ArcelorMittal Sheet Piling

ArcelorMittal

Our commitment to sustainability

Sustainability & Environmental Product Declaration (EPD)

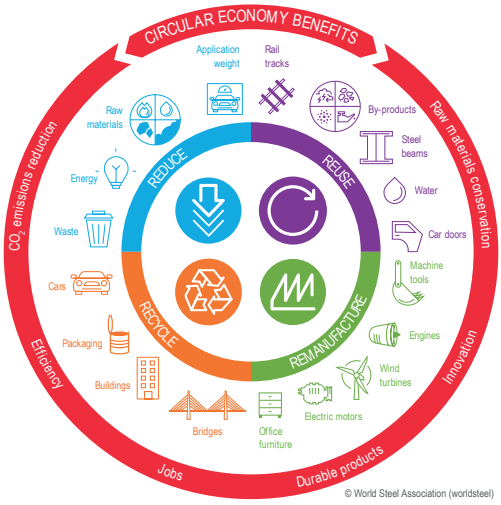
ArcelorMittal champions steel's ability to create high quality, sustainable lifestyles for people all over the world. In 2010, it was the first steel manufacturer that performed a Life Cycle Assessment (LCA) dedicated to steel sheet piles. ArcelorMittal's hot rolled and cold formed steel sheet piles are covered by several Environmental Product Declaration (EPD). Its first EPD was published in 2016.

ArcelorMittal's brand values are sustainability, quality and leadership. ArcelorMittal Sheet Piling understands how the world is evolving, not only from an economic and market perspective, but also in terms of the social and environmental trends that will shape our future.
Our goal is to supply cost-effective and sustainable solutions that take into account society's expectations about the preservation of our planet.

ArcelorMittal's steel sheet piles are an environmentally friendly construction product produced in European facilities that report transparent indicators of their environmental performance, and have certified quality management systems. Health & Safety of every employee is a top priority in our production facilities.

Circular economy

ArcelorMittal Sheet Piling is also a major actor in the circular economy, promoting greater resource productivity, aiming to reduce waste and avoid pollution. This contrasts with a linear take-make-dispose economy, which wastes large amounts of resources, energy, and labour. One of the main objectives of circular economy is to reduce waste systematically throughout the different life cycles of a product. Circular economy refers usually to numerous R's: Reduce, Reuse, Remanufacture, Recycle, ...



Steel is a permanent material: never consumed, but continuously transformed; the use of natural resources for producing steel the first time is therefore a transformative process, making iron available in a more "practical form" for subsequent uses (life cycles).

ArcelorMittal has been optimizing its sheet piles for more than 100 years to **reduce** the consumption of raw materials. For instance, using the latest AZ-800 range saves up to 10% of steel compared to an equivalent profile from the AZ-700 range. Additionally, steel sheet piles can be **reused** up to 10 times in temporary applications. Finally, 100% can be recovered and 100% **recycled**. 100% of the steel produced in our Luxembourgish mills is made out of steel scrap (recycling process).

Quality management and certifications

Customer satisfaction is our main goal. Our mills are certified in accordance to international standards ISO 9001, ISO 14001, ISO 50001, as well as BES 6001 and OHSAS 18001. This is essential to maintain the high quality of our products and to develop innovative solutions.

ArcelorMittal's EcoSheetPile™ label

The EcoSheetPile™ label certifies that the steel sheet piles manufactured are produced from 100% of recycled steel, are 100% recyclable, and are reusable.

Life Cycle Assessment (LCA)

Developed in the 1990's, the Life Cycle Assessment is a standardised methodology that analyses the environmental impacts of a product or a service during its production, use phase and end-of-life (ISO 14040). It is an important tool to the steel industry as a way to assess and quantify the environmental footprint of steel products along their entire life cycle, from the sourcing of the natural resources, to its end-of-life and recycling phase.

When performing an LCA it is also important to define the frame in which the assessment is made. An LCA can be used to compare the environmental impact of different solutions and/or products from different manufacturers.

Environmental Product Declaration (EPD)

An EPD is a verified and registered document that communicates transparent data about the life cycle environmental impact of one or more products. It is usually developed by the manufacturer, peer reviewed by independent bodies on the basis of ISO 14025 and EN 15804 standards, and published by an official environmental labelling organisation. Thus, EPDs provide suitable and objective data that can be used in public procurement processes.

An EPD is valid for a period of 5 years after publication.

Steel sheet piles' EPDs

ArcelorMittal's sheet piles are covered by one of the three EPDs registered at the *Institut Bauen und Umwelt e.V.* (IBU), Germany, in accordance with the current European standards, and accepted by the ECO PLATFORM.

ArcelorMittal analysed the full production process and performed a Life Cycle Assessment of its steel sheet piles.

ArcelorMittal's EPDs are of the type **"cradle-to-gate with options"**. They consider the different steps of the steel making process ("cradle to gate"), and additional "options". The EPDs take into account the following boundary conditions:

- resources: provision of resources, additives and energy;
- transportation of resources and additives to the production site;
- steel making process analysis on site, including energy, production of additives, disposal and valorisation of production residues, and consideration of related emissions;
- waste processing (after-use);
- end-of-life scenarios: reuse and recycling.

Our EPDs contain the following modules:

- A1-A3: structural steel production;
- C3: sorting and shredding of after-use steel, non-recovered scrap due to sorting efficiency;
- D: End-of-Life scenarios, including reuse and recycling.

All the data used in the LCA was collected through recommended templates developed by World Steel Association and its experts for Life Cycle Inventories (LCI) purpose.

The data of the different sites was cross-checked and compared to the previous years' data to identify potential inconsistencies. All the processes, materials and emissions that are known to make a significant contribution to the environmental impact were considered. It comprises used materials, thermal energy, electrical energy and fuel consumption as well as emissions from on-site measurements.

Steel sheet piles can be reused several times and recycled at the end of life. The assumption made in our EPDs for hot rolled sheet piles is that for each tonne produced, 25% will be reused, 74% directly recycled after the first use, and 1% will be landfilled. Overall, **99% of the sheet piles will be recycled** after their service life (varying from a few years for temporary applications to over 100 years for permanent applications), and only 1% leaves the system (landfill).

Although the period in which the steel sheet piles are used in their different applications is not defined in the EPD, it is important to define their service life to highlight their durability as a construction material. Steel sheet piles can be designed for 50 years and more, and there are documented cases of sheet pile walls built in the early 20th century that are still in use.

ArcelorMittal has published 3 EPDs since 2016. The declared unit is always 1 tonne of steel sheet piles.

1. The generic ***"Hot rolled steel sheet piling"*** EPD was published in 2016 and covers hot rolled steel sheet piles (AZ®, AU™, PU®, GU®, AS 500® and HZ®-M) produced by ArcelorMittal in the plants of Belval (Luxembourg), Differdange (Luxembourg) and Dabrowa (Poland). It is based on a mix of the Electric Arc Furnace (EAF) route and on the blast furnace (BOF) route. It covers 100% of the annual production volumes of 2015.
2. The ***"EcoSheetPile™"*** EPD was published in 2018 and covers hot rolled steel sheet piles (AZ®, AU™, PU®, AS 500® and HZ®-M) produced by ArcelorMittal in the plants of Belval (Luxembourg) and Differdange (Luxembourg). It is based on the Electric Arc Furnace (EAF) route: 100% of recycled material. The data refers to the production volumes of 2015.
3. The ***"Cold formed steel sheet piles"*** EPD published in 2019 covers cold formed steel sheet piles (PAZ™, PAL™, PAU™ and trench sheets) manufactured by ArcelorMittal in its plant in Messempré (France). It uses data collected from the steel shops producing the coils (Dunkerque in France, Ostrava in the Czech Republic). It is based on the blast furnace (BOF) route. Data collected from the cold forming mill is also considered. The data refers to the production volumes of 2017.

Note: *a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to EN 15804 and if the building context, respectively the product-specific characteristics of performance, are taken into account. The fairest and most objective method to compare different alternatives is to perform an LCA based on the data provided in the EPD of the manufacturer of the product.*

ArcelorMittal Commercial RPS S.à r.l.
Sheet Piling

66, rue de Luxembourg
L-4221 Esch-sur-Alzette (Luxembourg)

E sheetpiling@arcelormittal.com
sheetpiling.arcelormittal.com

Hotline: (+352) 5313 3105

ArcelorMittalSP

ArcelorMittal Sheet Piling (group)

Flyer-EPD-2019-EN