

Environmental product declaration

in accordance with ISO 14025, ISO 21930 and EN 15804

| | |
|--------------------------------|------------------------------|
| Owner of the declaration: | Flokk AS |
| Program operator: | The Norwegian EPD Foundation |
| Publisher: | The Norwegian EPD Foundation |
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| ECO Platform reference number: | - |
| Issue date: | 30.12.2022 |
| Valid to: | 30.12.2027 |

Profim Violle

Flokk AS

www.epd-norge.no




profim

General information

Product:

Profim Violle

Owner of the declaration:

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Declaration number:

NEPD-4448-3709-EN

Place of production:

Flokk - Turek
 ul. Górnicza 8 62-700 Turek
 Poland

ECO Platform reference number:

Management system:

ISO 14001, ISO 9001, ISO 50001(Norway, Sweden)

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A1:2013 serves as core PCR
 NPCR 026:2018 Part B for furniture

Organisation no:

No 928 902 749

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Issue date:

30.12.2022

Valid to:

30.12.2027

Declared unit:

1 Pcs Profim Violle

Year of study:

Declared unit with option:

A1,A2,A3,A4

Comparability:

EPDs from programmes other than the Norwegian EPD Foundation may not be comparable

Functional unit:

Development and verification of EPD:

The declaration has been developed and verified using EPD tool lca.tools ver EPD2020.11, developed by LCA.no AS. The EPD tool is integrated into the company's environmental management system, and has been approved by EPD-Norway

Profim Violle 151SFL - Upholstery seat (Xtreme/Camira), Mesh back (Runner/Gabriel), Plastic base, No armrests - including packaging

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Individual third party verification of each EPD is not required when the EPD tool is i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPDNorway, and iii) the process is reviewed annually. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools.

Developer of EPD:

Damian Bakowski

Reviewer of company-specific input data and EPD:

Monika Kuczynska

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Approved:

Sign

Håkon Hauan, CEO EPD-Norge

Erik Svanes, Norsus AS

(no signature required)

| Key environmental indicators | Unit | Cradle to gate A1 - A3 |
|------------------------------|------------|------------------------|
| Global warming | kg CO2 eqv | 80,53 |
| Total energy use | MJ | 1126,06 |
| Amount of recycled materials | % | 50,31 |

Product

Market:

Worldwide

Product description:

Violle is a carefully designed product in which practicality and aesthetics play equal roles. The entire adjustment mechanism is concealed under an attractive cover. The levers are positioned underneath the seat for ergonomic use – they're easily accessible but don't interfere with the chair's harmonious and elegant silhouette. The frame is embossed in Braille to allow people with visual impairment to use all the chair's functions.

With a four-legged aluminium base, the Violle conference models are a comfortable and stylish way to organise your meeting. With a memory function which automatically returns the chair to its original position, Violle is always ready for a new meeting, and it's easier to keep the room looking neat and tidy.

The Violle chair is available in an extremely wide range of finishes and fabrics, allowing you to customise the chair to suit both your needs and the interior space.

The backrest of the chair can be upholstered with fabric or made of light, breathable mesh. Each solution will pass the test in both office spaces and home offices.

Product specification

The model studied in detail in this declaration is the Profim Violle 151SFL with upholstery seat (Xtreme/Camira) and mesh backrest (Runner/Gabriel) including packaging (ready product in box option). Armrests and lumbar support are calculated separately as options.

The key environmental indicators for the other models of the Profim Violle collection are presented on a table page 8 of this declaration.

Technical data:

(Profim Violle 151SFL (without armrests and lumbar support):

Chair height: 1170-1370 mm (without headrest)

Chair width: 690 mm

Chair depth: 430-490 mm

Total weight: 17,60 kg (packaging excluded)

Total weight: 22,65 kg (packaging included)

Reference service life, product

5 years

Reference service life, building

| Materials | kg | % | Recycled share in material (kg) | Recycled share in material (%) |
|---|-------|-------|---------------------------------|--------------------------------|
| Metal - Aluminium | 3,02 | 13,31 | 3,02 | 100,00 |
| Metal - Steel | 4,84 | 21,39 | 0,69 | 14,23 |
| Metal - Brass | 0,01 | 0,03 | 0,00 | 0,00 |
| Textile - Polyester (PE) | 0,86 | 3,81 | 0,82 | 94,84 |
| Plastic - Polyurethane (PUR) | 0,92 | 4,08 | 0,00 | 0,00 |
| Plastic - Acrylonitrile butadiene styrene (ABS) | 0,01 | 0,04 | 0,00 | 0,00 |
| Plastic - Polypropylene (PP) | 1,06 | 4,69 | 0,01 | 0,99 |
| Plastic - Polyoxymethylene (POM) | 0,17 | 0,73 | 0,00 | 0,00 |
| Rubber, synthetic | 0,02 | 0,09 | 0,00 | 0,00 |
| Packaging - Plastic | 0,11 | 0,49 | 0,00 | 0,00 |
| Powder coating | 0,11 | 0,49 | 0,00 | 0,00 |
| Plastic - Nylon (PA) | 0,27 | 1,17 | 0,00 | 0,00 |
| Plastic - Polyamide with glass fibre (PAGF30) | 6,22 | 27,46 | 1,98 | 31,86 |
| Packaging - Paper | 0,03 | 0,14 | 0,00 | 0,00 |
| Polyester fill | 0,09 | 0,42 | 0,00 | 0,00 |
| Plastic - Polyester | 0,01 | 0,04 | 0,00 | 0,00 |
| Packaging - Recycled cardboard | 4,88 | 21,55 | 4,88 | 100,00 |
| Total: | 22,65 | | 11,39 | |

LCA: Calculation rules

Declared unit:

1 Pcs Profim Violle

Cut-off criteria:

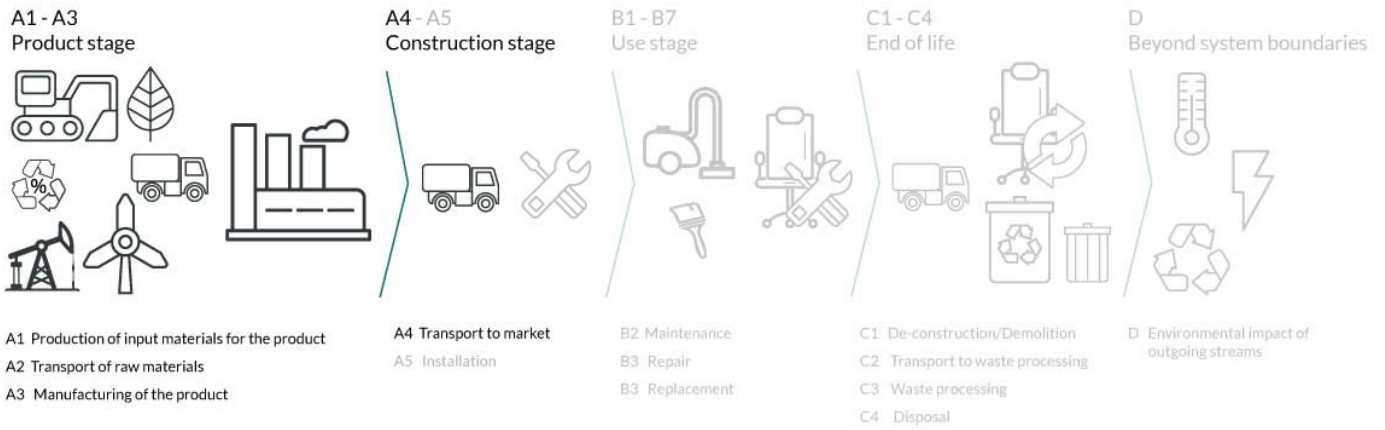
All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

Data quality:

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

System boundary:



Additional technical information:

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

Transport from production place to user (A4)

| Type | Capacity utilisation (incl. return) % | Type of vehicle | Distance km | Fuel/Energy consumption | Unit | Value (l/t) |
|----------------------|---------------------------------------|-----------------------------|-------------|-------------------------|-------|-------------|
| Truck | 38,8 % | Truck, 16-32 tonnes, EURO 5 | 1000 | 0,044606 | l/tkm | 44,61 |
| Railway | | | | | l/tkm | |
| Boat | | | | | l/tkm | |
| Other Transportation | | | | | l/tkm | |

Assembly (A5)

| . | Unit | Value |
|--------------------------------------|----------------|-------|
| Auxiliary | kg | |
| Water consumption | m ³ | |
| Electricity consumption | kWh | |
| Other energy carriers | MJ | |
| Material loss | kg | |
| Output materials for waste treatment | kg | |
| Dust in the air | kg | |
| VOC emissions | kg | |

Use (B1)

| . | Unit | Value |
|---|------|-------|
| | | |

Maintenance (B2)/Repair (B3)

| . | Unit | Value |
|-------------------------|----------------|-------|
| Maintenance cycle* | | |
| Auxiliary | | |
| Other resources | | |
| Water consumption | m ³ | |
| Electricity consumption | kWh | |
| Other energy carriers | MJ | |
| Material loss | kg | |
| VOC emissions | kg | |

Replacement (B4)/Refurbishment (B5)

| . | Unit | Value |
|-------------------------------|------|-------|
| Replacement cycle* | | |
| Electricity consumption | kWh | |
| Replacement of worn parts | | |
| * Described above if relevant | | |

Operational energy (B6) and water consumption (B7)

| . | Unit | Value |
|---------------------------|----------------|-------|
| Water consumption | m ³ | |
| Electricity consumption | kWh | |
| Other energy carriers | MJ | |
| Power output of equipment | kW | |

End of Life (C1, C2)

| . | Unit | Value |
|---------------------------------------|------|-------|
| Hazardous waste disposed | kg | |
| Collected as mixed construction waste | kg | |
| Reuse | kg | |
| Recycling | | |
| Energy recovery | | |
| To landfill | kg | |

Transport to waste processing (C2)

| Type | Capacity utilisation (incl. return) % | Type of vehicle | Distance km | Fuel/Energy consumption | Unit | Value (l/t) |
|----------------------|---------------------------------------|-----------------|-------------|-------------------------|-------|-------------|
| Truck | | | | | l/tkm | |
| Railway | | | | | l/tkm | |
| Boat | | | | | l/tkm | |
| Other Transportation | | | | | l/tkm | |

Scenarios after A1-A4 are not included

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

| Product stage | | | | Construction installation stage | User stage | | | | | | | | End of life stage | | | | Beyond the system boundaries |
|---------------|-----------|---------------|-----------|---------------------------------|------------|-------------|--------|-------------|---------------|------------------------|-----------------------|---------------------------|-------------------|------------------|----------|------------------------------------|------------------------------|
| Raw materials | Transport | Manufacturing | Transport | Assembly | 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 | |
| X | X | X | X | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND | |

Environmental impact

| Parameter | Unit | A1 | A2 | A3 | A4 |
|-----------|--------------------------------------|----------|----------|----------|----------|
| GWP | kg CO ₂ -eq | 7,78E+01 | 2,02E+00 | 7,05E-01 | 3,68E+00 |
| ODP | kg CFC11 -eq | 2,92E-06 | 3,83E-07 | 7,44E-08 | 6,79E-07 |
| POCP | kg C ₂ H ₄ -eq | 1,98E-02 | 6,07E-04 | 1,12E-04 | 6,00E-04 |
| AP | kg SO ₂ -eq | 3,07E-01 | 1,61E-02 | 3,05E-03 | 1,18E-02 |
| EP | kg PO ₄ ³⁻ -eq | 1,34E-01 | 1,79E-03 | 6,90E-04 | 1,95E-03 |
| ADPM | kg Sb -eq | 1,81E-03 | 3,59E-06 | 5,40E-07 | 1,12E-05 |
| ADPE | MJ | 8,06E+02 | 3,06E+01 | 6,18E+00 | 5,55E+01 |

GWP Global warming potential; ODP Depletion potential of the stratospheric ozone layer; POCP Formation potential of tropospheric photochemical oxidants; AP Acidification potential of land and water; EP Eutrophication potential; ADPM Abiotic depletion potential for non fossil resources; ADPE Abiotic depletion potential for fossil resources

Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009

*INA Indicator Not Assessed

Resource use

| Parameter | Unit | A1 | A2 | A3 | A4 |
|-----------|----------------|----------|----------|----------|----------|
| RPEE | MJ | 7,05E+01 | 5,92E-01 | 2,82E+01 | 8,09E-01 |
| RPEM | MJ | 3,00E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| TPE | MJ | 7,05E+01 | 5,92E-01 | 2,82E+01 | 8,09E-01 |
| NRPE | MJ | 9,87E+02 | 3,16E+01 | 8,43E+00 | 5,68E+01 |
| NRPM | MJ | 1,92E+02 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| TRPE | MJ | 1,18E+03 | 3,16E+01 | 8,43E+00 | 5,68E+01 |
| SM | kg | 1,14E+01 | 0,00E+00 | 1,95E-03 | 0,00E+00 |
| RSF | MJ | 6,22E-02 | 0,00E+00 | 7,88E-04 | 0,00E+00 |
| NRSF | MJ | 6,63E-02 | 0,00E+00 | 5,76E-03 | 0,00E+00 |
| W | m ³ | 5,55E-01 | 6,59E-03 | 1,83E-02 | 1,06E-02 |

RPEE Renewable primary energy resources used as energy carrier; RPEM Renewable primary energy resources used as raw materials; TPE Total use of renewable primary energy resources; NRPE Non renewable primary energy resources used as energy carrier; NRPM Non renewable primary energy resources used as materials; TRPE Total use of non renewable primary energy resources; SM Use of secondary materials; RSF Use of renewable secondary fuels; NRSF Use of non renewable secondary fuels; W Use of net fresh water

Reading example: 9,0 E-03 = $9,0 \cdot 10^{-3} = 0,009$

*INA Indicator Not Assessed

End of life - Waste

| Parameter | Unit | A1 | A2 | A3 | A4 |
|-----------|------|----------|----------|----------|----------|
| HW | kg | 5,65E-02 | 1,74E-05 | 1,65E-02 | 3,32E-05 |
| NHW | kg | 2,95E+01 | 2,18E+00 | 3,18E-01 | 2,99E+00 |
| RW | kg | INA* | INA* | INA* | INA* |

HW Hazardous waste disposed; NHW Non hazardous waste disposed; RW Radioactive waste disposed

Reading example: 9,0 E-03 = $9,0 \cdot 10^{-3} = 0,009$

*INA Indicator Not Assessed

End of life - Output flow

| Parameter | Unit | A1 | A2 | A3 | A4 |
|-----------|------|----------|----------|----------|----------|
| CR | kg | 3,90E-05 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MR | kg | 1,20E-01 | 0,00E+00 | 1,10E+00 | 0,00E+00 |
| MER | kg | 4,12E-01 | 0,00E+00 | 4,20E-03 | 0,00E+00 |
| EEE | MJ | INA* | INA* | INA* | INA* |
| ETE | MJ | INA* | INA* | INA* | INA* |

CR Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy

Reading example: 9,0 E-03 = $9,0 \cdot 10^{-3} = 0,009$

*INA Indicator Not Assessed

Additional Norwegian requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

| Electricity mix | Data source | Amount | Unit |
|---------------------------------------|---------------|--------|----------------------------|
| Electricity, renewable (kWh) - Poland | ecoinvent 3.6 | 3,93 | g CO ₂ -ekv/kWh |

Dangerous substances

The product contains dangerous substances, more than 0,1% by weight, given by the REACH Candidate List or the Norwegian Priority list, see table.

| Name | CASNo | Amount |
|--|----------|-----------------|
| Melamine (incl. only in the CMHR foam version) | 108-78-1 | more than 0.1 % |

Indoor environment

Blue Angel, Möbelfakta

Additional environmental information

Key environmental indicators for variants for this EPD: Cradle to Gate analyse from A1 to A3

| Variant number | Global warming (kg CO ₂) | Total energy use (MJ) | Share of recycled material in product(%) |
|---|--------------------------------------|-----------------------|--|
| Profim Violle 130F - Upholstery seat/back (Xtreme/Camira) - No packaging | 44,84 | 768,25 | 53,47 |
| Profim Violle 150F - Upholstery seat (Xtreme/Camira), Mesh back (Runner/Gabriel) - No packaging | 37,57 | 638,91 | 55,44 |
| Profim Violle 130SFL - Upholstery seat/back (Xtreme/Camira), Plastic base - No packaging | 81,74 | 1 181,62 | 34,01 |
| Profim Violle 150SFL - Upholstery seat (Xtreme/Camira), Mesh back (Runner/Gabriel), Plastic base - No packaging | 71,92 | 1 010,01 | 36,83 |
| Profim Violle 131SFL - Upholstery seat/back (Xtreme/Camira), Plastic base - No packaging | 84,58 | 1 216,02 | 34,53 |
| Profim Violle 151SFL - Upholstery seat (Xtreme/Camira), Mesh back (Runner/Gabriel), Plastic base - No packaging | 75,47 | 1 059,80 | 36,96 |
| Profim Violle 130SFL - Upholstery seat/back (Xtreme/Camira), Alu base - No packaging | 87,24 | 1 215,26 | 37,31 |
| Profim Violle 150SFL - Upholstery seat (Xtreme/Camira), Mesh back (Runner/Gabriel), Alu base - No packaging | 77,42 | 1 043,65 | 40,40 |
| Profim Violle 131SFL - Upholstery seat/back (Xtreme/Camira), Alu base - No packaging | 90,08 | 1 249,67 | 37,74 |
| Profim Violle 151SFL - Upholstery seat (Xtreme/Camira), Mesh back (Runner/Gabriel), Alu base - No packaging | 80,97 | 1 093,46 | 40,41 |

Key environmental indicators for options for this EPD: Cradle to Gate analyse from A1 to A3

| Option number | Global warming (kg CO ₂) | Total energy use (MJ) | Share of recycled material in product(%) |
|--|--------------------------------------|-----------------------|--|
| Profim Violle 130F / 150F - Armrests | 43,00 | 432,82 | 0,00 |
| Profim Violle 130F / 150F - Packaging | 4,71 | 60,99 | 97,36 |
| Profim Violle 130SFL / 150SFL / 131SFL / 151SFL - P62PU Armrests | 42,23 | 454,33 | 0,44 |
| Profim Violle 150SFL / 151SFL - Lumbar support | 0,88 | 12,46 | 0,00 |
| Profim Violle 130SFL / 150SFL / 131SFL / 151SFL - Hanger | 1,12 | 13,14 | 0,00 |
| Profim Violle 130SFL / 131SFL / 150SFL / 151SFL - Packaging I (Ready product in box) | 5,07 | 66,24 | 96,79 |
| Profim Violle 130SFL / 131SFL / 150SFL / 151SFL - Packaging II (Part assemb. in box) | 4,19 | 97,82 | 76,87 |

Bibliography

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ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.

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