METADATA (*)

TOPIC D – Training Unit 4: Aluminum Production Process

Source

Partner: **REFIAL** and **Fundación INATEC**

Project: TRINEFLEX - Transformation of energy intensive process industries through integration of energy, process, and feedstock flexibility, Grant agreement ID: 101058174

Ownership

Project managers from Fundación INATEC:

- Greta Minelgaite, project manager, Department of Investigation and Development
- Noelia Montes Alonso, project manager and team coordinator, Department of Investigation and Development
- Jon Barrentxea-Arando, director of Fundación Inatec

Abstract

This training unit will provide some background knowledge about the secondary aluminum production process and its importance in the aluminum production sector. REFIAL aluminum refinery (Trineflex project Demo Case #2) - one of the 8 companies belonging to an industrial group “Grupo OTUA” (Spain, Basque country), which is among the leading metal recycling companies in Europe, will be shortly presented and the main production process activities will be briefly explained.

Several aluminum production process optimization possibilities considered inside the TRINEFLEX project are presented: digital retrofitting of the rotary melting furnace, the use of waste derived fuels, potential storage of the gases of interest (especially H_2) produced during the aluminum recycling process.

Structure

- Lesson 1: Secondary aluminum production – REFIAL aluminum refinery

  Secondary aluminum production process and its importance in the aluminum production sector – REFIAL refinery use case

- Lesson 2: REFIAL process optimization strategies inside the Trineflex project

  Aluminum production process optimization possibilities considered inside the Trineflex project for the REFIAL refinery case

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Learning Outcomes After this training unit, the trainees will have some knowledge about aluminum recycling and its importance, will get to know about the Grupo Otua and Refial aluminum refinery, also will gain knowledge about secondary aluminum melting process optimization solutions that are being implemented inside the Trineflex project
Intended Audience Anyone interested in knowing more about secondary aluminum production and its importance: students, recyclers, etc.
Pre-requisites No previous knowledge is required, as this training unit is designated for anyone interested in secondary aluminum production process and learning about its importance.
Language: English
Format: Video mp4, PDF
Expected workload: Expected workload is about 20 min
References/Complementary additional training material: • Grupo Otua internal sources of information, as well as the official website (https://www.grupo-otua.com/en/) • https://link.springer.com/article/10.1007/s11837-021-04802-y • https://aluminiumtoday.com/news/international-aluminium-institute-publishes-global-recycling-data • https://www.statista.com/statistics/1028859/europe-secondary-aluminum-production/ • https://www.bir.org/publications/annual-reports/download/648/1000000235/36?method=view • J. Green, Aluminum Recycling and Processing for Energy Conservation and Sustainability, ed. J. Green (ASM International, 2007), p. 220

(*) The structure of the Metadata for the Training Units derives from the training Metadata model developed within the Leonardo da Vinci project LINKVIT (2013-15, GA N. 2013-IT1-LEO05-04046)

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