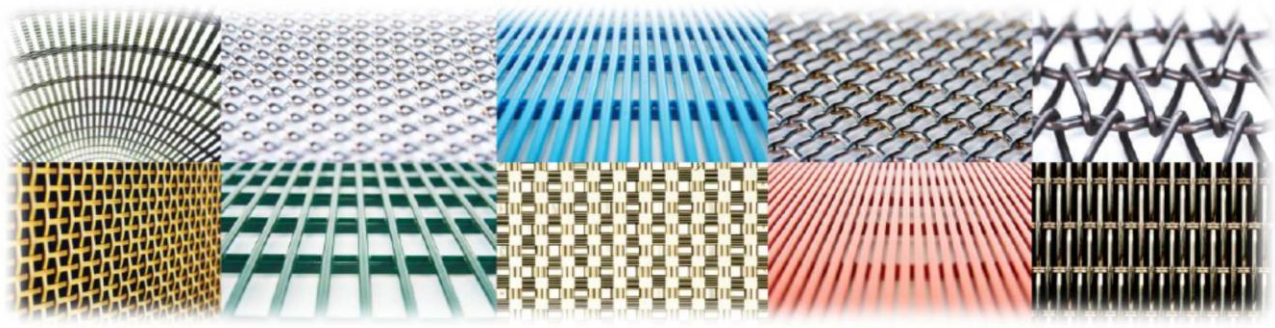
**Type III Environmental Product Declaration No. 912/2026**

Issuance date: 13.02.2026
Validation: 03.03.2028
Validity date: 13.02.2031

# Progress woven wire meshes and welded grids




## Owner of the EPD:

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**ITB is the verified member of The European Platform for EPD program operators and LCA practitioner www.eco-platform.org**

**Basic information**

This declaration is the Type III Environmental Product Declaration (EPD) based on EN 15804+A2 and verified according to ISO 14025 by an external auditor. It contains the information on the impacts of the declared construction materials on the environment and their aspects verified by the independent body according to ISO 14025. Basically, comparison or evaluation of EPD data is possible only if all the compared data were created according to EN 15804+A2.

**Life cycle analysis (LCA):** A1-A3, A4-A5, B6, C1-C4 and D modules in accordance with EN 15804+A2 (Cradle-to-Gate with options)

**The year of preparing the EPD:** 2025

**Product standard:**

**Service Life:** 50 years

**PCR:** ITB-PCR A

**Declared unit:** 1 $m^2$ of Progress woven wire meshes and welded grids

**Reasons for performing LCA:** B2B

**Representativeness:** Polish, European, 2024

## MANUFACTURER

Progress has for more than 20 years designed and manufactured steel wire meshes and grides. Manufacturing Plant is located in Tuczępy, Poland. Steel meshes and grids are produced in a technological process presented in Figure 1. Manufacturer offers a wide range of solutions in stainless, acid-proof and heat-resistant steels as well as special steels. The high- quality steel grades used for their manufacturing and a wide range of openings and wire diameters guarantee their effective work in any processing. Woven wire and wedge screens constitute a basic type of steel screens. Progress production includes wire screens with square and rectangular meshes, available in single-crimp and double-crimp version. Transverse and longitudinal wires are in contact with each other at the crimp, thereby creating the meshes.

*Figure 1 The view of factory located at Tuczępy*

Base materials (input to a product system) are as follows: carbon steel, stainless steel, acid resistant steel, heat resistant steel, non-ferrous metals, cantal; standard AISI 304 (0H18N9, 1.4301), AISI 321 (1H18N9T, 1.4541), AISI 316 (0H17N12M2T, 1.4401).

## PRODUCTS DESCRIPTION AND APPLICATION

**Progress Woven Wire Meshes** are made of: AISI 304 stainless steel, AISI 316, carbon steel, galvanized, Pro-Zinal and other. Max dimensions: 4,000 x 120,000 mm. Finish: Etching, passivation, electropolishing, cataphoresis, powder coating according to RAL, anodizing. They are used as indoor and external building applications, also as covers for large facade, elevation and wall surfaces. Various patterns of interlaces and design variants allow for almost unlimited possibilities (Figure 2).

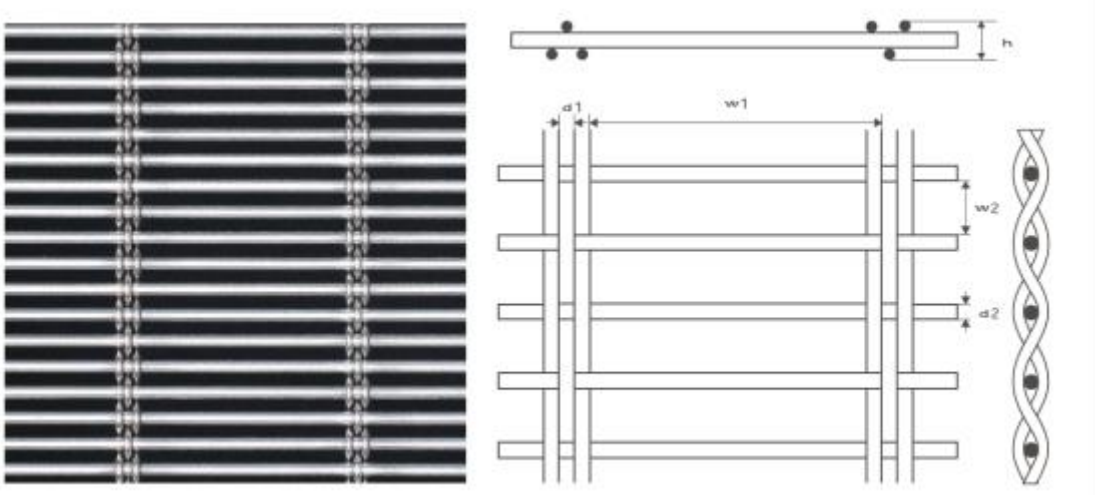
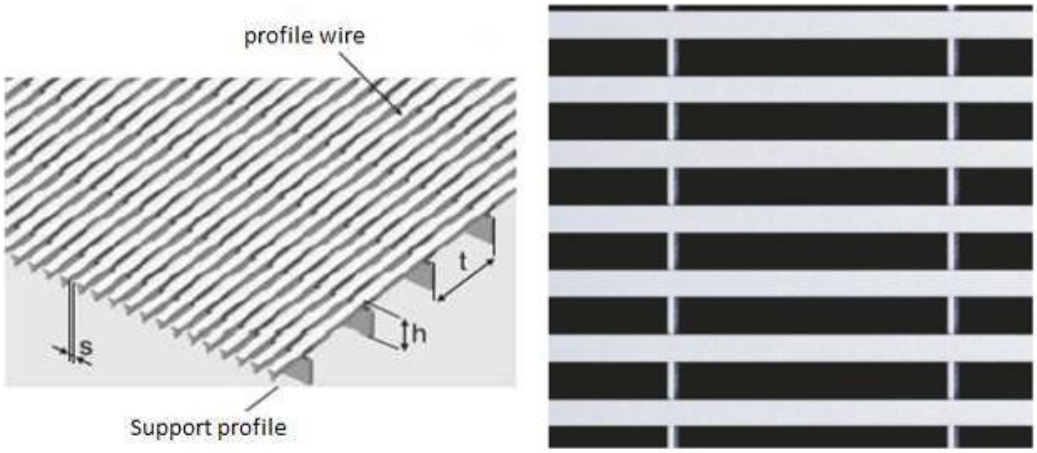



*Figure 2 Progress Woven Wire Meshes – basic technical overview*

**Progress Welded Grids** are made of: AISI 304 stainless steel, AISI 316, carbon steel, galvanized, Pro- ZINAL®, Aluminium. Finish: Etching, passivation, electropolishing, cataphoresis, powder coating according to the RAL palette, shot peening, galvanizing. Max dimensions: 1400 x3800 mm, 6000 x1600 mm




All additional technical information about the product is available on the manufacturer's website and catalogues.

## LIFE CYCLE ASSESSMENT (LCA) – general rules applied

### Unit

The declared unit is 1 $m^2$ of Progress woven wire meshes and welded grids.

### System boundary

The life cycle analysis of the declared products covers “Product Stage plus options” A1-A5, C1-C4+D modules in accordance with EN 15804+2 and ITB PCR A (cradle to gate with options). Energy and water consumption, emissions as well as information on generated wastes were inventoried and were included in the calculation. It can be assumed that the total sum of omitted processes does not exceed 2% of all impact categories. In accordance with EN 15804+A2, machines and facilities (capital goods) required for the production as well as transportation of employees were not included in LCA.

### Allocation

The allocation rules used for this EPD are based on general ITB’s document PCR A. Production of the Progress Products is a line process in one manufacturing plant located at Tuczępy, Poland. Allocation of impact is done on product mass basis. All impacts from raw materials extraction are allocated in A1 module. 99% of impacts from a line production were allocated to product covered by this declaration. Utilization of packaging material was not taken into consideration. Module A2 includes transport of raw materials such as steel profile wires from their suppliers to manufacturing plant. Municipal wastes of factory were allocated to module A3. Energy supply was inventoried for whole factory was allocated to the product assessed. Emissions in the factory are assessed using national KOBIZE emission factors for energy carriers and electricity and were allocated to module A3.

### System limits

99.5% materials and 99.9% energy consumption was inventoried in factory and were included in calculation. In the assessment, all significant parameters from gathered production data are considered, i.e. all material used per formulation, utilized thermal energy, internal fuel and electric power consumption, direct production waste, and available emission measurements. It is assumed that the total sum of omitted processes does not exceed 1% of all impact categories. In accordance

with EN 15804, machines and facilities (capital goods) required for and during production are excluded, as is transportation of employees.

**Modules A1 and A2:** ***Raw materials supply and transport***

Raw materials come mainly from suppliers providing environmental data on a steel production. Data on transport of the different input products to the manufacturing plants were inventoried in detail and modelled by assessor. Means of transport include trucks. For calculation purposes Polish and European fuel averages are applied.

**Module A3:** ***Production***

The product specific manufacturing process line is presented in Figure 3.

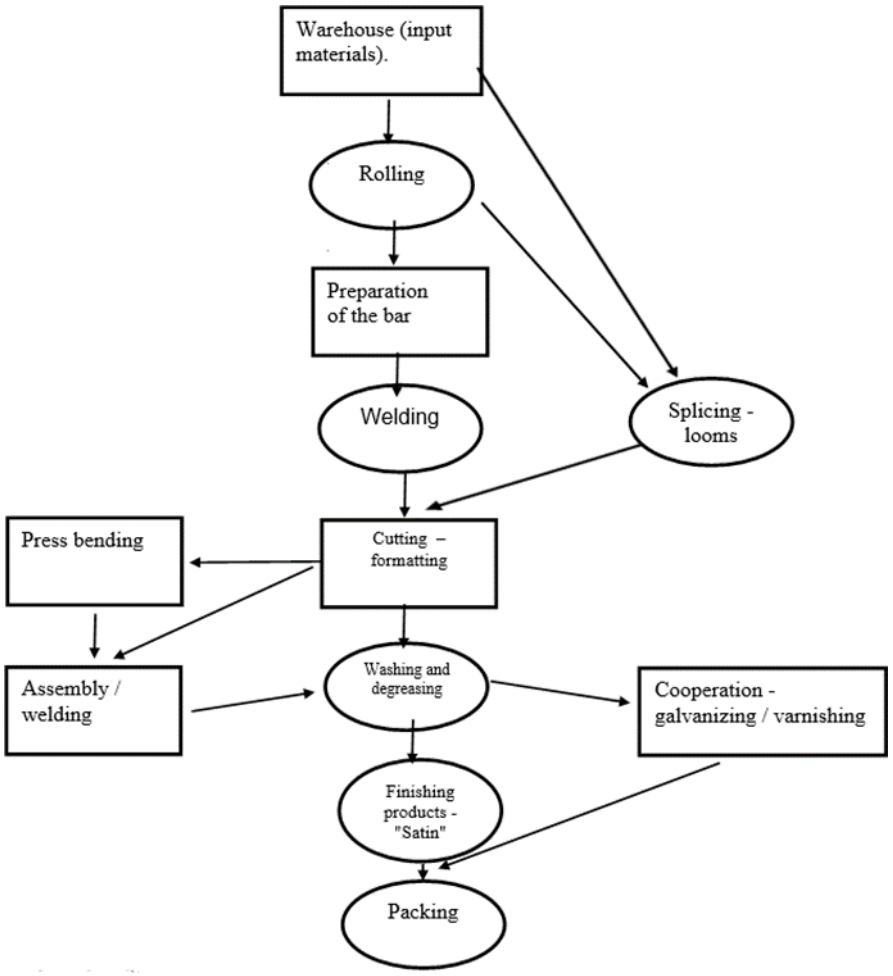



*Fig. 3. A scheme of manufacturing process of the Progress Screens products (steel grids and meshes)*

**Module A4-A5:** ***Transport to consumer and instalation***

Transport of the steel elements from the Factory to the construction site is carried out using specialized vehicles. Vehicle transport at distance 100 km is considered (emission standard: Euro 5) with 100% load capacity. It was assumed that 3 kWh of energy per ton is required to install the product.

**Modules** ***C1-C4 and D: End-of-life (EOL)***

It is assumed in phase C1 that products are removed manually (without additional environmental impacts). It is assumed that at the end of life the transport distance from the product deconstruction place to waste processing (C2) is 10 km on > 16 t loaded lorry with 100% capacity utilization and

fuel consumption of 35 l per 100 km. Materials recovered from dismantled products are recycled and landfilled according to the Polish treatment practice of industrial waste what is presented in Table 1. The reuse, recovery and recycling potential for a new product system is considered beyond the system boundaries (module D) based on World Steel recommendations and national practice.

*Table 2. End-of-life scenario for the product components*

| Progress products | Material recovery | Recycling | Landfilling | Reuse |
|---|---|---|---|---|
| Steel screens | 95% | 45% | 5% | 50% |

Electricity at end-of-life (module C) has been modelled using an average Polish electricity mix as the location where the product reaches end-of-life is unknown.

***Data collection period***

The data for manufacture of the declared products refer to period between 01.01.2024 – 31.12.2024 (1 year). The life cycle assessments were prepared for Poland and Europe as reference area.

**Data quality**

The data selected for LCA originate from ITB-LCI questionnaires completed by producer. No specific data collected is older than five years and no generic datasets used are older than ten years. The representativeness, completeness, reliability, and consistency are judged as good. The background data for the processes come from the following resources: database Ecoinvent v.3.11, (specifc EPDs (steel, aluminium) and KOBIZE (Polish electricity mix and combustion factors for fuels). KOBIZE data is supplemented with Ecoinvent data on the national electricity mix impact where no specific indicator data is provided. Specific (LCI) data quality analysis was a part of the input data verification. The time related quality of the data used is valid (5 years).

**Assumptions and estimates**

The impacts of the representative products were aggregated using weighted average. Data regarding production per 1 $m^2$ were averaged for the total production for each group.

**Calculation rules**

LCA was performed using own tool developed in accordance with EN15804+A2. Emission of greenhouse gases was calculated using the IPCC GWP method with a 100-year horizon. Emission of acidifying substances, emission of substances to water contributing to oxygen depletion, emission of gases that contribute to the creation of ground-level ozone, abiotic depletion, and ozone depletion emissions where all calculated with the EF 3.1. method. No mass balance approach was used. Product doesn't contain bio-based carbon.

**Additional information**

Polish electricity mix used is 0.597 kg $CO_2$/kWh (KOBiZE 2024, country mix). European electricity mix used is 0.43 kg $CO_2$/kWh (Ecoinvent v3.11, RER).

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on measurement of release of regulated dangerous substances from construction products using harmonised test methods according to the provisions of the respective technical committees for European product standards are not available.

## LIFE CYCLE ASSESSMENT (LCA) – Results

### Declared unit

The declaration refers to declared unit (DU) – 1 $m^2$ of the Progress product (grid and meshes). The following life cycle modules (Table 3) were included in the analysis. The evaluation results for the specific products are given in Tables 4-11.

*Table 3. System boundaries for the environmental characteristic of the specific products.*

| **Environmental assessment information (MD – Module Declared, MND – Module Not Declared, INA – Indicator Not Assessed)** | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Product stage | | | Construction process | | Use stage | | | | | | | End of life | | | | Benefits and loads beyond the system boundary |
| Raw material supply | Transport | Manufacturing | Transport to construction site | Construction-installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction demolition | Transport | Waste processing | Disposal | Reuse-recovery-recycling potential |
| **A1** | **A2** | **A3** | **A4** | **A5** | **B1** | **B2** | **B3** | **B4** | **B5** | **B6** | **B7** | **C1** | **C2** | **C3** | **C4** | **D** |
| **MD** | **MD** | **MD** | **MD** | **MD** | **MND** | **MND** | **MND** | **MND** | **MND** | **MND** | **MND** | **MD** | **MD** | **MD** | **MD** | **MD** |

*Table 4. Life cycle assessment (LCA) results for steel Progress product – environmental impacts (DU: 1 m²)*

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Global Warming Potential | eq. kg $CO_2$ | 2.00E+01 | 8.09E-02 | 1.33E+00 | 3.19E+01 | 8.34E-02 | 1.03E+01 | 3.43E+00 | 4.17E-02 | 3.19E-01 | 5.28E-04 | -1.81E+01 |
| Greenhouse potential - fossil | eq. kg $CO_2$ | 1.98E+01 | 8.08E-02 | 1.30E+00 | 2.47E+01 | 8.31E-02 | 1.03E+01 | 3.43E+00 | 4.16E-02 | 3.19E-01 | 5.27E-04 | -1.79E+01 |
| Greenhouse potential - biogenic | eq. kg $CO_2$ | 1.53E-01 | 5.17E-05 | 2.46E-02 | 3.70E+00 | 2.84E-04 | 3.00E-04 | 1.00E-04 | 1.42E-04 | 6.65E-05 | 1.34E-06 | -1.43E-01 |
| Global warming potential - land use and land use change | eq. kg $CO_2$ | 3.47E-02 | 2.68E-05 | 1.28E-03 | 3.56E+00 | 3.26E-05 | 3.60E-06 | 1.20E-06 | 1.63E-05 | 5.04E-05 | 4.97E-07 | -3.13E-02 |
| Stratospheric ozone depletion potential | eq. kg CFC 11 | 2.92E-07 | 1.76E-09 | 4.23E-07 | 3.52E+00 | 1.92E-08 | 2.10E-10 | 7.00E-11 | 9.62E-09 | 3.90E+00 | 2.13E-10 | -2.76E-07 |
| Soil and water acidification potential | eq. mol H+ | 1.20E-01 | 2.60E-04 | 5.96E-02 | 3.70E+00 | 3.37E-04 | 1.14E-04 | 3.80E-05 | 1.69E-04 | 2.66E-03 | 4.95E-06 | -1.09E-01 |
| Eutrophication potential - freshwater | eq. kg P | 7.05E-03 | 5.52E-06 | 5.30E-03 | 3.53E+00 | 5.59E-06 | 1.95E-05 | 6.50E-06 | 2.79E-06 | 2.16E-06 | 4.91E-08 | -6.45E-03 |
| Eutrophication potential - seawater | eq. kg N | 2.03E-02 | 8.74E-05 | 6.11E-03 | 3.55E+00 | 1.02E-04 | 1.65E-05 | 5.50E-06 | 5.09E-05 | 9.04E-03 | 1.72E-06 | -1.84E-02 |
| Eutrophication potential - terrestrial | eq. mol N | 2.15E-01 | 9.50E-04 | 1.64E-01 | 3.90E+00 | 1.11E-03 | 1.40E-04 | 4.65E-05 | 5.55E-04 | 1.71E-02 | 1.89E-05 | -1.95E-01 |
| Potential for photochemical ozone synthesis | eq. kg NMVOC | 6.97E-02 | 3.94E-04 | 1.20E-02 | 3.60E+00 | 3.40E-04 | 3.90E-05 | 1.30E-05 | 1.70E-04 | 3.73E-03 | 5.48E-06 | -6.30E-02 |
| Potential for depletion of abiotic resources - non-fossil resources | eq. kg Sb | 4.52E-04 | 2.79E-07 | 8.71E-05 | 3.52E+00 | 2.95E-07 | 5.01E-08 | 1.67E-08 | 1.47E-07 | 7.23E-08 | 1.21E-09 | -4.06E-04 |
| Abiotic depletion potential - fossil fuels | MJ | 2.25E+02 | 1.15E+00 | 7.26E+01 | 3.01E+02 | 1.23E+00 | 1.74E-01 | 5.80E-02 | 6.17E-01 | 3.03E-01 | 1.44E-02 | -2.05E+02 |
| Water deprivation potential | eq. $m^3$ | 6.20E+00 | 6.01E-03 | 1.42E+00 | 9.99E+00 | 5.70E-03 | 3.60E-03 | 1.20E-03 | 2.85E-03 | 7.10E-03 | 4.58E-05 | -5.68E+00 |

*Table 5. Life cycle assessment (LCA) results for steel Progress product – environmental impacts (DU: 1 m²)*

| Indicator | Unit | A1-A5 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Particulate matter | disease incidence | INA | INA | INA | INA | INA | INA |
| Potential human exposure efficiency relative to U235 | eg. kBq U235 | INA | INA | INA | INA | INA | INA |
| Potential comparative toxic unit for ecosystems | CTUe | INA | INA | INA | INA | INA | INA |
| Potential comparative toxic unit for humans (cancer effects) | CTUh | INA | INA | INA | INA | INA | INA |
| Potential comparative toxic unit for humans (non-cancer effects) | CTUh | INA | INA | INA | INA | INA | INA |
| Potential soil quality index | dimensionless | INA | INA | INA | INA | INA | INA |

*Table 6. Life cycle assessment (LCA) results for steel Progress product – environmental impacts (DU: 1 m²)*

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumption of renewable primary energy - excluding renewable primary energy sources used as raw materials | MJ | 5.02E+01 | 1.87E-02 | 5.11E+00 | 5.77E+01 | 1.77E-02 | 1.29E-02 | 4.30E-03 | 8.85E-03 | 5.55E-03 | 1.25E-04 | -4.54E+01 |
| Consumption of renewable primary energy resources used as raw materials | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.35E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Total consumption of renewable primary energy resources | MJ | 5.02E+01 | 1.87E-02 | 5.11E+00 | 5.77E+01 | 1.77E-02 | 1.29E-02 | 4.30E-03 | 8.85E-03 | 5.55E-03 | 1.25E-04 | -4.54E+01 |
| Consumption of non-renewable primary energy - excluding renewable primary energy sources used as raw materials | MJ | 2.27E+02 | 1.15E+00 | 5.87E+01 | 2.88E+02 | 1.23E+00 | 1.75E-01 | 5.82E-02 | 6.17E-01 | -1.47E+01 | 0.00E+00 | -2.07E+02 |
| Consumption of non-renewable primary energy resources used as raw materials | MJ | 0.00E+00 | 0.00E+00 | 1.57E+01 | 1.68E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.50E+01 | 0.00E+00 | 0.00E+00 |
| Total consumption of non-renewable primary energy resources | MJ | 2.27E+02 | 1.15E+00 | 7.44E+01 | 3.03E+02 | 1.23E+00 | 1.75E-01 | 5.82E-02 | 6.17E-01 | 3.03E-01 | 1.44E-02 | -2.07E+02 |
| Consumption of secondary materials | kg | 1.97E+00 | 5.12E-04 | 2.91E-02 | 2.04E+00 | 4.14E-04 | 1.59E-05 | 5.30E-06 | 2.07E-04 | 1.37E-04 | 3.03E-06 | -1.76E+00 |
| Consumption of renew. secondary fuels | MJ | 4.80E-03 | 6.72E-06 | 3.46E-04 | 4.27E-02 | 4.56E-06 | 8.86E-08 | 2.95E-08 | 2.28E-06 | 1.86E-06 | 7.93E-08 | -4.30E-03 |
| Consumption of non-renewable secondary fuels | MJ | 2.72E-03 | 0.00E+00 | 0.00E+00 | 4.02E-02 | 0.00E+00 | 1.41E-04 | 4.70E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -2.43E-03 |
| Net consumption of freshwater | m3 | 1.80E-01 | 1.39E-04 | 4.33E-02 | 2.61E-01 | 1.55E-04 | 4.73E-05 | 1.58E-05 | 7.76E-05 | 2.68E-04 | 1.58E-05 | -1.62E-01 |

*Table 7. Life cycle assessment (LCA) results for steel Progress product – environmental impacts (DU: 1 m²)*

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | C1 | A4 | A5 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hazardous waste | kg | 1.68E+01 | 1.64E-03 | 4.75E-01 | 1.73E+01 | 1.38E-03 | 1.80E-06 | 6.00E-07 | 6.92E-04 | 2.17E-08 | 1.53E-05 | -1.50E+01 |
| Non-hazardous waste | kg | 3.71E+01 | 3.52E-02 | 2.33E+01 | 6.04E+01 | 2.46E-02 | 9.36E-05 | 3.12E-05 | 1.23E-02 | 5.68E-02 | 2.16E-04 | -3.33E+01 |
| Radioactive waste | kg | 8.11E-04 | 3.37E-07 | 6.83E-04 | 2.01E-03 | 9.21E-08 | 1.31E-07 | 4.35E-08 | 4.60E-08 | 1.62E-06 | 9.59E-08 | -7.46E-04 |
| Components for re-use | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.15E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Materials for recycling | kg | 8.67E-02 | 1.37E-05 | 8.30E-03 | 9.55E-02 | 3.82E-06 | 1.80E-07 | 6.00E-08 | 1.91E-06 | 2.02E-06 | 2.89E-08 | 0.00E+00 |
| Materials for energy recovery | kg | 2.36E-04 | 7.28E-08 | 4.02E-06 | 7.42E-04 | 3.09E-08 | 1.58E-09 | 5.25E-10 | 1.54E-08 | 2.52E-08 | 3.42E-10 | 0.00E+00 |
| Exported Energy | MJ | 3.58E-01 | 5.02E-04 | 2.89E-02 | 3.87E-01 | 0.00E+00 | 5.19E-04 | 1.73E-04 | 0.00E+00 | 3.09E-01 | 0.00E+00 | 0.00E+00 |

*Table 8. Life cycle assessment (LCA) results for steel Progress product – environmental impacts (DU: 1 m²)*

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Global Warming Potential | eq. kg $CO_2$ | 3.99E+01 | 1.62E-01 | 2.65E+00 | 6.39E+01 | 1.67E-01 | 2.06E+01 | 6.85E+00 | 8.34E-02 | 6.39E-01 | 1.06E-03 | -3.62E+01 |
| Greenhouse potential - fossil | eq. kg $CO_2$ | 3.96E+01 | 1.62E-01 | 2.60E+00 | 4.94E+01 | 1.66E-01 | 2.06E+01 | 6.85E+00 | 8.31E-02 | 6.38E-01 | 1.05E-03 | -3.59E+01 |
| Greenhouse potential - biogenic | eq. kg $CO_2$ | 3.07E-01 | 1.03E-04 | 4.92E-02 | 7.40E+00 | 5.68E-04 | 6.00E-04 | 2.00E-04 | 2.84E-04 | 1.33E-04 | 2.68E-06 | -2.86E-01 |
| Global warming potential - land use and land use change | eq. kg $CO_2$ | 6.94E-02 | 5.37E-05 | 2.55E-03 | 7.12E+00 | 6.52E-05 | 7.20E-06 | 2.40E-06 | 3.26E-05 | 1.01E-04 | 9.94E-07 | -6.27E-02 |
| Stratospheric ozone depletion potential | eq. kg CFC 11 | 5.85E-07 | 3.52E-09 | 8.46E-07 | 7.05E+00 | 3.85E-08 | 4.20E-10 | 1.40E-10 | 1.92E-08 | 7.80E+00 | 4.26E-10 | -5.52E-07 |
| Soil and water acidification potential | eq. mol H+ | 2.40E-01 | 5.19E-04 | 1.19E-01 | 7.41E+00 | 6.75E-04 | 2.28E-04 | 7.60E-05 | 3.37E-04 | 5.32E-03 | 9.90E-06 | -2.17E-01 |
| Eutrophication potential - freshwater | eq. kg P | 1.41E-02 | 1.10E-05 | 1.06E-02 | 7.07E+00 | 1.12E-05 | 3.90E-05 | 1.30E-05 | 5.59E-06 | 4.32E-06 | 9.81E-08 | -1.29E-02 |
| Eutrophication potential - seawater | eq. kg N | 4.06E-02 | 1.75E-04 | 1.22E-02 | 7.10E+00 | 2.04E-04 | 3.30E-05 | 1.10E-05 | 1.02E-04 | 1.81E-02 | 3.45E-06 | -3.68E-02 |
| Eutrophication potential - terrestrial | eq. mol N | 4.30E-01 | 1.90E-03 | 3.29E-01 | 7.80E+00 | 2.22E-03 | 2.79E-04 | 9.30E-05 | 1.11E-03 | 3.42E-02 | 3.77E-05 | -3.90E-01 |
| Potential for photochemical ozone synthesis | eq. kg NMVOC | 1.39E-01 | 7.87E-04 | 2.40E-02 | 7.21E+00 | 6.80E-04 | 7.80E-05 | 2.60E-05 | 3.40E-04 | 7.46E-03 | 1.10E-05 | -1.26E-01 |
| Potential for depletion of abiotic resources - non-fossil resources | eq. kg Sb | 9.04E-04 | 5.57E-07 | 1.74E-04 | 7.04E+00 | 5.89E-07 | 1.00E-07 | 3.34E-08 | 2.95E-07 | 1.45E-07 | 2.42E-09 | -8.13E-04 |
| Abiotic depletion potential - fossil fuels | MJ | 4.50E+02 | 2.29E+00 | 1.45E+02 | 6.02E+02 | 2.47E+00 | 3.48E-01 | 1.16E-01 | 1.23E+00 | 6.05E-01 | 2.89E-02 | -4.09E+02 |
| Water deprivation potential | eq. $m^3$ | 1.24E+01 | 1.20E-02 | 2.83E+00 | 2.00E+01 | 1.14E-02 | 7.20E-03 | 2.40E-03 | 5.70E-03 | 1.42E-02 | 9.16E-05 | -1.14E+01 |

*Table 9. Life cycle assessment (LCA) results for steel Progress product – environmental impacts (DU: 1 m²)*

| Indicator | Unit | A1-A5 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Particulate matter | disease incidence | INA | INA | INA | INA | INA | INA |
| Potential human exposure efficiency relative to U235 | eg. kBq U235 | INA | INA | INA | INA | INA | INA |
| Potential comparative toxic unit for ecosystems | CTUe | INA | INA | INA | INA | INA | INA |
| Potential comparative toxic unit for humans (cancer effects) | CTUh | INA | INA | INA | INA | INA | INA |
| Potential comparative toxic unit for humans (non-cancer effects) | CTUh | INA | INA | INA | INA | INA | INA |
| Potential soil quality index | dimensionless | INA | INA | INA | INA | INA | INA |

*Table 10. Life cycle assessment (LCA) results for steel Progress product – environmental impacts (DU: 1 m²)*

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumption of renewable primary energy - excluding renewable primary energy sources used as raw materials | MJ | 1.00E+02 | 3.73E-02 | 1.02E+01 | 1.15E+02 | 3.54E-02 | 2.58E-02 | 8.60E-03 | 1.77E-02 | 1.11E-02 | 2.51E-04 | -9.08E+01 |
| Consumption of renewable primary energy resources used as raw materials | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.70E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Total consumption of renewable primary energy resources | MJ | 1.00E+02 | 3.73E-02 | 1.02E+01 | 1.15E+02 | 3.54E-02 | 2.58E-02 | 8.60E-03 | 1.77E-02 | 1.11E-02 | 2.51E-04 | -9.08E+01 |
| Consumption of non-renewable primary energy - excluding renewable primary energy sources used as raw materials | MJ | 4.54E+02 | 2.29E+00 | 1.17E+02 | 5.76E+02 | 2.47E+00 | 3.49E-01 | 1.16E-01 | 1.23E+00 | -2.95E+01 | 0.00E+00 | -4.13E+02 |
| Consumption of non-renewable primary energy resources used as raw materials | MJ | 0.00E+00 | 0.00E+00 | 3.13E+01 | 3.37E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.01E+01 | 0.00E+00 | 0.00E+00 |
| Total consumption of non-renewable primary energy resources | MJ | 4.54E+02 | 2.29E+00 | 1.49E+02 | 6.05E+02 | 2.47E+00 | 3.49E-01 | 1.16E-01 | 1.23E+00 | 6.06E-01 | 2.89E-02 | -4.13E+02 |
| Consumption of secondary materials | kg | 3.94E+00 | 1.02E-03 | 5.81E-02 | 4.08E+00 | 8.27E-04 | 3.18E-05 | 1.06E-05 | 4.14E-04 | 2.74E-04 | 6.07E-06 | -3.53E+00 |
| Consumption of renew. secondary fuels | MJ | 9.61E-03 | 1.34E-05 | 6.92E-04 | 8.54E-02 | 9.11E-06 | 1.77E-07 | 5.91E-08 | 4.56E-06 | 3.72E-06 | 1.59E-07 | -8.59E-03 |
| Consumption of non-renewable secondary fuels | MJ | 5.44E-03 | 0.00E+00 | 0.00E+00 | 8.05E-02 | 0.00E+00 | 2.82E-04 | 9.39E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -4.87E-03 |
| Net consumption of freshwater | m3 | 3.60E-01 | 2.77E-04 | 8.65E-02 | 5.21E-01 | 3.10E-04 | 9.45E-05 | 3.15E-05 | 1.55E-04 | 5.36E-04 | 3.16E-05 | -3.23E-01 |

*Table 11. Life cycle assessment (LCA) results for steel Progress product – environmental impacts (DU: 1 m²)*

| Indicator | Unit | A1 | A2 | A3 | A1-A3 | C1 | A4 | A5 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hazardous waste | kg | 3.36E+01 | 3.28E-03 | 9.51E-01 | 3.47E+01 | 2.77E-03 | 3.60E-06 | 1.20E-06 | 1.38E-03 | 4.35E-08 | 3.07E-05 | -3.01E+01 |
| Non-hazardous waste | kg | 7.41E+01 | 7.05E-02 | 4.66E+01 | 1.21E+02 | 4.92E-02 | 1.87E-04 | 6.24E-05 | 2.46E-02 | 1.14E-01 | 4.32E-04 | -6.67E+01 |
| Radioactive waste | kg | 1.62E-03 | 6.74E-07 | 1.37E-03 | 4.02E-03 | 1.84E-07 | 2.61E-07 | 8.70E-08 | 9.21E-08 | 3.23E-06 | 1.92E-07 | -1.49E-03 |
| Components for re-use | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.03E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Materials for recycling | kg | 1.73E-01 | 2.74E-05 | 1.66E-02 | 1.91E-01 | 7.64E-06 | 3.60E-07 | 1.20E-07 | 3.82E-06 | 4.04E-06 | 5.78E-08 | 0.00E+00 |
| Materials for energy recovery | kg | 4.73E-04 | 1.46E-07 | 8.05E-06 | 1.48E-03 | 6.18E-08 | 3.15E-09 | 1.05E-09 | 3.09E-08 | 5.04E-08 | 6.85E-10 | 0.00E+00 |
| Exported Energy | MJ | 7.15E-01 | 1.00E-03 | 5.78E-02 | 7.74E-01 | 0.00E+00 | 1.04E-03 | 3.46E-04 | 0.00E+00 | 6.17E-01 | 0.00E+00 | 0.00E+00 |

## Verification

The process of verification of this EPD is in accordance with ISO 14025. After verification, this EPD is valid for a 5-year-period. EPD does not have to be recalculated after 5 years, if the underlying data have not changed significantly.

| The basis for LCA analysis was EN 15804+A2 and ITB PCR A |
|---|
| Independent verification corresponding to ISO 14025 (sub clause 8.1.3.)<br>☒ external ☐ internal |
| External verification of EPD: Halina Prejzner, PhD. Eng.<br>LCI data, audit and verification: Michał Chwedaczuk, M.Sc. Eng.<br>LCA, LCI audit and input data verification: Michał Piasecki, PhD., D.Sc., Eng. |

*Note 1: The declaration owner has the sole ownership, liability, and responsibility for the information provided and contained in EPD. Declarations of construction products may not be comparable if they do not comply with EN 15804+A2. For further information about comparability, see EN 15804+A2 and ISO 14025.*

*Note 2: ITB is a public Research Organization and Notified Body (EC Reg. no 1488) to the European Commission and to other Member States of the European Union designated for the tasks concerning the assessment of building products' performance. ITB acts as the independent, third-party verification organization (see ISO 17025/17065/17029). ITB-EPD program is recognized and registered member of The European Platform - Association of EPD program operators and ITB-EPD declarations are registered and stored in the international ECO-PORTAL.*

## Normative references


- ITB PCR A General Product Category Rules for Construction Products (v. 1.6)
- EN 1090-2:2018 - Execution of steel structures and aluminium structures - Technical requirements for steel structures
- ISO 14025; Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services
- ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines
- ISO 15686-1:2011 Buildings and constructed assets – Service life planning – Part 1: General principles and framework
- ISO 15686-8:2008 Buildings and constructed assets – Service life planning – Part 8: Reference service life and service-life estimation
- EN 15804:2012+A2:2019 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products
- ISO 14067:2018 Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification
- PN-EN 15942:2012 Sustainability of construction works – Environmental product declarations – Communication format business-to-business
- KOBiZE Wskaźniki emisyjności $CO_2$, $SO_2$, $NO_x$, CO i pyłu całkowitego dla energii elektrycznej. Grudzień 2024
- World Steel Association 2017 Life Cycle inventory methodology report for steel products


LCA,LCI, input data verification
Michał Piasecki, PhD. D.Sc.

Qualified electronic signature

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Agnieszka Winkler-Skalna, PhD.

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# CERTIFICATE № 912/2026
# of TYPE III ENVIRONMENTAL DECLARATION

Products:

**Progress woven wire meshes and welded grids**

Manufacturer:

**Progress Eco S.A.**
Dobrów 7, 28-142 Tuczępy, Poland

confirms the correctness of the data included in the development of
Type III Environmental Declaration and accordance with the requirements of the standard

**EN 15804+A2**

**Sustainability of construction works.**
**Environmental product declarations.**
**Core rules for the product category of construction products.**

This certificate, issued on 13th February 2026 is valid for 5 years
or until amendment of mentioned Environmental Declaration

Head of the Thermal Physic, Acoustics and Environment Department
Agnieszka Winkler-Skalna, PhD

INSTYTUT TECHNIKI BUDOWLANEJ

Deputy Director for Research and Innovation
Krzysztof Kuczyński, PhD

Warsaw, February 2026