

Environmental Product Declarations (EPDs) – Introduction

What is an EPD?

An Environmental Product Declaration (EPD) is a standardised, third-party verified document that quantifies the environmental impacts of a product throughout its life cycle. It follows ISO 14025 (Type III Environmental Declarations) and includes key metrics such as Global Warming Potential (GWP), expressed as Carbon Dioxide equivalent (CO₂e).

EPD vs Life Cycle Assessment (LCA):

LCA is the method for assessing environmental impact. An EPD presents LCA results in a standardised format, enabling comparisons across similar products. An EPD is essentially a third-party verified LCA.

Why Are EPDs Important?

EPDs are increasingly required in construction and infrastructure projects to meet sustainability goals. They are mandatory in several regions and for certain certifications (e.g., UK Net Zero Carbon Building Standards). EU regulations will require carbon reporting starting as early as 2026.

Uses of EPDs:

- Transparent disclosure of product environmental impact
- Identification of key impact areas (e.g., transport, manufacturing)
- Comparison of materials/products for sustainability assessments

How EPDs Are Created:

1. Selection of Product Category Rules (PCRs) ➡ 2. Data collection for life cycle phases (A1–D) ➡ 3. Completion of LCA ➡ 4. Formatting & reporting ➡ 5. Third-party verification ➡ 6. Registration & publication
EPDs are valid for 5 years but must be updated if environmental impact data changes by more than 10%.

Relevant Standards:

- EN 15804 – Core rules for construction products
- EN 16903/16904 – Supplementary product category rules for buried/above-ground piping
- ISO 14025, 14040, 14044, 21930 – General LCA and EPD standards

Comparison Considerations:

EPDs are not always directly comparable due to differences in:

- Functional/declared units (e.g., kg vs. linear metre)
- System boundaries (cradle-to-gate vs. cradle-to-grave)
- Product category rules used

Key Definitions:

- Functional Unit: System based metric (e.g., drainage system for 100m² apartment)
- Declared Unit: Product quantity based metric (e.g., kg, metre)
- PCRs: Guidelines ensuring consistent LCA and EPD development across similar products

Life Cycle Phases (A1–D):

A1–A3: Raw materials, transport, manufacturing; A4–A5: Transport to site, installation; B1–B7: Use phase (maintenance, energy use, etc.); C1–C4: End of life (disposal, recycling); D: Reuse, recovery, recycling benefits