Trazabilidad de la varilla de acero para construcción #3 en ArcelorMittal Costa Rica [

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text (article)

Analítica

The construction industry aims to transform raw materials into semi-finished or finished products. Within this is the steel industry to which major environmental impacts are attributed due to the intensity of use of resources during their raw material extraction, production processes and alike. To determine those impacts some methodologies are available such as Life-Cycle Assessment (LCA), which allows quantifying and assessing the potential environmental impacts associated with processes or products during stages of its existence. In the present study, the traceability of construction steel rod #3 was determined in ArcelorMittal Costa Rica for the stages of production and transportation of raw material and production and transportation of the steel rod. An inventory of inputs and outputs of each stage of the life cycle was created which was evaluated by SimaPro 8.2.3 software, using the Ecoinvent databases. The results of the life cycle impact assessment (LCIA), revealed that the greatest impacts of the entire system occurred at the stage of steel ingots production due to the raw materials. It was also determined that during the transport stage, the use of the train generates more impacts than the transport by boat per kilometer transporting a ton of material. For the rod production phase, the biggest impacts associated are related to the gas emission from the furnace chimney. Finally, in the transport of the steel rod showing proportionality, more fuel is consumed when greater weight is transported
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