

Region:

Aosta Valley

Residential buildings - Single family houses

Period of construction:

1919 - 1945

Climatic zone:

E-F

Number of records:

255

**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: pitched wooden roof (cod. CIN05).

Data sources:

EPC databases (100%)

BUILDING GEOMETRY N N N N N N N N N N N N N N N N N N N	lumber of floors fross height contprint area leated gross floor area leated net floor area leated net volume leated net volume leated net volume lompactness ratio lower – North orientation lower – South orientation lower – West orientation lower – West orientation loof type l	nf Hg Afootprint AH;g AH;n VH;g VH;n Aenv/VH;g WWRN WWRS WWRS WWRE WWRW	measure	value 89.8 364.4 243.6 0.84 0.09 0.09 0.09	deviation 76.5 291.2 229.2 0.24 0.04 0.04 0.04	quartile) 52.7 206.2 131.4 0.69 0.06 0.06	value 71.0 294.4 197.1 0.83 0.08 0.08	quartile) 98.7 403.1 258.9 0.99 0.11		
BUILDING GEOMETRY N N N N N N N N N N N N N N N N N N N	leated gross floor area leated gross floor area leated net floor area leated net volume leated net volume leated net volume lompactness ratio lower - North orientation lower - South orientation lower - West orientation lower - West orientation loof type leated net volume leated gross floor area leated gross volume leated gross volume leated gross volume leated gross volume leated gross floor area leated gross volume leated gross floor area leated gross volume leated gross floor area leated gross floor gross flo	Hg Afootprint AH;g AH;n VH;g VH;n Aenv/VH;g WWRN WWRS WWRS	m <sup>2</sup> m <sup>2</sup> m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m-1	- 89.8 364.4 243.6 0.84 0.09 0.09	- 76.5 291.2 229.2 0.24 0.04 0.04	- 52.7 206.2 131.4 0.69 0.06	- 71.0 294.4 197.1 0.83 0.08	403.1 258.9 0.99 0.11 0.11		
BUILDING GEOMETRY N N N N N N N R R R R R	leated gross floor area leated net floor area leated gross volume leated net volume leated net volume leated net volume lompactness ratio lower – North orientation lower – South orientation lower – West orientation lower – West orientation loof type leated gross floor area leated gross floor gross floor leated gro	A <sub>footprint</sub> A <sub>H;g</sub> A <sub>H;n</sub> V <sub>H;g</sub> V <sub>H;n</sub> A <sub>env</sub> /V <sub>H;g</sub> WWR <sub>N</sub> WWR <sub>S</sub> WWR <sub>E</sub>	m <sup>2</sup> m <sup>2</sup> m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m-1	- 89.8 364.4 243.6 0.84 0.09 0.09	- 76.5 291.2 229.2 0.24 0.04 0.04	- 52.7 206.2 131.4 0.69 0.06	- 71.0 294.4 197.1 0.83 0.08	403.1 258.9 0.99 0.11 0.11		
BUILDING GEOMETRY N N N N N N N N N N N N N N N N N N N	leated gross floor area leated net floor area leated gross volume leated net volume leated net volume leated net volume lompactness ratio lower – North orientation lower – South orientation lower – East orientation lower – West orientation lower – West orientation loof type l-value of the roof **	A <sub>H;g</sub> A <sub>H;n</sub> V <sub>H;g</sub> V <sub>H;n</sub> A <sub>env</sub> /V <sub>H;g</sub> WWR <sub>N</sub> WWR <sub>S</sub> WWR <sub>E</sub>	m <sup>2</sup> m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m-1	- 89.8 364.4 243.6 0.84 0.09 0.09	- 76.5 291.2 229.2 0.24 0.04 0.04 0.04	- 52.7 206.2 131.4 0.69 0.06 0.06	71.0 294.4 197.1 0.83 0.08 0.08	403.1 258.9 0.99 0.11 0.11		
BUILDING GEOMETRY N N N N N R R R R R R	leated net floor area leated gross volume leated net volume lompactness ratio  VWR – North orientation  VWR – South orientation  VWR – West orientation  Vindow to useful floor area latio loof type  V-value of the roof **	A <sub>H;n</sub> V <sub>H;g</sub> V <sub>H;n</sub> A <sub>env</sub> /V <sub>H;g</sub> WWR <sub>N</sub> WWR <sub>S</sub> WWR <sub>E</sub>	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>-1</sup>	89.8 364.4 243.6 0.84 0.09 0.09	76.5 291.2 229.2 0.24 0.04 0.04 0.04	52.7 206.2 131.4 0.69 0.06 0.06	71.0 294.4 197.1 0.83 0.08 0.08	403.1 258.9 0.99 0.11 0.11		
M W ra Re	leated gross volume leated net volume compactness ratio  VWR – North orientation  VWR – South orientation  VWR – East orientation  VWR – West orientation  Vindow to useful floor area atio coof type  I-value of the roof **	V <sub>H,g</sub> V <sub>H,n</sub> A <sub>env</sub> /V <sub>H,g</sub> WWR <sub>N</sub> WWR <sub>S</sub> WWR <sub>E</sub>	m <sup>3</sup> m <sup>3</sup> m <sup>-1</sup>	364.4 243.6 0.84 0.09 0.09 0.09	291.2 229.2 0.24 0.04 0.04 0.04	206.2 131.4 0.69 0.06 0.06	294.4 197.1 0.83 0.08 0.08	403.1 258.9 0.99 0.11 0.11		
M W ra Re	Jeated net volume Jompactness ratio  JOMPA — North orientation  JOMPA — South orientation  JOMPA — East orientation  JOMPA — West orientation  JOMPA	V <sub>H;n</sub> A <sub>env</sub> /V <sub>H;g</sub> WWR <sub>N</sub> WWR <sub>S</sub> WWR <sub>E</sub> WWR <sub>W</sub>	m³ m-1	243.6 0.84 0.09 0.09 0.09	229.2 0.24 0.04 0.04 0.04	131.4 0.69 0.06 0.06	197.1 0.83 0.08 0.08	258.9 0.99 0.11 0.11		
M W ra Re	compactness ratio  VWR – North orientation  VWR – South orientation  VWR – East orientation  VWR – West orientation  Vindow to useful floor area atio  oof type  I-value of the roof **	A <sub>env</sub> /V <sub>H;g</sub> WWR <sub>N</sub> WWR <sub>S</sub> WWR <sub>E</sub> WWR <sub>W</sub>	m <sup>-1</sup>	0.84 0.09 0.09 0.09	0.24 0.04 0.04 0.04	0.69 0.06 0.06	0.83 0.08 0.08	0.99 0.11 0.11		
M W ra Re	WWR – North orientation  WWR – South orientation  WWR – East orientation  WWR – West orientation  Vindow to useful floor area atio  oof type  I-value of the roof **	WWR <sub>N</sub> WWR <sub>S</sub> WWR <sub>E</sub> WWR <sub>W</sub>	- - - -	0.09 0.09 0.09	0.04 0.04 0.04	0.06 0.06	0.08 0.08	0.11 0.11		
M W ra Re	WWR – South orientation  WWR – East orientation  WWR – West orientation  Vindow to useful floor area atio  oof type  U-value of the roof **	WWRs WWR <sub>E</sub> WWR <sub>W</sub>	- - -	0.09	0.04 0.04	0.06	0.08	0.11		
M W ra Re	VWR – East orientation VWR – West orientation Vindow to useful floor area atio oof type V-value of the roof **	WWR <sub>E</sub>	-	0.09	0.04					
M W ra Ro	VWR – West orientation Vindow to useful floor area atio oof type I-value of the roof **	WWR <sub>W</sub>	-			0.06	0.00			
W ra Re	Vindow to useful floor area atio oof type  /-value of the roof **			0.09			0.08	0.11		
ra Ri	oof type /-value of the roof **	A <sub>wi</sub> /A <sub>use</sub>	_		0.04	0.06	0.08	0.11		
R	oof type /-value of the roof **	· ·wii · ·use		0.15	0.05	0.11	0.14	0.18		
	/-value of the roof **		7.Wij use 0.11 0.14 0.10							
U					-		Г			
		U <sub>fl;up</sub>	W/(m²·K)	0.61	0.65	0.26	0.37	0.51		
Ex	xternal walls type	Masonry with local stones: 50%; Solid Brick masonry: 35%; Hollow brick masonry: 8%; Unknown: 5%; Concrete wall: 2%								
U SI	/-value of the wall	$U_{ m wl}$	W/(m²·K)	1.17	0.72	0.46	1.14	1.86		
SI	lab on ground floor type	-								
Ž U	/-value of the floor **	U <sub>fl;lw</sub>	W/(m <sup>2</sup> ·K)	0.97	0.58	0.45	0.97	1.40		
	Vindows type	Double glazing, wooden frame: 76%; Single glazing, wooden frame: 18%; Double glazing, PVC frame: 4%; Triple glazing, wooden frame: 2%								
U	<i>I</i> -value of the windows	U <sub>W</sub>	W/(m²⋅K)	2.62	1.10	1.71	2.52	3.14		
SI	hading system type				-			<u> </u>		
<b>z</b> 0	Occupancy density *	O <sub>C</sub>	c person/m <sup>2</sup> UNI EN 16798-1 - Table A.19							
D Li	ighting power density *	W∟	W/m²							
GAINS and VENTILATION	quipment power density *	W <sub>A</sub>	W/m <sup>2</sup> UNI EN 16798-1 - A.8.3							
IN ENT	ype of ventilation		Natural: 100%							
> A	ir exchange rate *	n	h <sup>-1</sup>	0.30	0.00	0.30	0.30	0.30		
Н	leating system type	Autonomous: 100%								
н	leating generator	Boiler (unknown type): 47%; Fireplace: 27%; Traditional Boiler: 14%; Condensing Boiler: 6%; Unknown: 5%; Air-source heat pump: 1%								
he	eating system *	t <sub>H</sub>	h -							
S Er	nergy carrier	Solid biomass: 35%; LPG: 26%; Natural Gas: 26%; Gas Oil: 12%								
STE H	leating emission sub-system	-								
<b>S</b> C	cooling system type	Absent: 100%								
D	oally operating time of the ooling system *	tc	h	-	-	-	-	-		
E C	cooling emission sub-system	_								
	PHW system type	Autonomous, coupled with heating: 58%; Autonomous, detached from heating: 39%; Centralized, coupled with heating: 3%								
D	HW generator	Unknown: 74%; Natural gas boiler: 17%; Electric boiler: 8%; Electric Heat Pump: 1%								



Region:	Aosta Valley	Archetype code:		
Building category:	Residential buildings - Si	RES_SINGLE_1919-1945_E-		
Period of construction:	1919 - 1945	F_VAL		
Climatic zone:	E-F	Number of records:	255	



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.

Residential buildings – Single family houses – 1919-1945 – Zone E-F – Aosta Valley



 Region:
 Aosta Valley
 Archetype code:

 Building category:
 Residential buildings - Single family houses
 RES\_SINGLE\_1919-1945\_E-F\_VAL

 Period of construction:
 1919 - 1945
 F\_VAL

 Climatic zone:
 E-F
 Number of records:
 255

ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
S	Heating efficiency or COP	η <sub>H;gen</sub> or <i>COP</i> H;gen	-	This value has to be retrieved from suitable datasheets				
THERMAL SYSTEMS	Total heating power	P <sub>H;gen</sub>	kW	21.3	10.5	11.3	24.0	27.4
	Cooling efficiency or EER	$\eta_{C;gen}$ or $\mathit{EER}_{C;gen}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power	P <sub>C;gen</sub>	kW	-	-	=	-	-
	Temperature of DHW	$\vartheta_{W}$	°C	40.0	0.0	40.0	40.0	40.0
	DHW system power	P <sub>W;gen</sub>	kW	17.5	12.9	1.5	23.6	26.1
	* This value refers to the building scale							

## Numerical variables - GAINS, VENTILATION and SYSTEMS USAGE **AIR EXCHANGE RATE OCCUPACY DENSITY** 0.30 5.00 4.50 0.25 4.00 3.50 0.20 3.00 2.50 0.15 2.00 0.10 1.50 1.00 0.05 0.50 0.00 0.00 **INTERNAL GAINS POWER DENSITY DAILY OPERATING TIME** 10 14 12 8 10 7 8 6 6 5 4 3 2 2 1 $\square$ Heating $\blacksquare$ Cooling



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Building category:	Residential buildings - Si	RES_SINGLE_1919-1945_E-		
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Climatic zone:	E-F	Number of records:	255	

