

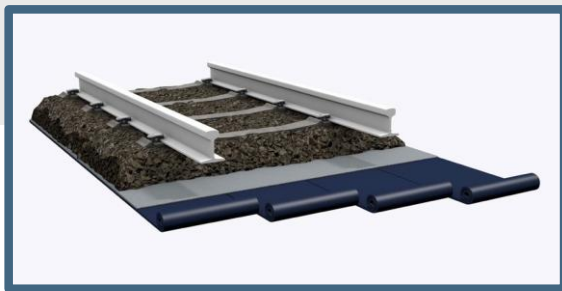
Pandrol Under Ballast Mat

EPD Summary Report



Pandrol's commitment to reducing the environmental impact of global railway infrastructure is being captured within its Sustainable Resilient Systems (SRS) product range, featuring systems composed of Pandrol's Recycled Rubber material. Leading the way, Pandrol is proud to be the first manufacturer in the field to have assessed its systems by an Environmental Product Declaration (EPD), which highlights their lower carbon footprint in comparison to alternative products based on Polyurethane foams.

Pandrol Under Ballast Mat (UBM) is a system performing vibration attenuation and reducing the life cycle cost of the ballasted railway track. Easy to install, compatible with all types of track design, it benefits from a low carbon footprint.



High performance

Noise and vibration attenuation are achieved while reducing the carbon footprint of the railway infrastructure.

Easy to install

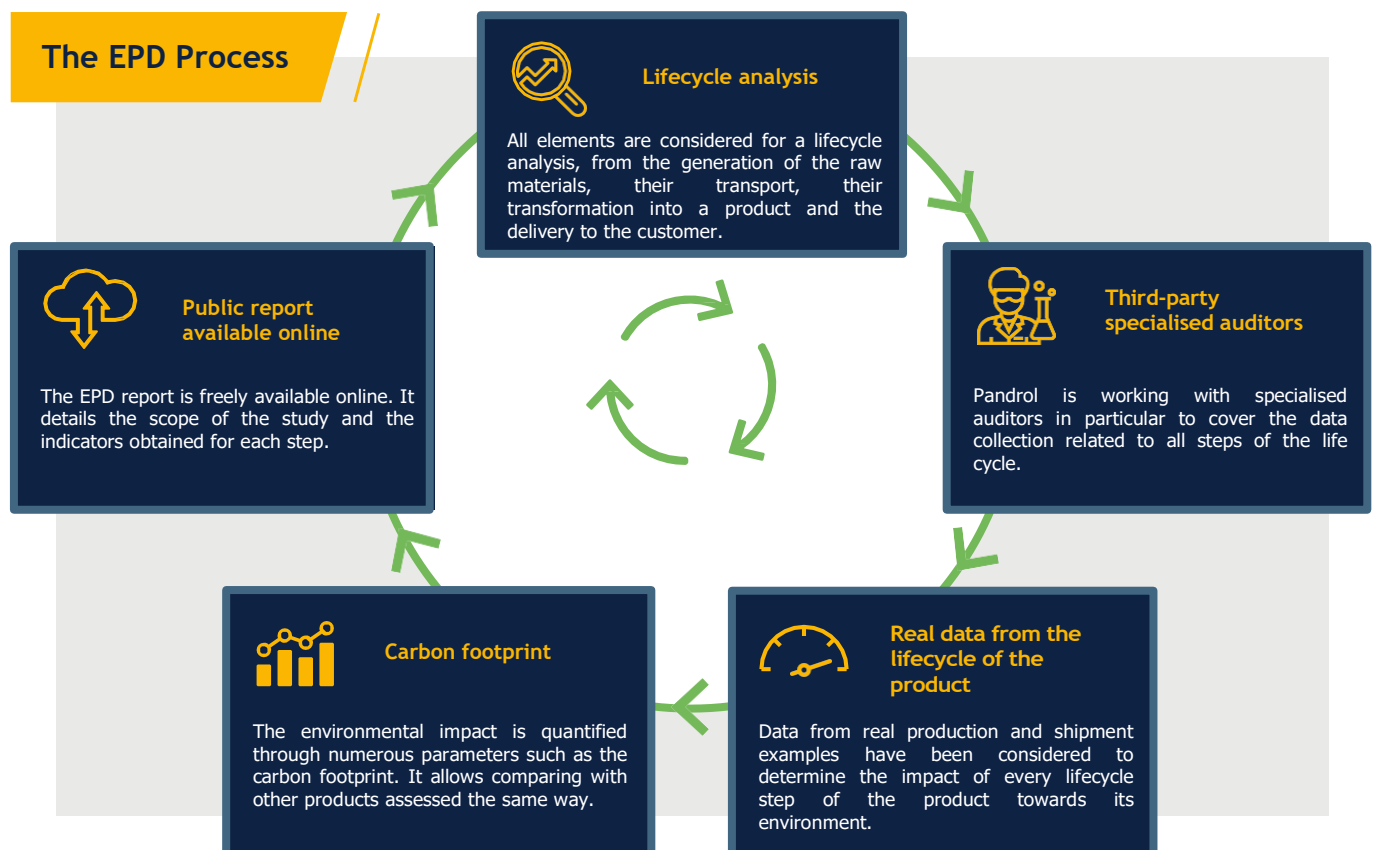
Fast and easy to install, the Pandrol UBM is a maintenance-free system designed to last the entire ballast lifetime.

Eco-friendly

All Pandrol Sustainable Resilient Systems (SRS) are made from recycled material and are 100% recyclable.

What is an Environmental Product Declaration?

Internationally accepted, an Environmental Product Declaration (EPD) is a transparent, third-party audited assessment tool, determining numerous parameters to quantify a product's environmental impact. The EPD process is not limited to the product itself, but instead considers the entire value chain, from the raw materials, their transport to the manufacturing site, the manufacturing process itself, then final delivery. Therefore, it provides a comprehensive environmental status of the product, offering insight into even further improvement actions where necessary.



Pandrol Under Ballast Mat EPD results

The example below is for UBM-H35-C. Pandrol can provide specific values for each system and project needs.

Acid rain

Sulphur dioxide (SO_2), reacts with water in the atmosphere to form sulfuric acid. The latter reaches the ground with precipitation, a phenomenon known as "acid rain".

The Acidification Potential (AP) quantifies the equivalent contribution of the product into SO_2 per installed m^2 .



Pandrol UBM: 0.020 kg SO_2 eq / m^2

Ozone depletion

Some gases, such as CFCs, halons and HCFCs damage the stratospheric ozone layer protecting the planet from the dangerous UV rays emitted from the Sun.

The Ozone Depletion Potential (ODP) quantifies the equivalent contribution of the product into CFC 11 per installed m^2 .



Pandrol UBM: 0.000000002 kg CFC 11 eq / m^2

Global warming

Human activities release greenhouse gases into the atmosphere, triggering global warming and climate change.

The Global Warming Potential (GWP), also known as "carbon footprint", quantifies the equivalent contribution of the product into CO_2 per installed m^2 .



Pandrol UBM: 11.0 kg CO_2 eq / m^2

Water pollution

Soils leaching by precipitation can bring fertilisers into the watercourse. This accumulation of nutrients, called "eutrophication", allows for excessive algal growth that consumes oxygen, which asphyxiates aquatic wildlife.

The Eutrophication Potential (EP) quantifies the equivalent contribution of the product into PO_4^{3-} per installed m^2 .



Pandrol UBM: 0.003 kg PO_4^{3-} eq / m^2

Key facts



Every kilometre of railway track installed with Pandrol UBM saves 15,000 tyres from landfill or burning.



The use of Pandrol UBM avoids the emission of 190 tons of CO_2 per km of installed railway track compared to the use of microcellular Polyurethane. To give an idea of how much CO_2 this represents, these are the equivalent emissions of an average passenger vehicle driving 1.6 million km or, 40 times around the globe!

Carbon footprint comparison

According to the United Nations Environment Programme, the building sector contributes to nearly 40% of the global greenhouse gas emissions.

Pandrol UBM has the lowest carbon footprint available on the market.

