

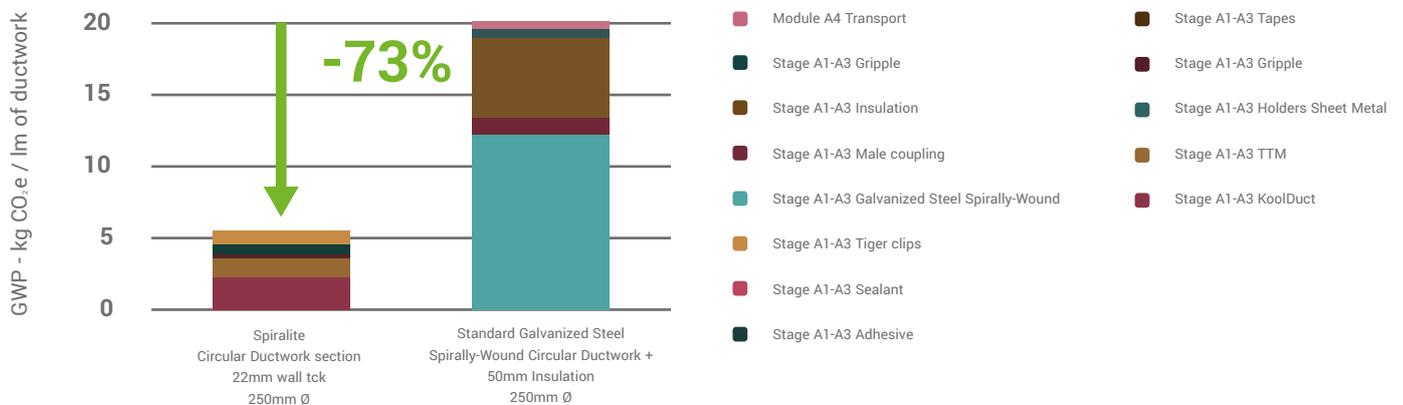
Embodied carbon study:  
**Spiralite versus standard metal ductwork with additional insulation**

## What is an embodied carbon study?

An embodied carbon study is the assessment of greenhouse gas emissions caused by the manufacturing process of a product, which includes any activity that contributes to global warming. The way embodied carbon (also known as Greenhouse Gas emissions) is analysed is by gauging the emissions of carbon, sulfur hexafluoride, and methane.

A study was conducted to compare the embodied carbon of Spiralite versus standard metal ductwork with additional insulation.

**The result is that Spiralite's ductwork is 73% less carbon-intensive per linear meter than standard metal ductwork.**



### Terms and measurements that were taken into account in the study:

- System boundary: production & construction stages
- Environmental impact indicator
- 10-metre length of linear ductwork assessed
- Functional unit: kg CO2e/linear meter (lm) of ductwork

The following production and construction stages (system boundary) were used in the comparative analysis of the two different types of ductwork:

1. Raw material extraction and processing
2. Transport of material and inputs to the manufacturer
3. Manufacturing of products
4. Transport of construction product from the manufacturer (factory gate) to the building site

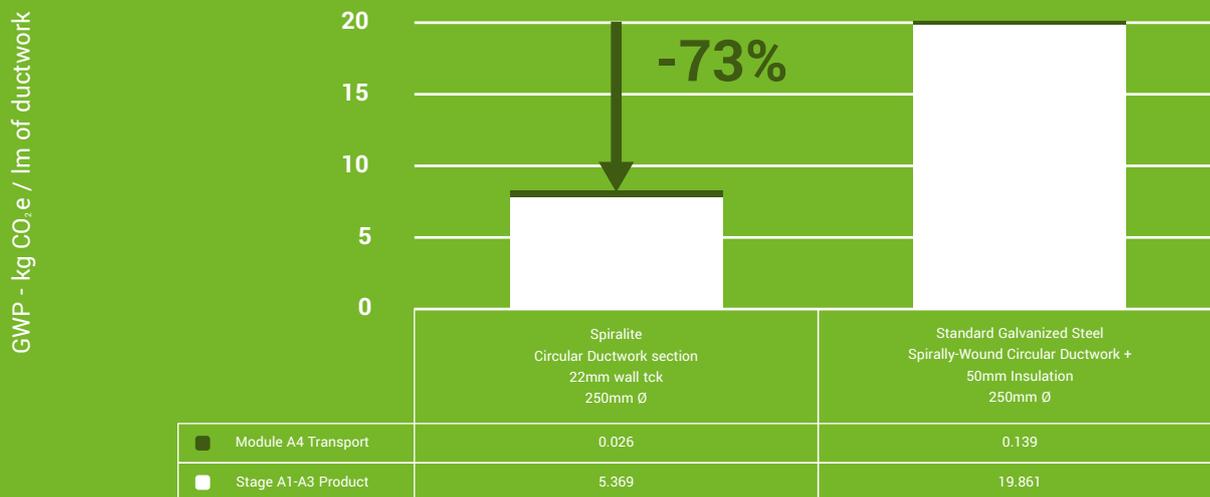
Most environmental product reports are prepared by exploring only the first 3 stages above, also known as Cradle-to-Gate. To supplement the level of environmental information, studies could often include additional optional modules such as transport. This provides a comprehensive level of information that could be beneficial.

For this study, a 10-metre length of linear ductwork was assessed.

The transport distance considered was from sourcing all raw materials from their respective manufacturing locations. For instance, the Phenolic Board manufacturer to the Spiralite Manufacturing plant's travel distance of 330km was considered. Likewise, a distance of 40km was taken into account based on an average distance from the Spiralite plant to a potential building site in the City of London. Similarly, 40km was considered based on the average travel distance from a generic galvanised steel ductwork UK suppliers assembly plant to a potential building site in the City of London.

Getting raw materials to the factory, processing and getting it to the plant is the conversion process proving to be the most carbon-heavy stage of the journey. Transport plays a considerable role in carbon emissions which is why we have included it in the study.

The graphs below show a visual representation of the embodied carbon impact during the boundary stages of Spiralite versus standard ductwork with additional insulation.



## Conclusion:

This study proves that Spiralite is the ductwork of choice to have green technology for a sustainable future and to reduce the environmental impact.