



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

2018

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

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

Título: Trazabilidad de la varilla de acero para construcción #3 en ArcelorMittal Costa Rica electronic resource]

Editorial: 2018

Documento fuente: Tecnología en Marcha, ISSN 2215-3241, Vol. 31, Nº. 1, 2018, pags. 131-143

Nota general: application/pdf

Restricciones de acceso: Open access content. Open access content star

Condiciones de uso y reproducción: LICENCIA DE USO: Los documentos a texto completo incluidos en Dialnet son de acceso libre y propiedad de sus autores y/o editores. Por tanto, cualquier acto de reproducción, distribución, comunicación pública y/o transformación total o parcial requiere el consentimiento expreso y escrito de aquéllos. Cualquier enlace al texto completo de estos documentos deberá hacerse a través de la URL oficial de éstos en Dialnet. Más información: <https://dialnet.unirioja.es/info/derechosOAI> | INTELLECTUAL PROPERTY RIGHTS STATEMENT: Full text documents hosted by Dialnet are protected by copyright and/or related rights. This digital object is accessible without charge, but its use is subject to the licensing conditions set by its authors or editors. Unless expressly stated otherwise in the licensing conditions, you are free to linking, browsing, printing and making a copy for your own personal purposes. All other acts of reproduction and communication to the public are subject to the licensing conditions expressed by editors and authors and require consent from them. Any link to this document should be made using its official URL in Dialnet. More info: <https://dialnet.unirioja.es/info/derechosOAI>

Lengua: Spanish

Enlace a fuente de información: Tecnología en Marcha, ISSN 2215-3241, Vol. 31, Nº. 1, 2018, pags. 131-143

Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es