



EPD


Isover EPS RigiFloor 5000

Environmental product declaration,
In accordance with EN 15804+A2 and ISO 14025

General information

| | |
|---|--|
| Manufacturer | Saint-Gobain Construction Products CZ a.s., Isover Division, Smrčkova 2485/4, 180 00 Prague 8, Czech Republic |
| Manufacturer represented | Czech Republic |
| About company | Isover offers the widest range of thermal, acoustic and fire insulation in the highest quality on the Czech market, on a global scale it is the most important and largest global manufacturer with operations and production plants all over the world. The complete offer of the Isover brand assortment includes products made of stone and glass wool, expanded polystyrene and accessories for system solutions for insulation of floors, partitions, walls, facades, ceilings, soffits, flat and sloping roofs or pipe distribution. |
| EPD Programme | National Environmental Labeling Program |
| Registration no | 3015-EPD-030064315 |
| Generic PCR review conducted by | EN 15804+A2 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products |
| Other used standards | EN 16783 |
| Information for the Environmental Product Declaration based on | General report Isover Český Brod, 02/2023 |
| EPD range | „From cradle to gate with option“ (details later in EPD) |
| Date of publication | 10 th July 2023 |
| EPD validity | 10 th July 2028 |
| Complier EPD | Ing. arch. Tomáš Truxa, Isover Division, Saint-Gobain Construction Products CZ a.s. |
| Verifier EPD | Technický a zkušební ústav stavební Praha, s.p. |

Tab. 1 – Information about verifier

| The norm EN 15804+A2 prepared CEN serves as a basic PCR | |
|---|--|
| <p>Independent verification of the environmental declaration and data according to standard ČSN ISO 14025:2010</p> <p><input type="checkbox"/> Internal External <input checked="" type="checkbox"/></p> |  |
| <p>The third party verifier: Technický a zkušební ústav stavební Praha, s.p. Prosecká 811/76a, Prague 9, 190 00 Czech Republic</p> <p>The certification authority for EPD is accredited ČIA – Český institut pro akreditaci, o.p.s., Osvědčení č. 95/2023.</p> | |

Product description and description of use

Expanded polystyrene (EPS) is produced by expanding solid beads of expandable polystyrene by the action of saturated water vapour into blocks, which are then cut into respective boards. During this process, the beads increase their volume from twenty to fifty times the original volume and a fine cell structure is formed inside each bead.

Pentane, a common natural gas produced, for example, in the digestive systems of animals or by the decomposition of plant material by micro-organisms, is used for foaming. Neither Styrofoam nor its manufacturing process contains, nor has ever contained, the ozone-depleting substances known as CFCs.

Isover EPS RigiFloor 5000 is used as floor acoustic insulation. Thanks to the elastification of the product, this type of polystyrene is able to prove itself as a step insulation. The RigiFloor 5000 version is suitable for insulating heavy floating floors in residential buildings.



Fig. 1 - Example of Isover EPS RigiFloor 5000 application

Tab. 2 - Product parameters for EPD calculation

| Parameter | Value |
|---|-----------------------------|
| Thickness of product | 50 mm (from range 20-50 mm) |
| Density | 13,5-15 kg/m ³ |
| Packaging for the distribution and transportation | Stretch film |
| Product used for the Installation | - |
| Implementation loss rate | 5 % |

Tab. 3 - Technical data / physical characteristics

| Parameter | Value |
|---|--|
| Thermal resistance (50 mm) (EN 12162) | 1.25 m ² ·K·W ⁻¹ |
| Thermal conductivity coefficient λ_D (EN 12667) | 0.039 W·m ⁻¹ ·K ⁻¹ |
| Water vapour transmission (EN 12086) | 20-40 [-] |
| Compressive strength (EN 826) | - |
| Tensile strength (EN 1607) | - |
| Reaction to fire class (EN 13 501-1) | E |

More info www.isover.cz/dokumenty

Tab. 4 – Chemical and hazard information

| Component | CAS | Concentration | EC number | EC hazards | R-phrases |
|--------------------------------|---|---------------|-----------|------------|-----------|
| Polystyrene | 9003-53-6 | 92 % | | | |
| Pentane and mixture of isomers | 109-66-0 (n-pentant) 78-78-4 (isopentan) | 2 % | | F | R11 |
| Water | 7732-18-5 | 5.3 % | | | |
| Flame retardant* | – | 0.7 % | | | |

*A mixture of retardants, none of which are on the candidate list of substances of very high concern subject to authorization.

More info www.isover.cz/dokumenty

Most important hazards: there is no warning notice with this product.

The verifier and program operator make no claims and are not responsible for the legality of the product.

LCA, input values

Tab. 5 – LCA calculation information

| | |
|-------------------------------------|---|
| Functional unit (FU) | Providing a thermal insulation on 1 m ² with a thermal resistance of 1.25 m ² ·K·W ⁻¹ |
| System boundaries | „From cradle to gate with option“ |
| Reference service life (RSL) | 50 years |
| Cut-off rules | Boundary conditions for inputs and primary energy at the process level (1%) and information level (5%). Not included are flows resulting from human activities - transport of employees. Plant construction, machinery manufacture and transport system are not included as the associated flows are assumed to be negligible compared to the production of construction materials, relative to the life cycle. |
| Allocations | Allocation criteria are based on mass |
| Local conditions | Český Brod (Czech Republic) |
| Assessed period | 2021 |
| Comparable | According to EN 15804, EPD of construction products may not be comparable if they do not comply with this standard. According to ISO 21930, EPD might not be comparable if they are from different programmes. |
| Software | SimaPro 9.4.0.2 |
| Characterization factors | Part of the calculation methods conforming to EN 15804+A2 |

| BUILDING ASSESSMENT INFORMATION | | | | | | |
|---------------------------------|---|---------------------------------------|-------------------------------------|---------------------------------------|--|---|
| | Information building life cycle information | | | | SUPPLEMENTARY INFORMATION BEYOND THE BUILDING LIFE CYCLE | |
| | A1-A3 PRODUCTS STAGE | A4-A5 CONSTRUCTION PROCESS STAGE | B1-B7 USE STAGE ³⁾ | | C1-C4 END OF LIFE STAGE | D Benefits and loads beyond the system boundary |
| | A1 Raw material supply | A4 Transport | B1 Use scenario | B5 Reconstruction scenario | C1 Deconstruction / Demolition scenario | REUSE RECOVERY RECYCLING POTENTIAL |
| | A2 Transport | A5 Construction - Installation proces | B2 Maintenance scenario | B6 Operational energy use scenario | C2 Transport scenario | |
| | A3 Manufacturing | | B3 Repair scenario | B7 Operational water use scenario | C3 Waste processing scenario | |
| | | | B4 Replacement scenario | | C4 Disposal scenario | |
| EPD | Cradle to gate Declared unit | Mandatory | | | | no RSL |
| | Cradle to gate with option Declared unit / Functional unit | Mandatory | Inclusion optional ^{1) 2)} | Inclusion optional ^{1) 2)} | Inclusion optional ^{1) 2)} | RSL ¹⁾ |
| | Cradle to grave Functional unit | Mandatory | Mandatory ^{1) 2)} | Mandatory ^{1) 2)} | Mandatory ^{1) 2)} | RSL ²⁾ |

¹⁾ Inclusion for a declared scenario

²⁾ If all scenarios are given

³⁾ The effect of the product in stage B1-B7 will be counted at the level of building construction

Fig. 2 – Life cycle phases counted (EN 15804+A2)

Life cycle stages

■ **PRODUCT STAGE A1-A3**

The production stage of expanded polystyrene is divided into 3 modules A1, A2 and A3, i.e. „Raw material supply”, „transport” and „production”.

According to standard EN 15804+A2 it is possible to merge modules A1, A2 and A3. This rule is applied in this EPD.

■ **A1 – RAW MATERIAL SUPPLY**

This module includes the mining and processing of all input raw materials and energy required for this process (outside the production plant).

Specifically, the feedstocks include foamable polystyrene beads, pentane, as well as a recyclable polystyrene component.

■ **A2 – TRANSPORT TO PRODUCTION**

Input raw materials are transported to the production line. In this case, the model includes road transport (average value) for each input material.

■ **A3 – MANUFACTURING**

This module includes the production of insulation material from inputs (input raw materials, energy, water, etc.), packaging (PE film).



Fig. 3 – Manufacturing process schema



Fig. 4 - Primary raw material



Fig. 5 - Pre-expansion



Fig. 6 - Aging of beads



Fig. 7 - Adding recyclates



Fig. 8 - Block production



Fig. 9 - Block stabilization



Fig. 10 - Board cutting

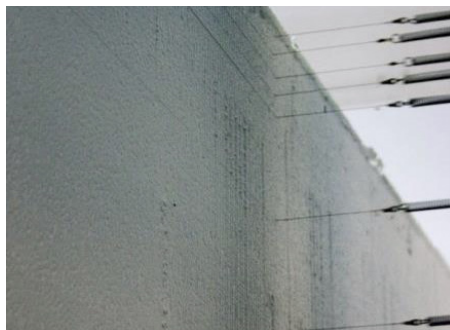


Fig. 11 - Cutting detail



Fig. 12 - Packaging

■ CONSTRUCTION PROCESS STAGE A4-A5

Description of the stage: The construction process is divided into 2 modules: transport to the building site A4 and installation A5.

■ A4 - TRANSPORT TO THE BUILDING SITE

This module includes transport from the production gate to the building site. Transport is calculated on the basis of a scenario with the parameters described in Table 6.

Tab. 6 – Scenario for the calculation of stage A4

| Parameter | Value |
|--|--|
| Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc. | Average truck trailer with a 24t payload, consumption 21.5 liters for 100 km |
| Distance to construction site | 115 km |
| Capacity utilisation (including empty returns) | 99 % of the capacity in volume 40 % of empty returns |
| Bulk density of transported products | 13,5–15 kg/m ³ |
| Volume capacity utilisation factor | 1 (by default) |

■ A5 - INSTALLATION IN THE BUILDING

During this process a certain amount of material is left unprocessed, resulting in so-called pruning and waste. How this unprocessed and waste material is further handled is described in Table 7.

Tab. 7 – Scenario for the calculation of stage A5

| Parameter | Value |
|---|---|
| Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type) | 5 % |
| Output materials (specified by type) as results of waste processing at the building site e.g. of collection for recycling, for energy recovering, disposal (specified by route) | Packaging wastes are 100% collected and modeled as recovered matter |
| Disposal of unused material | 90 % recycling 10 % landfilled |
| Distance to factory, recycling center, landfill | 115 km (recycling) 25 km (landfilled) |
| Type of fuel and consumption of the car or type of car used for transport | Average truck trailer with a 7,5–16 t payload, consumption 21.5 liters for 100 km |
| Volume capacity utilisation factor | 1.3 |

■ USE STAGE B1-B7

The use stage is divided into the following modules:

- B1 - USE
- B2 - MAINTENANCE
- B3 - REPAIR
- B4 - REPLACEMENT
- B5 - REFURBISHMENT
- B6 - OPERATIONAL ENERGY USE
- B7 - OPERATIONAL WATER USE

Once installation of the material is completed no further technical operations are required in connection with the thermal insulation during the use of the building until the end of its service life. For this reason these values are not quantified in the EPD. The thermal savings potential shall be calculated at the building level, i.e. outside the EPD product boundaries.

■ END-OF-LIFE STAGE C1-C4

This stage includes various end-of-life modules, see below for details.

■ C1 - DECONSTRUCTION, DEMOLITION

The de-construction and/or dismantling of insulation products take part of the demolition of the entire building. In our case, the environmental impact is assumed to be very small and can be neglected.

■ C2 - TRANSPORT TO WASTE PROCESSING

A distance of 115 km to the recycling center and 25 km to the landfill is considered.

■ C3 - WASTE PROCESSING FOR REUSE, UTILIZATION AND/OR RECYCLING

EPS has great potential for further processing, recycling. In the considered scenario, a 90% take-back of the products to a production plant or recycling centre is calculated, where it is subsequently recycled into raw material for EPS production, or used in downcycling into polystyrene concrete, compactors or garden substrates.

■ C4 - REMOVAL

In the end-of-life scenario, 10 % landfilling of waste is considered.

Tab. 8 – Scenario for the calculation of stage C2, C3, C4

| Parameter | Value |
|---|---|
| Collection process specified by type | 0.75 kg (together with mixed construction waste) |
| Distance to factory, recycling centre, landfill | 115 km (recycling) 25 km (landfilled) |
| Transport mode under consideration | Average truck trailer with a 24t payload, consumption 21.5 liters for 100 km |
| Amount of recycling | 0.675 kg recycled |
| Landfilling | 0.075 kg landfilled |

■ REUSE/RECOVERY/RECYCLING POTENTIAL - D

90 % of the EPS is reusable, as detailed in the previous chapters. In the future, this figure is expected to increase to 100 % (at the expense of landfilling).

Results LCA

LCA model, aggregation of data and environmental impact are calculated from software SimaPro 9.4.0.2 database of generic data – Ecoinvent 3.8.
Resume of the LCA results detailed on the following tabs.

Tab. 9 – Environmental impacts of other thicknesses can be recounted by the design factor (on the material density and thickness base): except for A5

| Thickness (mm) | 20 | 30 | 40 | 50 |
|----------------|-----|-----|-----|-----|
| Factor | 0.4 | 0.6 | 0.8 | 1.0 |

Tab. 10 – Parameters describing the basic environmental impacts

| Indicator – Unit | Product stage | Construction process stage | | Use stage | End-of-life stage | | | | Reuse, recovery, recycling |
|---|---------------|----------------------------|----------|-----------|-------------------|----------|----------|----------|----------------------------|
| | A1–A3 | A4 | A5 | B1–B7 | C1 | C2 | C3 | C4 | D |
| GWP-total Global warming potential kg CO ₂ eq. | 2.01E+00 | 1.33E-02 | 8.82E-04 | ND | 0 | 1.66E-02 | 1.81E-04 | 2.86E-04 | -1.41E+00 |
| GWP-fossil Global warming potential kg CO ₂ eq. | 2.01E+00 | 1.33E-02 | 8.81E-04 | ND | 0 | 1.66E-02 | 1.75E-04 | 2.84E-04 | -1.41E+00 |
| GWP-biogenic Global warming potential kg CO ₂ eq. | 1.31E-03 | 1.13E-05 | 7.99E-07 | ND | 0 | 1.52E-05 | 5.45E-06 | 1.20E-06 | -1.31E-03 |
| GWP-luluc Global warming potential from land use and land-use change kg CO ₂ eq. | 8.83E-05 | 5.22E-06 | 4.14E-07 | ND | 0 | 8.02E-06 | 4.01E-07 | 6.40E-08 | -2.61E-06 |
| ODP Stratospheric ozone depletion potential kg CFC 11 eq. | 5.20E-08 | 3.08E-09 | 1.98E-10 | ND | 0 | 3.71E-09 | 8.89E-12 | 1.41E-10 | -5.51E-09 |
| AP Acidification potential, Cumulative exceedance mol H+ eq. | 4.95E-03 | 5.40E-05 | 3.50E-06 | ND | 0 | 6.57E-05 | 9.36E-07 | 2.79E-06 | -3.92E-03 |
| freshwater EP Eutrophication potential, proportion of nutrients entering fresh water kg P eq. | 8.85E-05 | 8.56E-07 | 6.61E-08 | ND | 0 | 1.28E-06 | 1.70E-07 | 1.62E-08 | -2.90E-06 |
| seawater EP Eutrophication potential, proportion of nutrients entering seawater kg N eq. | 1.02E-03 | 1.63E-05 | 1.02E-06 | ND | 0 | 1.90E-05 | 1.64E-07 | 1.05E-06 | -7.80E-04 |
| soil EP Eutrophication potential, Cumulative overshoot mol N eq. | 1.09E-02 | 1.78E-04 | 1.11E-05 | ND | 0 | 2.08E-04 | 1.44E-06 | 1.16E-05 | -8.46E-03 |
| POCP Ground-level ozone formation potential kg NMVOC eq. | 3.08E-03 | 5.44E-05 | 3.42E-06 | ND | 0 | 6.40E-05 | 4.15E-07 | 3.31E-06 | -2.30E-03 |
| ADP-minerals and metals Raw material depletion potential for non-fossil sources kg Sb eq. | 7.49E-07 | 4.62E-08 | 4.01E-09 | ND | 0 | 7.84E-08 | 4.77E-10 | 5.55E-10 | -2.86E-07 |
| ADP-fossil fuels Raw material depletion potential for fossil resources MJ, calorific value | 5.47E+01 | 2.01E-01 | 1.31E-02 | ND | 0 | 2.47E-01 | 3.67E-03 | 9.20E-03 | -4.59E+01 |
| WDP Water scarcity potential (for users), water scarcity weighted by water scarcity m³ eq. scarcity | 3.68E-01 | 6.02E-04 | 4.35E-05 | ND | 0 | 8.33E-04 | 4.09E-05 | 2.91E-05 | -2.84E-01 |

ND = „not declared“

The environmental impact of the product (Module B1-B7) will only become apparent when the product is accounted for within the structure the building.

Tab. 11 – Additional environmental impacts

| Indicator – Unit | Product stage | Construction process stage | | Use stage | End-of-life stage | | | | Reuse, recovery, recycling |
|---|---------------|----------------------------|----------|-----------|-------------------|----------|----------|----------|----------------------------|
| | A1-A3 | A4 | A5 | B1-B7 | C1 | C2 | C3 | C4 | D |
| PM Potential occurrence of disease due to particulate matter emissions Occurrence of the disease | 3.64E-08 | 1.15E-09 | 6.55E-11 | ND | 0 | 1.21E-09 | 3.46E-12 | 6.18E-11 | -2.97E-08 |
| IRP Potential effect of human exposure to the isotope U235 kBq U235 eq. | 3.59E-01 | 1.03E-03 | 6.98E-05 | ND | 0 | 1.32E-03 | 9.83E-05 | 4.43E-05 | -3.11E-01 |
| ETP-fw Potential comparative toxic unit for ecosystems CTUe | 3.10E+01 | 1.57E-01 | 1.07E-02 | ND | 0 | 2.03E-01 | 2.09E-03 | 5.10E-03 | -2.74E+01 |
| HTP-c Potential comparative toxic unit for humans CTUe | 6.98E-09 | 1.64E-10 | 1.08E-11 | ND | 0 | 2.05E-10 | 2.99E-12 | 2.41E-12 | -5.42E-09 |
| HTP-nc Potential comparative toxic unit for humans CTUh | 2.33E-10 | 5.08E-12 | 3.92E-13 | ND | 0 | 7.55E-12 | 1.57E-13 | 1.16E-13 | -1.79E-10 |
| SQP Potential Soil Quality Index dimensionless | 6.23E-01 | 1.38E-01 | 7.76E-03 | ND | 0 | 1.43E-01 | 5.46E-04 | 2.05E-02 | -1.39E-01 |

ND = „not declared“

The environmental impact of the product (Module B1-B7) will only become apparent when the product is accounted for within the structure the building.

Tab. 12 – Resource consumption

| Indicator – Unit | Product stage | Construction process stage | | Use stage | End-of-life stage | | | | Reuse, recovery, recycling |
|--|---------------|----------------------------|----------|-----------|-------------------|----------|----------|----------|----------------------------|
| | A1-A3 | A4 | A5 | B1-B7 | C1 | C2 | C3 | C4 | D |
| PERE Consumption of renewable primary energy, excluding energy sources used as raw materials MJ | 8.96E-01 | 2.83E-03 | 2.22E-04 | ND | 0 | 4.29E-03 | 6.38E-04 | 1.87E-04 | -3.13E-01 |
| PERM Consumption of renewable primary energy sources used as raw materials MJ | 0 | 0 | 0 | ND | 0 | 0 | 0 | 0 | 0 |
| PERT Total consumption of renewable primary energy sources (primary energy and primary energy sources used as raw materials) MJ | 8.96E-01 | 2.83E-03 | 2.22E-04 | ND | 0 | 4.29E-03 | 6.38E-04 | 1.87E-04 | -3.13E-01 |
| PENRE Consumption of non-renewable primary energy, excluding energy sources used as raw materials MJ | 5.89E+01 | 2.13E-01 | 1.40E-02 | ND | 0 | 2.62E-01 | 3.85E-03 | 9.77E-03 | -4.94E+01 |
| PENRM Consumption of non-renewable primary energy sources used as raw materials MJ | 0 | 0 | 0 | ND | 0 | 0 | 0 | 0 | 0 |
| PENRT Total consumption of non-renewable primary energy sources (primary energy and primary energy sources used as raw materials) MJ | 5.89E+01 | 2.13E-01 | 1.40E-02 | ND | 0 | 2.62E-01 | 3.85E-03 | 9.77E-03 | -4.94E+01 |
| SM Consumption of secondary raw materials kg | 0 | 0 | 0 | ND | 0 | 0 | 0 | 0 | 0 |
| RSF Consumption of renewable secondary fuels MJ | 0 | 0 | 0 | ND | 0 | 0 | 0 | 0 | 0 |
| NRSF Consumption of non-renewable secondary fuels MJ | 0 | 0 | 0 | ND | 0 | 0 | 0 | 0 | 0 |
| FW Net potable water consumption m ³ | 1.71E-06 | 0 | 0 | ND | 0 | 0 | 0 | 0 | 0 |

ND = „not declared“

The environmental impact of the product (Module B1-B7) will only become apparent when the product is accounted for within the structure the building.

Tab. 13 – Waste category

| Indicator – Unit | Product stage | Construction process stage | | Use stage | End-of-life stage | | | | Reuse, recovery, recycling |
|--|---------------|----------------------------|----|-----------|-------------------|----|----|----------|----------------------------|
| | A1-A3 | A4 | A5 | B1-B7 | C1 | C2 | C3 | C4 | D |
| HWD Hazardous waste disposed of kg | 1.20E-05 | 0 | 0 | ND | 0 | 0 | 0 | 0 | 0 |
| NHWD Other waste disposed of kg | 2.20E-03 | 0 | 0 | ND | 0 | 0 | 0 | 6.70E-02 | 0 |
| RWD Radioactive waste disposed of kg | 0 | 0 | 0 | ND | 0 | 0 | 0 | 0 | 0 |

Tab. 14 – Other output flows

| Indicator – Unit | Product stage | Construction process stage | | Use stage | End-of-life stage | | | | Reuse, recovery, recycling |
|---|---------------|----------------------------|----------|-----------|-------------------|----|----------|----|----------------------------|
| | A1-A3 | A4 | A5 | B1-B7 | C1 | C2 | C3 | C4 | D |
| MFR Construction units for reuse kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MER Materials for recycling kg | 1.57E-03 | 0 | 5.03E-03 | 0 | 0 | 0 | 1.80E-01 | 0 | 0 |
| EEE Materials for energy recovery kg | 3.00E-06 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EET Exported energy MJ per energy carrier | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Tab. 15 – the biogenic carbon content of the plant gate (FU = 1 m²)

| Indicator – Unit | At the plant gate |
|--|-------------------|
| Biogenic carbon content of the product kg C | 0 |
| Biogenic carbon content in the appropriate packaging kg C | 0 |


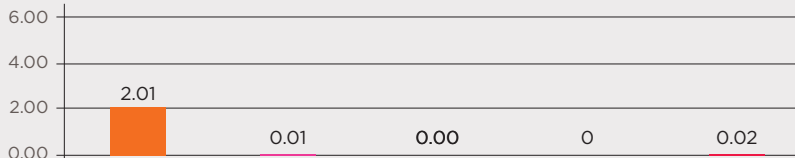

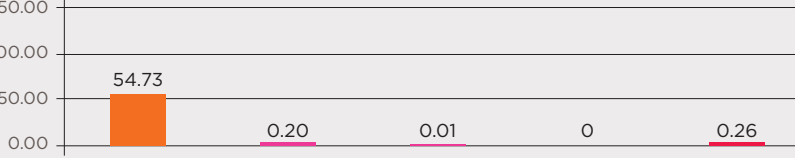

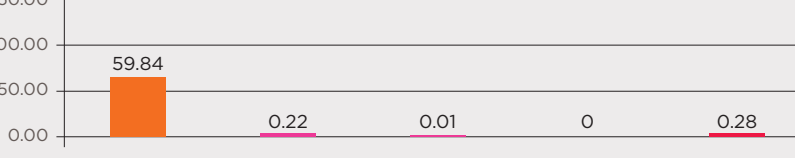

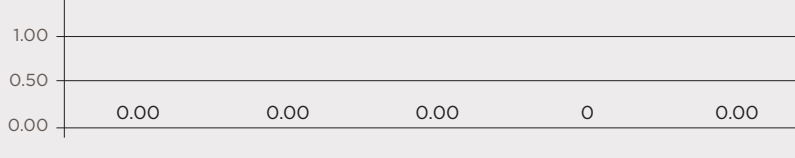

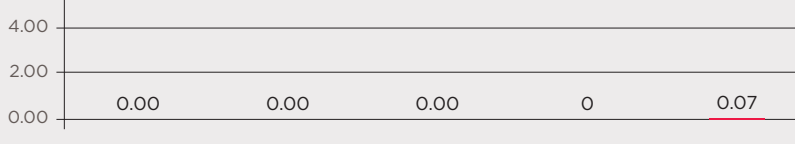
ND = „not declared“

The environmental impact of the product (Module B1-B7) will only become apparent when the product is accounted for within the structure the building.

Packaging - without wooden floor, weight 0 kg per FU, calculation according to EN 16449.

LCA interpretation

Tab. 16 – The interpretation of results LCA according to SG PCR

| | Product stage | Construction process stage | | Use stage | End-of-life stage | Environmental impacts of the product | Positive benefits of recycling |
|--|--|----------------------------|--------------|-----------|-------------------|--|--------------------------------|
| | | Transport | Installation | | | | |
| | A1-A3 | A4 | A5 | B1-B7 | C1-C4 | TOTAL | D |
| Global warming  kg CO ₂ equiv/FU |  | | | | | 2.04 kg CO ₂ equiv/FU | -1.41 |
| Non-renewable resources consumption 1)  MJ/FU |  | | | | | 55.20 MJ/FU | -45.90 |
| Energy consumption 2)  MJ/FU |  | | | | | 60.35 MJ/FU | -49.68 |
| Water consumption 3)  m ³ /FU |  | | | | | 0.00 m ³ /FU | 0.00 |
| Waste production 4)  kg/FU |  | | | | | 0.07 kg/FU | 0.00 |

1) This indicator corresponds to the abiotic depletion potential of fossil resources.

2) This indicator corresponds to the total use of primary energy.

3) This indicator corresponds to the use of net fresh water.

4) This indicator expresses to the sum of hazardous, non-hazardous and radioactive waste disposed.

Environmental positive contribution

WASTE PROCESSING FOR REUSE, RECOVERY AND/OR RECYCLING

EPS waste material from the production process (e.g. offcuts from cutting blocks into boards) is returned through the recycling center back to the beginning of the production process and replaces part of the primary raw material. This waste is processed internally and does not leave the manufacturing plant. This process minimizes the amount of waste generated during the production of expanded polystyrene boards.



Fig. 13 – Raw material for the production of EPS

Isover collects all construction waste from EPS processing. The waste is returned to the production plant, where it is processed and then used for further production of EPS. Thanks to this, the amount of waste going to the landfill or incinerator is reduced. Isover also collects polystyrene from packaging from appliances, furniture and shipping boxes.

Only waste that meets the requirements set for input raw materials can be used for further processing (recycling). In practice, this means that for our further processing of the recycled material, it is important that the delivered recycled material is free of impurities, without any adhesives, paint residues, wood, plastic, paper labels, metal, food residues, sealants, adhesives, mortar, etc. it is necessary to be able to crush the delivered recycle.

RECYCLED CONTENT

The total amount of recycled content in the product Isover EPS RigiFloor 5000 according EN ISO 14021 part 7.8 is greater than 15 %.

Tab. 17 – Recycled content

| Parameter | Value |
|------------------|--------|
| Recycled content | > 15 % |

The calculation of the recycled content is based on the weight of the product. Data on raw materials and production from 2021 are used in the calculation.



Fig. 14 – EPS offcuts from production

We recycle standard white and grey polystyrene. It is also possible to take back the pink plinth polystyrene for further processing.



Fig. 15 – Recycling and circular economy

Our goal is to obtain a greater amount of recycled material for plants and to ease the need for companies to recycle waste. We try to give customers, implementation companies and distributors the appropriate service.

Additional information

ENVIRONMENTAL POLICY OF SAINT-GOBAIN

The Saint-Gobain company strives to be a leader in the field of sustainable smelting, therefore it optimizes all processes associated with the supply of environmentally friendly products and promotes the construction of sustainable buildings that consume less energy, resources, produce less waste and emissions in the long term with its integrated solutions.

For all Saint-Gobain products, emphasis is placed on reducing their impact on the environment at all stages of the life cycle and at the same time improving all the useful properties of the products.

The Saint-Gobain group has long-term goals: zero accidents in relation to the environment and constant reduction of environmental impacts (see following Fig. 16). Using mid-term and short-term goals, it then fulfills the long-term goals. The Group places particular emphasis on the following environmental areas: raw materials, waste and recycling, energy, atmospheric emissions, water, biodiversity and accidents with an impact on the environment.

By 2030, Saint-Gobain has set ambitious commitments in the areas of reducing CO₂ emissions, recycling waste, reducing water consumption and product transparency.

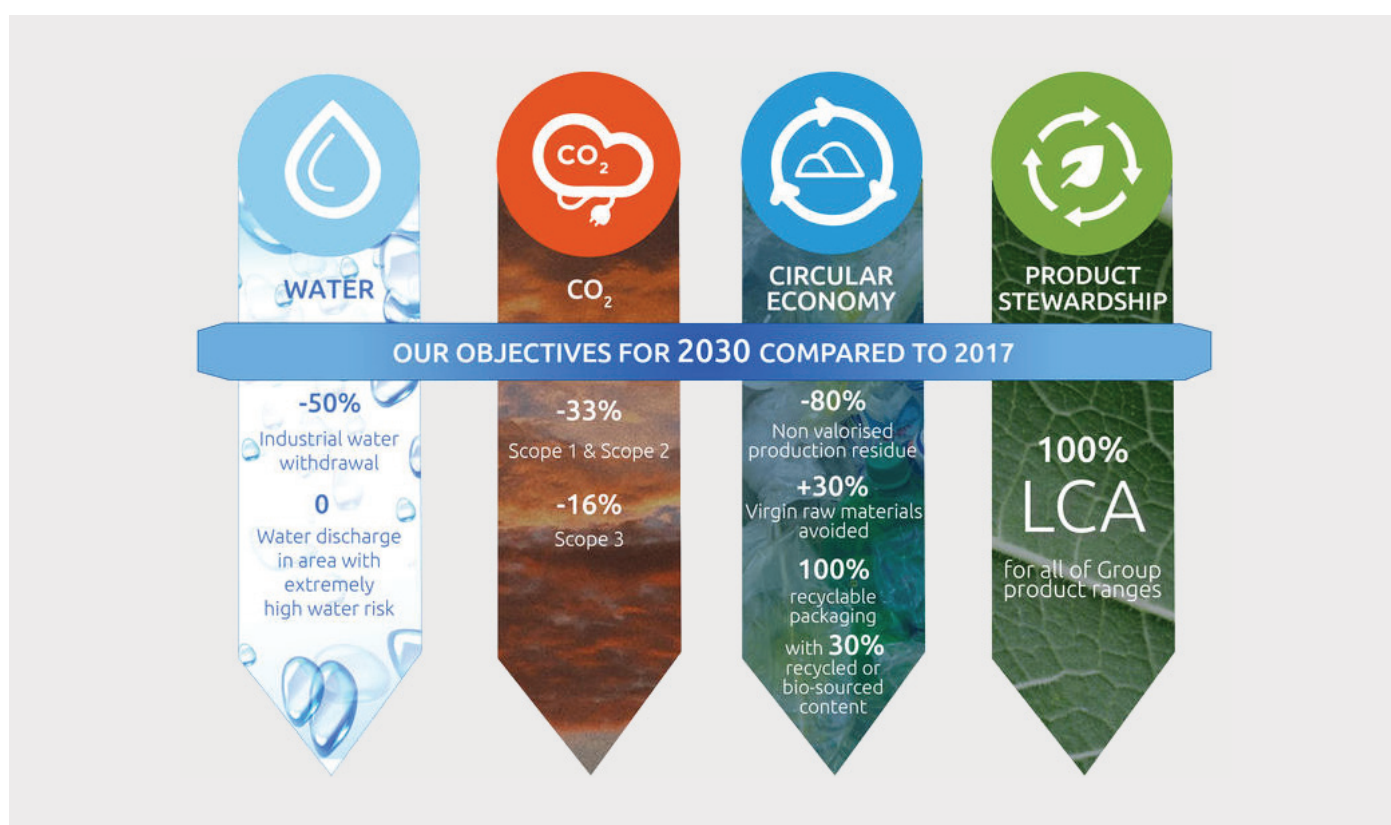


Fig. 16 – Long term goals of the group Saint Gobain in the environmental

More informations CSR (Corporate Sustainability Report) on the website www.saint-gobain.com

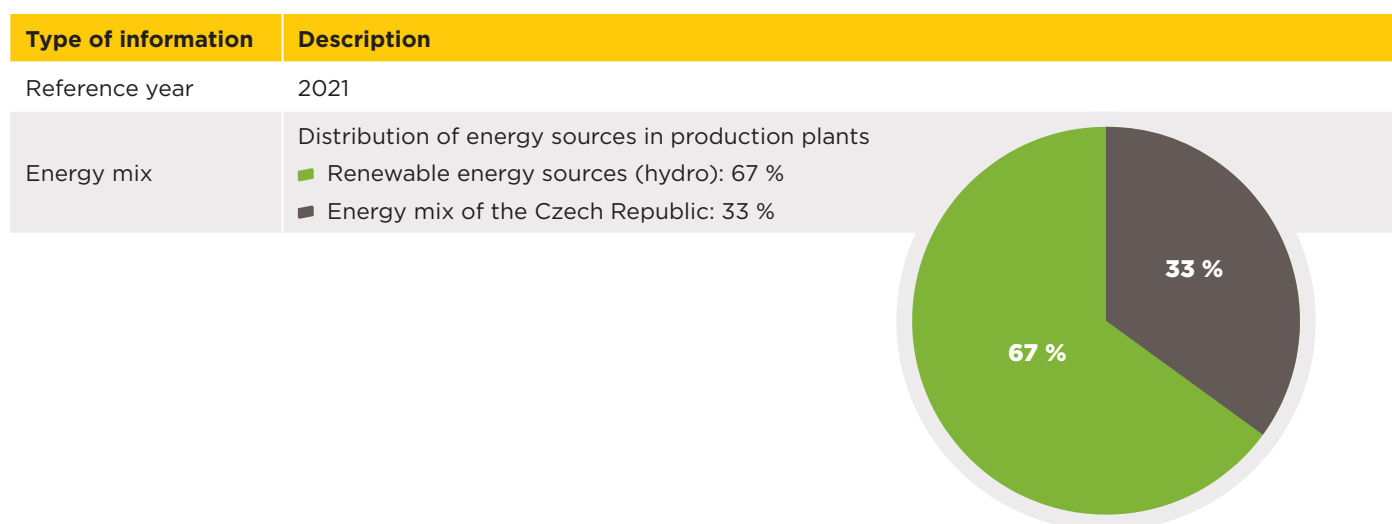
Production process follows in addition these international standards:
EN ISO 9001, ISO 14001, OHSAS 18001 a ISO 50001



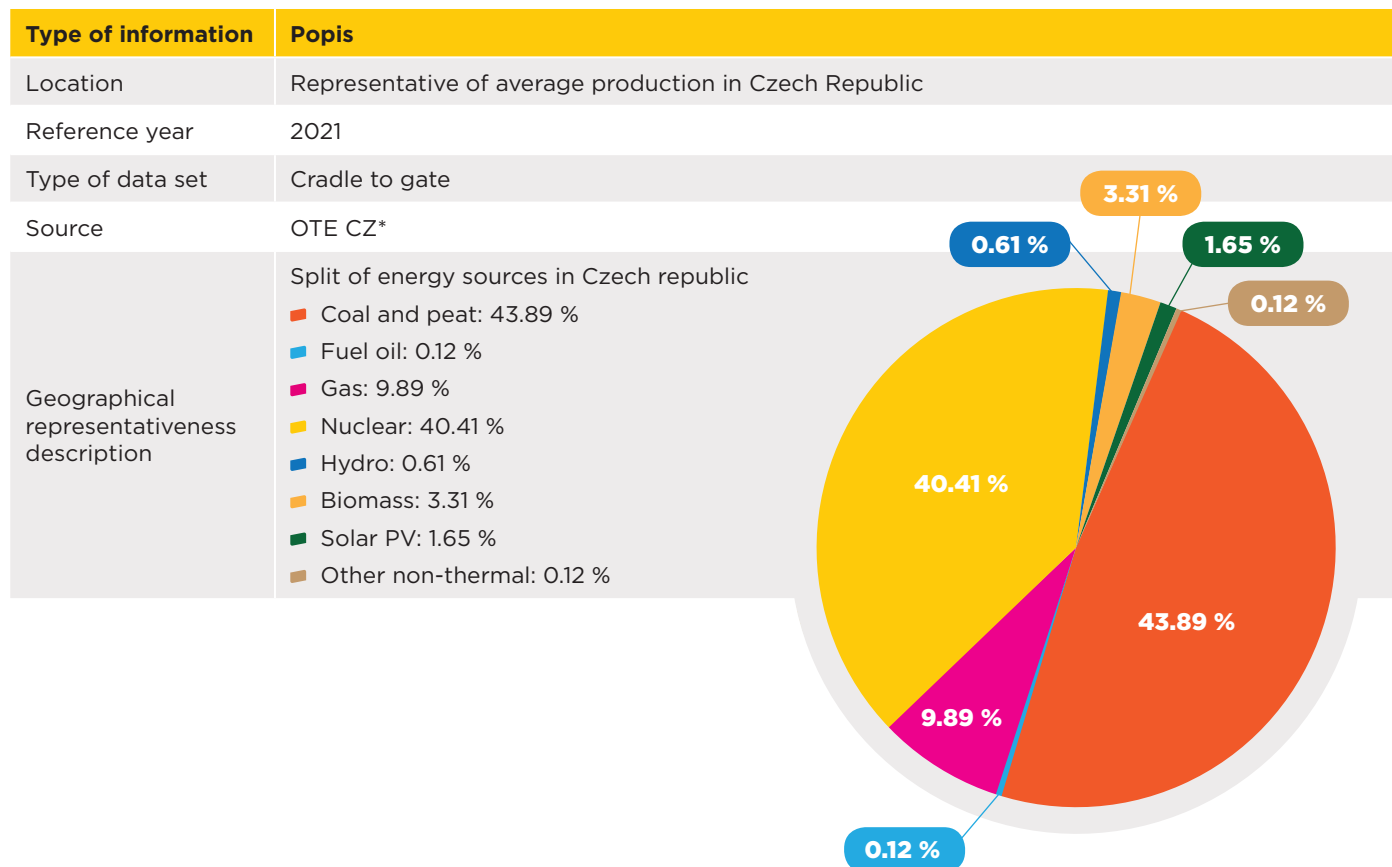
THE ELECTRICITY PRODUCTION MODEL CONSIDERED FOR THE MODELLING OF SAINT-GOBAIN PLANT IS:

401 Electricity (Czech Republic, 2021)

Tab. 18 – Energy mix for Saint-Gobain production plants



Tab. 19 – National energy mix



*Residual energy mix. OTE CZ [online]. [cit. 2023-01-13].
Available from www.ote-cr.cz/cs/statistika/zbytkovy-energeticky-mix

Source

- 1) EN 15804. Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products. Prague: Úřad pro technickou normalizaci, metrologii a státní zkušebnictví, 2012.
- 2) ČSN ISO 14025. Environmental labels and declarations - Type III environmental declarations - Principles and procedures. Prague: ČESKÝ NORMALIZAČNÍ INSTITUT, 2006
- 3) Environdec PCR (International EPD system). Product group: Multiple UN CPC Codes: INSULATION MATERIALS. version 1.0 (2014:13). Sweden.
- 4) General report Isover Český Brod, 02/2023.

Do you need advice?

Contact our Business and Technical Support Center:



+420 226 292 221



podpora@saint-gobain.com



Isover Division
Saint-Gobain Construction Products CZ a.s.
Smrčková 2485/4 • 180 00 Prague 8
Free phone: +420 800 476 837
www.isover.cz

