

METADATA (*)

TOPIC D – Training Unit 3: Copper Production Process

Source

Partner: HALCOR

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

Ownership

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Abstract

This training unit introduces the production processes at HALCOR's Copper Tubes Plant in Oinofyta, Europe's largest copper tube facility. The plant is known for its efficiency in the EMEA region and has an annual production capacity of about 80,000 tons. It produces various types of copper tubes, including inner-grooved, insulated, clad, straight lengths, and coils, which we will briefly explore in two lessons. The first lesson covers an overview of the production processes, and the second focuses on the Chaintrack and single-drawing processes.

Structure

- Lesson 1: Copper manufacturing – Copper Tubes Plant overview

This lesson provides an overview of the production processes at the Copper Tubes Plant. It all begins with the delivery of raw copper billets. In the subsequent production steps, the tubes are cold-drawn to create semi-final products, resulting in a reduction in overall diameter and wall thickness, along with an increase in length.

- Lesson 2: Chain track and single-drawing processes

This lesson presents a brief description of the cold and chain track drawing processes, along with an explanation of the die-plug mechanism.

Learning Outcomes

Lesson 1: Copper manufacturing – Copper Tubes Plant overview

Participants will gain an understanding of the fundamental processes involved in copper tube manufacturing. By the end of this lesson, they will be able to identify the stages from raw material delivery to the production of semi-final products. Additionally, participants will learn about the cold-drawing technique and its effects on diameter, wall thickness, and length.

Lesson 2: Chain track and single-drawing processes

Upon completion of this lesson, participants will be equipped with knowledge of the cold and chain track drawing processes used in copper tube manufacturing. They will gain insight into the functionality of the die-plug mechanism and its role in the production process.

Intended Audience

The training material is designed for production engineers working in the copper sector.

Pre-requisites

Participants should have a basic understanding of manufacturing processes, materials, and engineering principles, as well as some familiarity with copper and its properties.

Language: English

Format: Video mp4, PDF

Expected workload

Expected workload for the Training Unit is approximately 20 minutes, with each lesson structured as learning nuggets lasting around 10 minutes each. The format may vary for each lesson.

(*) 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)