



Advanced steel solutions for a sustainable and economic bridge infrastructure

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Abstract

The present paper gives insights in the current efforts of the steel industry to reach net-zero in 2050. Different steel solutions can be combined to achieve major savings in weight, material, building time and costs in construction and infrastructure projects. **XCarb[®] recycled and renewably produced** steel is already available on the market: by combining scrap and renewable electricity, it offers very low levels of CO₂ emissions per ton of finished steel. Weathering steel can be used without any additional painting of the steel girders – preventing the detrimental impact of the paintings on the environment.

In the paper, the beneficial application of hot-rolled sections in weathering steel (Arcorox[®]460) and XCarb[®] is shown based on recently realised bridge projects in Poland.

Keywords: Decarbonization; XCarb[®]; High strength steel; Weathering steel Arcorox[®]; Steel-composite bridges.