



## Multi Family House



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



### Exterior Wall

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

| Layer | Material Name            | t <sub>i</sub> [m] | ρ <sub>i</sub> [kg/m³] | λ <sub>i</sub> [W/mK] | c <sub>i</sub> [J/kgK] | EPD <sub>1</sub> | EPD <sub>2</sub> |
|-------|--------------------------|--------------------|------------------------|-----------------------|------------------------|------------------|------------------|
| 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 <sub>i</sub> [m] | ρ <sub>i</sub> [kg/m³] | λ <sub>i</sub> [W/mK] | c <sub>i</sub> [J/kgK] | EPD <sub>1</sub> | EPD <sub>2</sub> |
|-------|---------------|--------------------|------------------------|-----------------------|------------------------|------------------|------------------|
| 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

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

| Layer | Material Name       | t <sub>i</sub> [m] | ρ <sub>i</sub> [kg/m³] | λ <sub>i</sub> [W/mK] | c <sub>i</sub> [J/kgK] | EPD <sub>1</sub> | EPD <sub>2</sub> |
|-------|---------------------|--------------------|------------------------|-----------------------|------------------------|------------------|------------------|
| 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

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

| Layer | Material Name            | t <sub>i</sub> [m] | ρ <sub>i</sub> [kg/m³] | λ <sub>i</sub> [W/mK] | c <sub>i</sub> [J/kgK] | EPD <sub>1</sub> | EPD <sub>2</sub> |
|-------|--------------------------|--------------------|------------------------|-----------------------|------------------------|------------------|------------------|
| 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 <sub>i</sub> [m] | ρ <sub>i</sub> [kg/m³] | λ <sub>i</sub> [W/mK] | c <sub>i</sub> [J/kgK] | EPD <sub>1</sub> | EPD <sub>2</sub> |
|-------|------------------------|--------------------|------------------------|-----------------------|------------------------|------------------|------------------|
| 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 <sub>Gl</sub> | Frame type | EPD <sub>Fr</sub> | 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   |



## Multi Family House

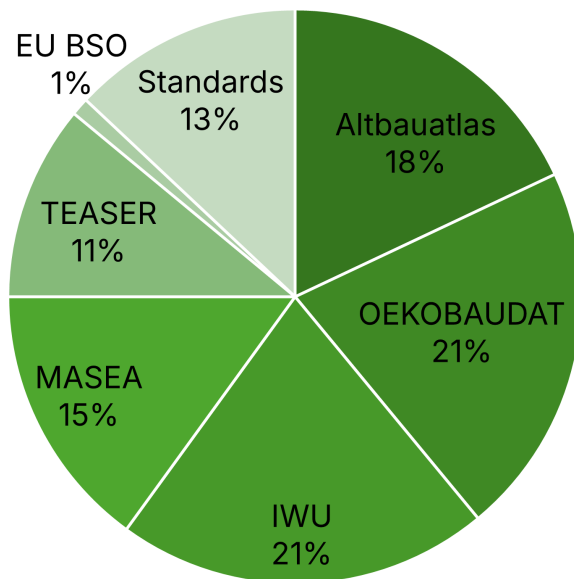


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## EPD Summary Table

| 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 |



This archetype represents :

- **0.19%** of all Multi-Family Houses
- **0.44%** of all Multi-Family Houses of the specific region
- **3.39%** of all Multi-Family Houses of the specific region and municipality type

| Data source | Link                                                                                                                                                           |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Altbauatlas | <a href="https://www.altbauatlas.de/index.php">https://www.altbauatlas.de/index.php</a>                                                                        |
| OEKOBAUDAT  | <a href="https://www.oekobaudat.de/en.html">https://www.oekobaudat.de/en.html</a>                                                                              |
| IWU         | <a href="https://datenbasis.iwu.de/">https://datenbasis.iwu.de/</a><br><a href="https://wohngebaeuedaten2016.iwu.de/">https://wohngebaeuedaten2016.iwu.de/</a> |
| MASEA       | <a href="https://www.masea-ensan.de/">https://www.masea-ensan.de/</a>                                                                                          |
| TEASER      | <a href="https://ebc-tools.eonerc.rwth-aachen.de/en/teaser">https://ebc-tools.eonerc.rwth-aachen.de/en/teaser</a>                                              |
| EU BSO      | <a href="https://building-stock-observatory.energy.ec.europa.eu/database/">https://building-stock-observatory.energy.ec.europa.eu/database/</a>                |