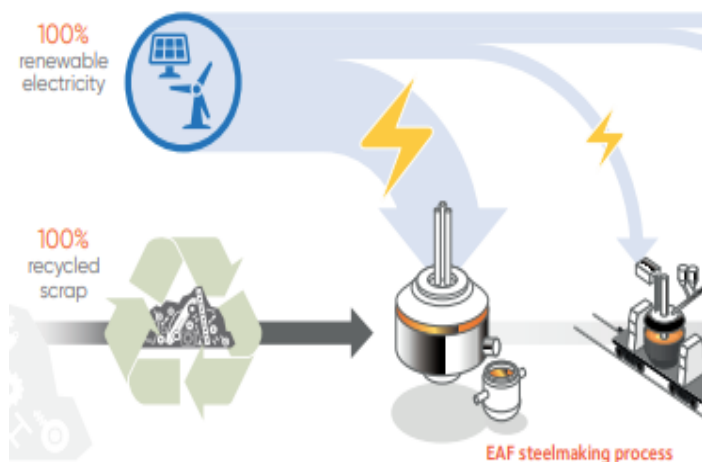




# Case Study: EcoSheet Piles Plus

## Lower carbon alternative sheet piles – Arcelor Mittal



Where: Wood Wharf

When: September – October 2023

“Bachy Soletanche is proud to have been involved in the Wood Wharf Phase 3, Building F2 project. Having a client, who has taken an active interest in the importance of low carbon construction, has enabled Bachy Soletanche to deliver solutions to address its operational carbon emissions and in this case the embedded carbon of the materials used. The EcoSheetPile has enabled the project to be delivered using traditional building techniques, whilst saving 70% embedded carbon in the steel used in the pile”

Dafydd Belshaw  
QES Group Manager

### Challenge & Opportunity

As part of the Canary Wharf’s Net Zero Pathway, which highlights our values, pathway and delivery. There is a defined target to achieve Net Zero Carbon by 2030.

To achieve these ambitions, we have been interrogating opportunities to reduce carbon – from design through to construction methodologies.

To help achieve this Wood Wharf has been in close engaged with our supply chain to identify and grasp opportunities to use more efficient and lower carbon construction techniques. Ultimately making low to zero carbon construction the norm.

### Our Response

At Wood Wharf Phase 3, buildings F2; CWCL have supported our piling contractor Bachy Soletanche to procure low carbon sheet piles.

Given there was no alternative to using sheet piles – which are traditionally very high in embodied carbon – Bachy reached out to their supply chain to seek options. This identified reduced carbon sheet piles manufactured by ArcelorMittal.

EcoSheetPile™ are manufactured through the use of an electric arc furnace (EAF), which ensure a significantly reduce global warming potential. To put this into perspective, the manufacture of EcoSheet piles produces 370 KgCO<sub>2</sub>e per tonne (A1-A3). An industry standard sheet pile produces around 1,300 KgCO<sub>2</sub>e per tonne.

These figures are backed up by an independent Environmental Product Declaration (EPD-ARM-20210178-CBD1-EN)

### Outcomes & Learning

- 536 tonnes of EcoSheetPile used on F2.
- Made from 100 % recycled material
- Manufactured using 100% renewable electricity.
- A reduction in CO<sub>2</sub>e of 498 tonnes compared to cold formed steel sheet piles.
- Only 198.3 TCO<sub>2</sub>e used which equates to a 71.5% reduction in CO<sub>2</sub>.
- Identical constructability – same plant and equipment required as conventional sheet piles and no difference in programme length.

“Canary Wharf Contractors are committed to reducing carbon. Working with our supply chain, the use of Eco-Sheets has demonstrated an opportunity to reduce carbon, without impacting on safety, quality or programme demands “

Simon Walter F2 Project Executive

