EPD OPTIMIZATION SUMMARY

*The full EPD Optimization Report is available in the document with Unique Document ID 2026/PA 474.*

# Thermal Break Coated Aluminium Profiles

Product-stage life-cycle comparison · 2022 vs 2026 EPD

GWP · A1 - A3

**−63%**

embodied carbon per kg

## Embodied carbon cut by nearly two-thirds. And it counts for LEED.

Between the 2022 and 2026 declarations, product-stage GWP dropped 63%, with reductions above 5% in considerably more than two further impact categories —and both EPDs were confirmed comparable under ISO 14025:2006.

↓ 6 categories improved

ISO 14025:2006 comparable

| | |
|---|---|
| **Manufacturer** | Europa Profil Aluminium S.A. - Inofita, Greece |
| **Current EPD** | EPD-IES-0006161:003 (S-P-06161) at EPD International —2026 declaration (2024 primary data) |
| **Reference (Baseline) EPD** | EPD-IES-0006161:001 (S-P-06161) - 2022 declaration (2020 primary data) |
| **Comparison Type** | Current EPD vs. previously published (baseline) EPD |
| **Scope of Comparison** | Cradle-to-Gate, Product Stage (A1–A3) shown below; full study also covers Modules C3, C4 and D |
| **LEED Credit** | LEED v4.1 MR credit: Environmental Product Declarations, Option 2 —Embodied Carbon/LCA Optimization (2-product equivalency) |
| **Period of Validity** | 2026-08-03 - 2027-06-26 |

## Impact category comparison

A1 - A3 · per kg

| Impact Category | Unit | 2022 Baseline | 2026 Current | Change |
|---|---|---|---|---|
| **GWP** | kg $CO_2$ eq | 1.32E+01 | **4.87E+00** | ↓ 63% |
| **ODP** | kg CFC-11 eq | 9.31E-07 | **2.71E-07** | ↓ 71% |
| **AP** | mol H+ eq | 8.83E-02 | **3.19E-02** | ↓ 64% |
| **EP** | kg PO4-3 eq | 1.81E-02 | **7.42E-03** | ↓ 59% |
| **POCP** | kg NMVOC eq | 4.08E-02 | **1.50E-02** | ↓ 63% |
| **ADPf** | MJ | 1.46E+02 | **5.93E+01** | ↓ 59% |

*GWP = Global Warming Potential; ODP = Ozone Depletion; AP = Acidification; EP = Eutrophication; POCP = Photochemical Ozone Creation; ADPf = Abiotic Depletion (fossil). Modules C3, C4 & D covered in the full assessment. assessment.*

## Embodied carbon comparison

GWP, kg $CO_2$-eq / kg

## Where the reduction comes from

The improvement traces to a higher share of recycled (secondary) aluminium in the raw-material mix. Because primary aluminium is far more energy-and carbon-intensive than remelting scrap, this sourcing shift cut product-stage impacts **with no change to extrusion, coating, finishing, or the product's technical performance.**

SECONDARY MATERIAL

**↑100%**

0.135 → 0.270 kg per functional unit

### LEED Credit Achievement

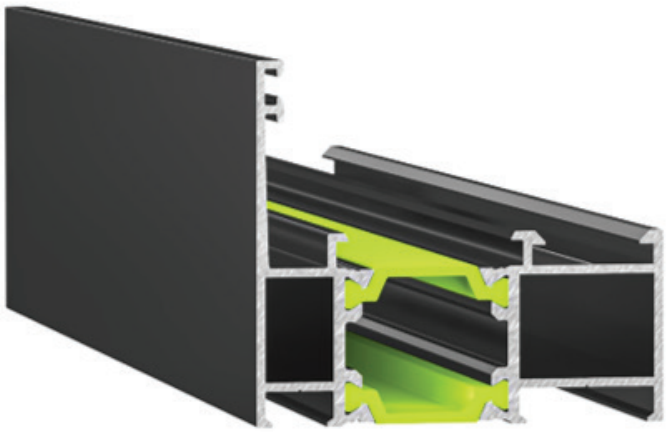
Contributes to **LEED v4.1 MR credit: Environmental Product Declarations, Option 2 - Embodied Carbon/LCA Optimization**, at two - product (2 products) equivalency - GWP reduction ≥20% with reductions >5% in two or more additional impact categories.

**Verifier:**

Business Quality Verification P.C.

*Signature:* *Date:* 2026-08-03

# Thermal Break Coated Aluminium Profiles
# EPD Optimization Report



| | |
|---|---|
| **Date of Issue:** | 2026-08-03 |
| **Date of Expiration:** | 2027-06-26 |
| **Unique Document ID:** | 2026/PA 474 |

## PRODUCT INFORMATION

| | |
|---|---|
| **Manufacturer Name** | Europa Profil Aluminium S.A. |
| **Address** | 56th km N.R. Athens – Lamia, 32011 Inofita - Viotia |
| **Contact information** | T: (+30) 22624 40000<br>info@europaprofil.com<br>www.europaprofil.com |
| **Product Name** | Thermal Break Coated Aluminium Profiles |

## IMPACT COMPARISON PARAMETERS

| | |
|---|---|
| **Type of Comparison** | Current EPD vs Baseline EPD |
| **Current EPD** | EPD-IES-0006161:003 (S-P-06161)<br>https://www.environdec.com/library/epd6161 |
| **Expiration date of Current EPD** | 2027-06-26 |
| **LCA Practitioner of Current EPD** | Europa Profil Aluminium S.A. |
| **Baseline EPD** | EPD-IES-0006161:001 (S-P-06161)<br>https://www.europaprofil.com/wp-content/uploads/EPD_Thermal-break-coated-aluminium-profile_Europa.pdf |
| **Expiration date of Baseline EPD** | 2027-06-26 |
| **LCA Practitioner of Baseline EPD** | Envirometrics S.A. |
| **Scope of comparison / Life Cycle Stages Reviewed** | Cradle to Gate with Modules C and D (A1–A3, C and D) |
| **Functional Unit** | 1 kg of Thermal Break Coated Aluminium Profiles manufactured in Europa Plant located at Inofita, Greece |

## INDEPENDENT VERIFICATION OF THE OPTIMIZATION REPORT

Business Quality Verification P.C. carried out the independent third-party verification of the Optimization Report

BUSINESS QUALITY VERIFICATION BQV

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| | |
|---|---|
| **Date of Issue** | 2026-08-03 |
| **Date of expiration** | 2027-06-26 |

## Third Party Verification Statement

It is Business Quality Verification P.C.'s professional opinion that the document in question meets the following LEED v4.1 credit criteria:

*LEED v4.1 BD+C - MRc: Environmental Product Declarations, Option 2: Embodied Carbon/LCA Optimization.*

**☒ GWP Reduction ≥ 20% and ≥ 5% reduction in two or more Additional Impact Categories (value as 2 products for LEED v4.1)**

This conclusion was reached for the following reasons:

- A comparison of the underlying LCAs and EPDs was conducted; the two EPDs were confirmed to be comparable for the purposes of LEED credit achievement (equivalent functional unit, system boundary, data sources, PCR, software, and calculation methodology).
- The comparison demonstrated a GWP-total reduction of at least 20%, together with reductions greater than 5% in at least two additional impact categories, relative to the baseline EPD.

**Verifier:** Business Quality Verification P.C.
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**Name of Representative:** *Dimitra Barbagianni*
**Signature:**

**Date:** *2026-08-03*

## Executive Summary

Europa Profil Aluminium S.A. has updated the Environmental Product Declaration (EPD) for its Thermal Break Coated Aluminium Profiles, replacing the 2022 EPD (based on 2020 primary manufacturing data) with a 2026 EPD (based on 2024 primary manufacturing data). This report presents a comparative life cycle assessment (LCA) of the two EPDs, documents the production changes responsible for the observed improvements, and evaluates the resulting environmental benefits.

Headline result: the 2026 EPD shows a **63% reduction in GWP-total** for the product stage (Modules A1–A3), together with reductions greater than 5% in more than two additional impact categories, relative to the 2022 EPD. The principal driver of this improvement is an increase in recycled (secondary) aluminium content used in manufacturing.

This performance has been independently verified by Business Quality Verification P.C. and satisfies the requirements of LEED v4.1 MR credit Environmental Product Declarations, Option 2 Embodied Carbon/LCA Optimization.

## A. Introduction

This report was prepared by Europa Profil Aluminium S.A., together with its sustainability consultant, DCarbon, to document and substantiate the environmental performance improvements achieved between two successive EPDs for the same product: Thermal Break Coated Aluminium Profiles manufactured at Europa's Inofita plant, Greece.

The report is structured to provide: a technical description of the product and underlying data; the methodology used to assess and compare the two EPDs; documentation of the changes in raw material inputs; a comparative table of environmental performance indicators; a comparative analysis of results; an assessment of the environmental benefits achieved; and overall conclusions.

This assessment also serves as supporting documentation for project teams pursuing LEED v4.1 MR credit Environmental Product Declarations, Option 2 Embodied Carbon/LCA Optimization.

## B. Technical Description of the Products and Associated Data

Both EPDs compared in this report declare the same product — Thermal Break Coated Aluminium Profiles manufactured at Europa's Inofita plant — under the same functional unit, product category rule, and declared scope, which is a precondition for a valid like-for-like comparison. The key product and declaration data are summarized below.

| | |
|---|---|
| **Manufacturer Name** | Europa Profil Aluminium S.A. |
| **Manufacturing Site** | 56th km N.R. Athens - Lamia, 32011 Inofita, Viotia, Greece |
| **Contact Information** | T: (+30) 22624 40000 • info@europaprofil.com • www.europaprofil.com |
| **Product Name** | Thermal Break Coated Aluminium Profiles |
| **Product Description** | Extruded aluminium profiles, surface-coated with thermal break, used in building systems (e.g., windows, doors, curtain walling). Thermal performance and durability are maintained across both EPD versions. |
| **CPC Code** | 41532 - bars, rods, and profiles of aluminium |
| **Functional / Declared Unit** | 1 kg of Thermal Break Coated Aluminium Profiles manufactured at the Europa plant, Inofita, Greece |
| **2026 EPD (Current)** | EPD-IES-0006161:003 (S-P-06161) - https://www.environdec.com/library/epd6161 - based on 2024 primary manufacturing data |
| **2022 EPD (Baseline)** | EPD-IES-0006161:001 (S-P-06161) - https://www.europaprofil.com/wp-content/uploads/EPD_Thermal-break-coated-aluminium-profile_Europa.pdf - published on www.europaprofil.com - based on 2020 primary manufacturing data |
| **Program Operator** | EPD International AB |
| **Standards** | ISO 14025:2006 |
| **Product Category Rule (PCR)** | PCR 2019:14, Construction products (EN 15804:2012+A2:2019) |
| **Life Cycle Stages / Modules Declared** | Cradle to Gate with Modules C and D (A1–A3, C3, C4, and D) |

The physical product (alloy system, cross-sectional design, coating type, and in-service thermal and mechanical performance) is unchanged between the two declarations. The improvements documented in this report therefore originate from the changes in raw material inputs, not from a change in the product itself or in its functional performance.

## C. Methodology for the Assessment and Comparison of the EPDs

In accordance with the comparability requirements established in ISO 14025:2006, Section 6.7.2, the comparison between the 2022 and 2026 Environmental Product Declarations (EPDs) was conducted only after verifying that both declarations were developed using an equivalent methodological basis.

### C1. Comparability Checks

- Equivalent functional/declared unit: 1 kg of Thermal Break Coated Aluminium Profiles manufactured at the same plant.
- Equivalent system boundary and life cycle modules declared (Modules A1–A3, C3, C4, and D - see table below).
- Equivalent Product Category Rule (PCR 2019:14, 'Construction products', EN 15804:2012+A2:2019) and CPC code (41532).
- Equivalent background data source for the end-of-life stage (Ecoinvent v.3.7.1) used in both models.
- Equivalent LCA software (OpenLCA v.1.10.3) and calculation approach.
- Equivalent underlying standards (ISO 14025:2006; EN 15804:2012+A2:2019).

Because these parameters are held constant between the two studies, differences in the reported results are attributable to actual changes in the production system (primarily raw material sourcing), rather than to methodological artifacts.

### C2. Life Cycle Stages Reviewed

| | Product Stage | End of Life Stage | Resource Recovery Stage |
|---|---|---|---|
| **Modules** | A1 - Raw Materials Supply<br>A2 - Transport<br>A3 - Manufacturing | C1 - De-construction and demolition<br>C2 - Transport<br>C3 - Waste processing for reuse, recovery and/or recycling<br>C4 - Disposal | D - Reuse-Recovery-Recycling potential |

## C3. Comparison Approach

For each declared impact and resource-use indicator, the module-level results (A1–A3, C3, C4, D) of the 2026 EPD were compared against the corresponding module-level results of the 2022 EPD, and the percentage change was calculated for each module. This module-level approach isolates where in the life cycle the change occurs (e.g., the product stage vs. the end-of-life stage) rather than only comparing aggregated totals.

## C4. Independent Verification

The comparability of the two EPDs and the resulting optimization determination were independently reviewed by Business Quality Verification P.C., in accordance with ISO 14025:2006.

## D. Changes in Production Process, Raw Materials, and Other Relevant Parameters

Europa Profil Aluminium S.A. continues to invest in increasing the recycled (secondary) aluminium content used in its manufacturing process, as part of its strategy to reduce the embodied carbon of its products, support circular economy principles, and work toward carbon neutrality by 2050.

**Documented change:** the LCA input data show that the Use of Secondary Material (SM) in the product stage increased from **0.135 kg to 0.270 kg** per functional unit (a 100% increase) between the 2022 and 2026 declarations — i.e., a materially higher proportion of recycled aluminium scrap was substituted for primary aluminium in the raw material mix.

This shift in raw material sourcing is the documented cause of the reduction in embodied carbon reported in this assessment: primary aluminium production is significantly more energy- and carbon-intensive (via bauxite mining and electrolytic smelting) than secondary aluminium production (via scrap remelting), so increasing the recycled content of the raw material input directly reduces upstream (Module A1–A3) impacts without requiring any change to the extrusion, coating, or finishing processes downstream.

The product's technical specification, alloy performance class, coating system, and in-service durability are unchanged, confirming that the improvement is attributable to the raw material input mix rather than to a change in the product itself.

**Scope note:** the underlying LCA documentation reviewed for this report does not itemize additional process changes beyond the increased recycled content (e.g., specific changes to energy mix, transport logistics, or on-site process efficiency). If such changes also occurred, they are not separately quantified in the source EPDs and are therefore not claimed here. This is discussed further in Section F in relation to categories where results moved in the opposite direction (e.g., ADPe, HWD).

## E. Assessment of Impact Results

### Assessment Results

The tables below present the full set of declared environmental performance indicators for both EPDs, broken down by life cycle module (A1–A3, C3, C4, D), together with the percentage change between the 2022 and 2026 declarations.

### *Environmental Impacts*

| | | Current EPD | | | | Baseline EPD | | | | Impact Change | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Environmental Impacts** | **Unit** | **A1 - A3** | **C3** | **C4** | **D** | **A1 - A3** | **C3** | **C4** | **D** | **A1 - A3** | **C3** | **C4** | **D** |
| GWP – Total | kg CO2 eq | 4,87E+00 | 5,65E-01 | 6,63E-02 | -3,81E+00 | 1,32E+01 | 5,92E-01 | 7,00E-02 | -5,25E+00 | **-63%** | **-5%** | **-5%** | **-27%** |
| GWP - Fossil | kg CO2 eq | 4,81E+00 | 5,59E-01 | 6,63E-02 | -3,71E+00 | 1,30E+01 | 5,86E-01 | 7,00E-02 | -5,12E+00 | **-63%** | **-5%** | **-5%** | **-28%** |
| GWP - Biogenic | kg CO2 eq | 2,08E-02 | 5,53E-03 | 1,55E-05 | -1,35E-02 | 4,42E-02 | 5,80E-03 | 1,65E-05 | -1,87E-02 | **-53%** | **-5%** | **-6%** | **-28%** |
| GWP - Luluc | kg CO2 eq | 4,32E-02 | 4,55E-04 | 6,78E-06 | -8,27E-02 | 1,54E-01 | 4,77E-04 | 7,60E-06 | -1,14E-01 | **-72%** | **-5%** | **-11%** | **-27%** |
| GWP - GHG | kg CO2 eq | 4,67E+00 | 5,54E-01 | 6,22E-02 | -3,62E+00 | 1,22E+01 | 5,81E-01 | 6,69E-02 | -5,00E+00 | **-62%** | **-5%** | **-7%** | **-28%** |
| ODP | kg CFC-11 eq | 2,71E-07 | 4,30E-08 | 2,01E-09 | -2,67E-07 | 9,31E-07 | 4,51E-08 | 2,24E-09 | -3,69E-07 | **-71%** | **-5%** | **-10%** | **-28%** |
| AP | mol H+ eq | 3,19E-02 | 3,44E-03 | 7,07E-05 | -2,99E-02 | 8,83E-02 | 3,61E-03 | 6,66E-05 | -4,13E-02 | **-64%** | **-5%** | **6%** | **-28%** |
| EP - Freshwater | kg PO4-3 eq | 7,42E-03 | 1,81E-03 | 4,51E-06 | -3,32E-03 | 1,81E-02 | 1,89E-03 | 4,59E-06 | -4,58E-03 | **-59%** | **-4%** | **-2%** | **-28%** |
| EP - Freshwater | kg P eq | 2,42E-03 | 5,89E-04 | 1,47E-06 | -1,08E-03 | 5,90E-03 | 6,18E-04 | 1,50E-06 | -1,49E-03 | **-59%** | **-5%** | **-2%** | **-28%** |
| EP - Marine | kg N eq | 5,42E-03 | 6,46E-04 | 3,27E-04 | -3,76E-03 | 1,33E-02 | 6,78E-04 | 2,06E-04 | -5,19E-03 | **-59%** | **-5%** | **59%** | **-28%** |
| EP - Terrestrial | mol N eq | 4,81E-02 | 7,78E-03 | 2,39E-04 | -3,79E-02 | 1,28E-01 | 8,16E-03 | 2,06E-04 | -5,23E-02 | **-62%** | **-5%** | **16%** | **-28%** |
| POCP | kg NMVOC eq | 1,50E-02 | 2,00E-03 | 7,87E-05 | -1,30E-02 | 4,08E-02 | 2,09E-03 | 6,63E-05 | -1,79E-02 | **-63%** | **-4%** | **19%** | **-27%** |
| ADPe | kg Sb eq | 6,63E-05 | 1,50E-04 | 2,31E-08 | 8,55E-05 | 5,24E-05 | 1,58E-04 | 2,47E-08 | 1,18E-04 | **27%** | **-5%** | **-6%** | **-28%** |
| ADPf | MJ | 5,93E+01 | 6,43E+00 | 1,59E-01 | -3,47E+01 | 1,46E+02 | 6,74E+00 | 1,72E-01 | -4,78E+01 | **-59%** | **-5%** | **-8%** | **-27%** |
| WDP | m3 eq | 3,45E+00 | 5,22E-01 | 3,90E-03 | -2,80E+00 | 7,92E+00 | 5,47E-01 | 3,53E-03 | -3,86E+00 | **-56%** | **-5%** | **10%** | **-27%** |

## *Resource Use*

| | | Current EPD | | | | Baseline EPD | | | | Impact Change | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Resource Use** | **Unit** | **A1 - A3** | **C3** | **C4** | **D** | **A1 - A3** | **C3** | **C4** | **D** | **A1 - A3** | **C3** | **C4** | **D** |
| PERE | MJ | 1,80E+01 | 9,63E-01 | 4,29E-03 | -2,86E+01 | 5,74E+01 | 1,01E+00 | 4,36E-03 | -3,94E+01 | **-69%** | **-5%** | **-2%** | **-27%** |
| PERT | MJ | 1,80E+01 | 9,63E-01 | 4,29E-03 | -2,86E+01 | 5,74E+01 | 1,01E+00 | 4,36E-03 | -3,94E+01 | **-69%** | **-5%** | **-2%** | **-27%** |
| PENRE | MJ | 5,93E+01 | 6,43E+00 | 1,59E-01 | -3,47E+01 | 1,46E+02 | 6,74E+00 | 1,72E-01 | -4,78E+01 | **-59%** | **-5%** | **-8%** | **-27%** |
| PENRT | MJ | 5,93E+01 | 6,43E+00 | 1,59E-01 | -3,47E+01 | 1,46E+02 | 6,74E+00 | 1,72E-01 | -4,78E+01 | **-59%** | **-5%** | **-8%** | **-27%** |
| SM | kg | 2,70E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,35E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | **100%** | **-** | **-** | **-** |
| FW | m3 | 8,03E-02 | 1,21E-02 | 9,07E-05 | -6,52E-02 | 1,84E-01 | 1,27E-02 | 8,21E-05 | -8,99E-02 | **-56%** | **-5%** | **10%** | **-27%** |

## *Output Flows and Waste Categories*

| | | Current EPD | | | | Baseline EPD | | | | Impact Change | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Output Flows and Waste Categories** | **Unit** | **A1 - A3** | **C3** | **C4** | **D** | **A1 - A3** | **C3** | **C4** | **D** | **A1 - A3** | **C3** | **C4** | **D** |
| HWD | kg | 2,40E-03 | 6,32E-03 | 6,88E-07 | 3,92E-03 | 1,26E-03 | 6,62E-03 | 8,71E-07 | 5,41E-03 | **90%** | **-5%** | **-21%** | **-28%** |
| NHWD | kg | 1,22E+00 | 1,73E-01 | 2,56E-01 | -1,43E+00 | 3,64E+00 | 1,81E-01 | 2,16E-01 | -1,97E+00 | **-66%** | **-4%** | **19%** | **-27%** |
| RWD | kg | 1,69E-04 | 2,08E-05 | 9,15E-07 | -1,66E-04 | 4,63E-04 | 2,18E-05 | 1,01E-06 | -2,29E-04 | **-63%** | **-5%** | **-9%** | **-28%** |

## F. Comparative Analysis of Results: 2022 EPD (Baseline) vs 2026 EPD (Optimized)

### F1. Product Stage (Modules A1-A3)

The product stage shows the largest and most consistent improvement across the indicator set. GWP-total fell by 63%, with comparable double-digit reductions (53–72%) across GWP-fossil, GWP-biogenic, GWP-luluc, ODP, AP, the eutrophication indicators, POCP, ADPf, and WDP. Resource-use indicators PERE/PERT and PENRE/PENRT fell by 59–69%, and non-hazardous waste disposed (NHWD) fell by 66%. This pattern is consistent with a raw-material-driven improvement, since Module A1–A3 is precisely where raw material extraction and primary processing are accounted for.

Two categories move in the opposite direction at the product stage: ADPe (abiotic depletion, non-fossil resources) increased 27%, and HWD (hazardous waste disposed) increased 90%. Both are linked to the same underlying change - a larger share of scrap-based secondary aluminium in the input mix - since scrap collection, sorting, and remelting can shift resource-depletion and hazardous-waste burdens relative to primary metal production, even as it lowers carbon and energy indicators.

### F2. Waste Processing for Recycling (Module C3)

Module C3 results show a small, fairly uniform decrease between the two declarations (approximately -4% to -6%, mostly -5% across nearly all indicators). The version history for this EPD notes that Modules C3 and C4 were updated alongside A1-A3 and D — consistent with the small but real shift observed here.

### F3. Disposal (Module C4)

Module C4 shows much more variable changes than the other modules (roughly -21% to +59%), with several indicators (AP, EP-marine, EP-terrestrial, POCP, WDP, NHWD, FW) actually increasing despite the overall raw-material improvement. This is consistent with C4 being a small, disposal-only impact (10% of the aluminium plus all polyamide and coating powder to landfill), where small absolute changes in waste composition or disposal modeling can produce large relative swings without materially affecting the overall result.

### F4. Resource Recovery Potential (Module D)

Module D shows a fairly uniform -27% to -28% change across every indicator for which it is reported. Because this uniformity spans categories with very different underlying physical mechanisms (climate, toxicity, resource depletion, water use), it indicates a systematic change in the end-of-life recycling-credit calculation basis (e.g., the assumed net scrap output or substitution ratio used to credit Module D), rather than a category-specific environmental effect.

## F5. Secondary Material Input

The Use of Secondary Material (SM) indicator increased 100%, from 0.135 kg to 0.270 kg per functional unit — the single largest relative change in the dataset, and the data point that directly corroborates the raw-material change described in Section D.

## G. Conclusions and Overall Assessment

This report has presented a technical description of Europa's Thermal Break Coated Aluminium Profiles, the methodology used to compare the 2022 and 2026 EPDs, the documented production change (increased recycled aluminium content) responsible for the improved performance, the full comparative indicator dataset, and an analysis of the resulting environmental benefits and trade-offs.

The comparison confirms that the 2026 EPD achieves a GWP-total reduction of 63% for the product stage, together with reductions greater than 5% in considerably more than two additional impact categories, relative to the 2022 EPD. This result has been independently verified by Business Quality Verification P.C. and meets the requirements of LEED v4.1 MR credit Environmental Product Declarations, Option 2 Embodied Carbon/LCA Optimization, at two-product equivalency.

Project teams may cite this report, together with the two underlying EPDs referenced in Appendix B, as documentation for LEED v4.1 MRc2 Option 2 credit achievement.

## Appendix A. List of Abbreviations

| | |
|---|---|
| GWP-total | Global Warming Potential total |
| GWP-fossil | Global Warming Potential fossil |
| GWP-biogenic | Global Warming Potential biogenic |
| GWP-luluc | Global Warming Potential land use and land use change |
| ODP | Ozone Depletion Potential |
| AP | Acidification Potential |
| EP-freshwater | Eutrophication potential, fraction of nutrients reaching freshwater end compartment |
| EP-marine | Eutrophication Potential fraction of nutrients reaching marine end compartment |
| EP- terrestrial | Eutrophication potential, Accumulated Exceedance |
| POCP | Formation potential of tropospheric ozone photochemical oxidants |
| ADPe | Abiotic depletion potential for non-fossil resources |
| ADPf | Abiotic depletion potential for fossil resources |
| WDP | Water use |
| PERE | Use of renewable primary energy excluding resources used as raw materials |
| PERM | Use of renewable primary energy resources used as raw materials |
| PERT | Total use of renewable primary energy resources |
| PENRE | Use of non-renewable primary energy excluding resources used as raw materials |
| PENRM | Use of non-renewable primary energy resources used as raw materials |
| PENRT | Total use of non-renewable primary energy resources |
| SM | Use of secondary material |
| RSF | Use of renewable secondary fuels |
| NRSF | Use of non-renewable secondary fuels |
| FW | Use of net fresh water |
| HWD | Hazardous waste disposed |
| NHWD | Non-hazardous waste disposed |
| RWD | Radioactive waste disposed |
| CRU | Components for re-use |
| MFR | Materials for recycling |
| MER | Materials for energy recovery |
| EE | Exported Energy |
| PM | Particulate matter emissions |
| IRP | Ionizing radiation, human health |
| ETP-FW | Ecotoxicity, freshwater |
| HTP-c | Human toxicity, cancer |
| HTP-nc | Human toxicity, non-cancer |
| SQP | Land use related impacts/Soil quality |

## Appendix B. Document References

- **Current EPD** - EPD-IES-0006161:003 (S-P-06161):
  *https://www.environdec.com/library/epd6161*

- **Baseline EPD** - EPD-IES-0006161:001 (S-P-06161):
  *https://www.europaprofil.com/wp-content/uploads/EPD_Thermal-break-coated-aluminium-profile_Europa.pdf*

- **Sustainability Consultant** - DCarbon, 20 Amerikis str., 106 71 Athens, Greece:
  *sustainability@dcarbon.co* · *https://dcarbon.co/*

- **Verifier** - Business Quality Verification P.C., 5 Konitsis street, Marousi, GR 15125, Greece:
  *info@bqv.gr* · *www.bqv.gr*

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