HUB4LCA

e3D Lehrstuhl für Energie-effizientes Bauen | RWTH AACHEN UNIVERSITY

Multi Family House

Region	south
Municipality Size	rural
Municipality Growth	growing
Age Class	2010-
Adjacency	semi_detached
Net leased area [m²]	1305.0
Storey Height [m]	2.7
Storeys a.g.	4.0

Exterior Wall

	U [W/m²K]		
Type: massive	Actual: 0.280	Min: 0.160	Max: 0.600

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	insulating plaster	0.02	1291	0.39	1291	7	-
1	lightweight concrete	0.24	900	0.43	1050	10	-
2	EPS perimeter insulation	0.11	31	0.04	1450	4	-

Interior Wall

U [W/m²K]		
Actual: 2.420	Min: 0.140	Max: 0.300

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	lime plaster	0.01	1600	0.7	850	7	-
1	solid brick	0.15	1800	0.7	850	10	-
2	lime plaster	0.01	1600	0.7	850	4	-

Roof

	U [W/m²K]		
Type: massive	Actual: 0.270	Min: 0.140	Max: 0.300

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	reinforced concrete	0.14	2400	2.1	776	9	-
1	glass wool	0.14	120	0.04	840	5	-
2	bituminized felt	0.01	1200	5	1000	3	-

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Foundation

	U [W/m²K]		
Type: massive	Actual: 0.290	Min: 0.160	Max: 0.600

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	oak	0.03	685	0.3	1500	1	-
1	floating cement screed	0.04	1940	1.4	1000	13	-
2	EPS perimeter insulation	0.12	31	0.04	1450	4	-
3	reinforced concrete	0.16	2400	2.1	776	9	-

Floor

U [W/m²K]		
Actual: 2.420	Min: 0.140	Max: 0.300

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD_1	EPD_2
0	floating cement screed	0.04	1940	1.4	1000	13	-
1	EPS_040_15	0.06	15	0.04	1500	2	-
2	reinforced concrete	0.16	2104	1.94	776	9	-

Window System

Glazing	EPD_{Gl}	Frame type	EPD_{Fr}	window wall share
3	12	pvc	6	0.18667

Heating System

Generator 1	EPD	Generator 2	EPD	Heating energy carrier	EPD
boiler_gas_medium_condensing	11	solarthermal_mfh	-	gas	8

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EPD Summary Table

SPN	Full EPD ID	Material Title
1	17bcb2ce-39fd-400b-baf9-370c63589efd	Timber oak (generic, 12% moisture / 10.7% H2O content)
2	205b761d-e344-49c3-a3a9-bb1bfd59b916	Expanded Polystyrene (EPS) Foam Insulation (density 15 kg/m³)
3	27ccffb8-02ec-466d-b925-f6db91d4ef71	Bitumen sheets G 200 S4
4	4e83c488-bb36-40b0-bfd4-b2aa7f1c0f04	Expanded Polystyrene (EPS) Foam Insulation (density 30 kg/m³)
5	7091503e-34e5-44cd-9acb-7c2f16f6097f	Foam glass insulation material
6	73de9e80-8ed2-47d8-b5b6-854c84166f24	Window sash PVC-U
7	7e8801e0-c0e4-4995-bf8a-883181f6aa20	ETICS gluing and coating mineral lightweight plaster
8	84aa7483-9824-49a9-a3e3-f9fb092ea7b7	Use - 1 kWh of final energy from gas calorific value (according to GEG)
9	Synthetic_2	Concrete C30/37 with reinforcement steel
10	Synthetic_3	Pumice concrete with reinforcement steel
11	ce333ecb-6cad-441c-9dae-70966acf9333	Gas condensing boiler 20-120 kW (upright unit)
12	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
13	fe371be5-c72f-4203-8569-a085ef375ba4	CALCIUM SULPHATE FLOWING SCREED AND CONVENTIONAL CALCIUM SULPHATE SCREED

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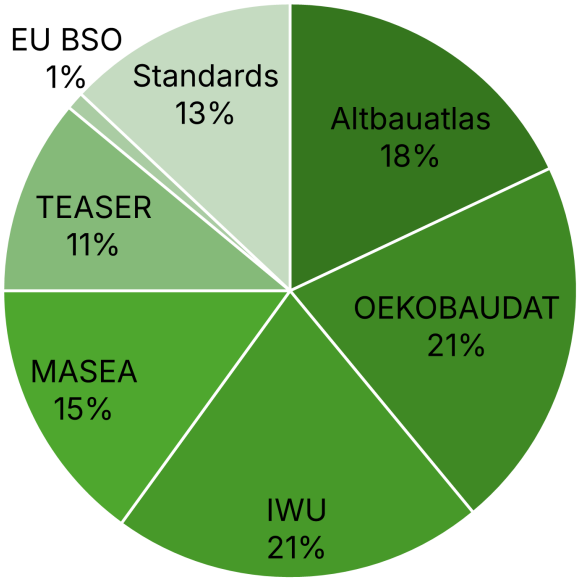

This archetype represents :

- 0.27% of all Multi-Family Houses
- 0.64% of all Multi-Family Houses of the specific region
- 1.12% of all Multi-Family Houses of the specific region and municipality type

Data source	Link
Altbauatlas	https://www.altbauatlas.de/index.php
OEKOBAUDAT	https://www.oekobaudat.de/en.html
IWU	https://datenbasis.iwu.de/ https://wohngebaeudedaten2016.iwu.de/
MASEA	https://www.masea-ensan.de/
TEASER	https://ebc-tools.eonerc.rwth-aachen.de/en/teaser
EU BSO	https://building-stock-observatory.energy.ec.europa.eu/database/

** Building images are generated by AI*