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MPA Asphalt Environmental Product Declarations for use in the UK

Introduction

As industry continues to evolve in a collective drive towards Net Zero Carbon, MPA Asphalt members, their customers and end clients are faced with many challenges, including how to accurately and consistently measure progress.

A key element of evidencing such progress is establishing reliable and consistent methodologies for the assessment of environmental performance. The predominating indicator targeted for reduction is Global Warming Potential (GWP), typically known as the 'carbon footprint'.

An Environmental Product Declaration (EPD) effectively combines the calculated environmental impacts, including GWP, of the components used and the operations involved in the life cycle of constructing, operating, maintaining and eventual deconstruction (and recycling) of an asset. However, without a consistent starting point there is potential for a lack of clarity for clients regarding the outputs from EPDs and the risk of not comparing options and alternatives on a like-for-like basis.

MPA members have received an increasing number of requests for published and verified EPDs relating to the supply of asphalts. While organisations are already able to generate carbon calculations and EPDs through existing systems and providers, the cost of external verification for a single EPD can be several thousand pounds. When required for each product type / recipe from a specific plant to a defined site location, the overall costs to the industry would become a huge long term burden which ultimately would be passed onto clients.

'Reference' EPDs

To address the above challenges and to provide clarity to its members and clients, MPA has now published a number of Verified Sector-Level Environmental Product Declarations (EPDs), using the current (2024) OneClick LCA tool, compliant to BS EN 15804:2012 + A2:2019. These were derived from collated and generic industry data, against which, each supplier can demonstrate and gain recognition for any reductions.

Therefore, these verified 'Reference EPDs' can immediately be used across the sector with a high level of confidence for e.g. benchmarking and project scoping, particularly for the Cradle to Gate life cycle stages.

The generic product types selected as being representative of the highest proportions of UK material supply, and the calculated GWP (Cradle to Gate) are shown below:

Product Type	GWP (Cradle to Gate) kg CO ₂ eq per tonne of asphalt
Asphalt Concrete (base & binder)	52.2
Hot Rolled Asphalt surface course	68.7
SMA type surface course (pen grade + fibre)	60.3
Thin surface course (AC-type with PMB)	73.0
The full EPDs, including product composition assumptions, and the full range of environmental impact categories across further life cycle stages are available to download at https://mineralproducts.org/Mineral-Products/Asphalt/Sustainability-EPDs.aspx	

With shared access to the OneClick LCA tool, MPA Members will be able to generate their own site-specific EPDs to the same methodology as the Verified Reference EPDs, by ultimately applying primary and site-specific data. The benefits of any additional sustainability measures being deployed at project/site level, can then be consistently calculated, demonstrated and compared by MPA members using this tool.

This will provide clients with added assurance that the environmental impact figures they receive are comparable, fair and reflective of the available options in order to evaluate sustainability gains, with limited additional costs.

The MPA has already highlighted this initiative to major clients and stakeholder bodies, e.g. National Highways, TfL, ADEPT and LCRIG as well as various Tier 1 organisations who have all recognised the need for reliable data, and expressed support for this move.

Development of Reference EPDs and critical inputs

In consultation with Eurobitume and other supply chain organisations, MPA has published these Reference EPDs for asphalts, to assist its clients and customers with a transparent, verified and comprehensive breakdown of our products' environmental footprint.

Bitumen is a co-product of the oil refining process and along with energy for asphalt production, has the largest environmental impact on the calculated embodied (cradle to gate) carbon. Eurobitume is currently in the process of a routine review of its Life Cycle Inventory (LCI) [report](#), which will include a review of crude extraction data and crude baskets representative of European bitumen production, as well as energy consumptions and impacts assigned with the production of refined bitumen.

This LCI report, with updated embodied carbon values, is anticipated to be published by end of December 2024. Until published, and with the acknowledgement of Eurobitume, the MPA has used a GWP embodied carbon value of 510 kg CO₂eq / tonne of bitumen* in the calculations of these published EPD's.

* Source: Ecoinvent 3.8, a published database of LCA data for construction products.

Note: The MPA Asphalt Reference EPD's will be updated in line with the data from the Eurobitume LCI report, when available, but this is likely to take place in 2025.

MPA Asphalt encourages all its Members and stakeholders to adopt these Reference EPDs at the earliest opportunity.