		
	WWR – East orientation	WWR _E	-	0.10	0.07	0.00	0.12	0.16		
	WWR – West orientation	WWR _W	-	0.10	0.08	0.00	0.12	0.16		
	Window to useful floor area ratio	A _{wi} /A _{use}	-	0.14	0.02	0.12	0.13	0.15		
ENVELOPE	Roof type	Reinforced brick-concrete slab: 100%.								
	<i>U</i> -value of the roof	$U_{fl;up}$	W/(m²⋅K)	2.11	0.24	2.20	2.20	2.20		
	External walls type	Masonry with local stones: 87%; Solid brick masonry: 9%; Hollow brick masonry: 4%								
	<i>U</i> -value of the wall	$U_{ m wl}$	W/(m²⋅K)	1.40	0.26	1.42	1.50	1.50		
ÆĽ	Slab on ground floor type		Ventilated crawl space: 61%; Reinforced brick-concrete slab: 39%.							
EN S	<i>U</i> -value of the floor	U _{fl;lw}	W/(m²⋅K)	1.47	0.13	1.30	1.58	1.58		
	Windows type			Unknown: 100%						
	<i>U</i> -value of the windows	U _W	W/(m²⋅K)	-	-	-	-	-		
	Shading system type			Rolle	blinds: 52%; S	hutter: 48%				
z	Occupancy density *	O _C person/m ² UNI EN 16798-1 - Table A.19								
GAINS and VENTILATION	Lighting power density *	W_{L}	W/m ²	UNI EN 16798-1 - A.8.3						
NS ILA	Equipment power density *	W _A	W/m ²	UNI EN 16798-1 - A.8.3						
GAI	Type of ventilation		Natural: 100%							
~ >	Air exchange rate *	n	h ⁻¹	0.30	0.00	0.30	0.30	0.30		
	Heating system type	Autonomous: 100%								
	Heating generator	Boiler (unknown type): 100%.								
THERMAL SYSTEMS	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	Absent: 55%; Unknown: 30%; Air-cooled chiller: 15%.								
	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: 100%.								
	DHW generator	Natural gas boiler: 100%.								
	# Measured data (13%), Local databas	# Measured data (13%), Local database (8%), Other (6%), Standards (4%).								
	* These values were not available in the considered sources, and are thus derived from UNI EN Standards									



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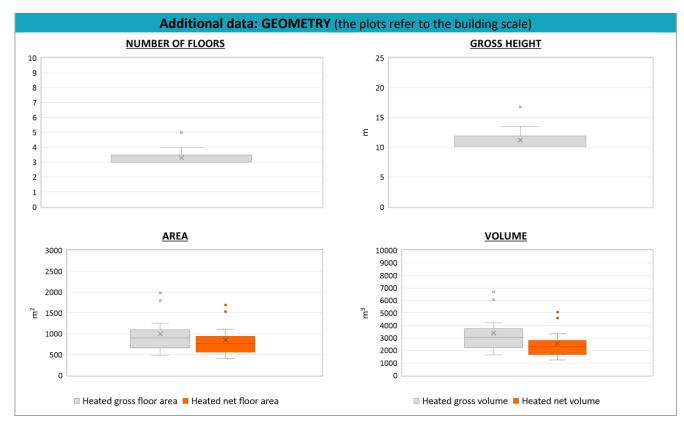
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ADDITIONAL DATA											
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)			
GEOMETRY: apartments	Inter-storey height	H _n	m	-	-	-	-	-			
	Heated gross floor area	A _{H;g}	m ²	-	-	-	-	-			
	Heated net floor area	A _{H;n}	m ²	-	-	-	-	-			
	Heated gross volume	V _{H;g}	m³	-	-	-	-	-			
	Heated net volume	V _{H;n}	m³	-	-	-	-	-			
THERMAL SYSTEMS	Heating efficiency or COP	$\eta_{\sf H;gen}$ or ${\it COP}_{\sf H;gen}$	-	This value has to be retrieved from suitable datasheets							
	Total heating power *	P _{H;gen}	kW	-	-	-	-	-			
	Cooling efficiency or EER	η _{C;gen} or <i>EER</i> _{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 *	$P_{ m W;gen}$	kW	-	-	-	-	-			
	* These values refer to the apartment s	cale									





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