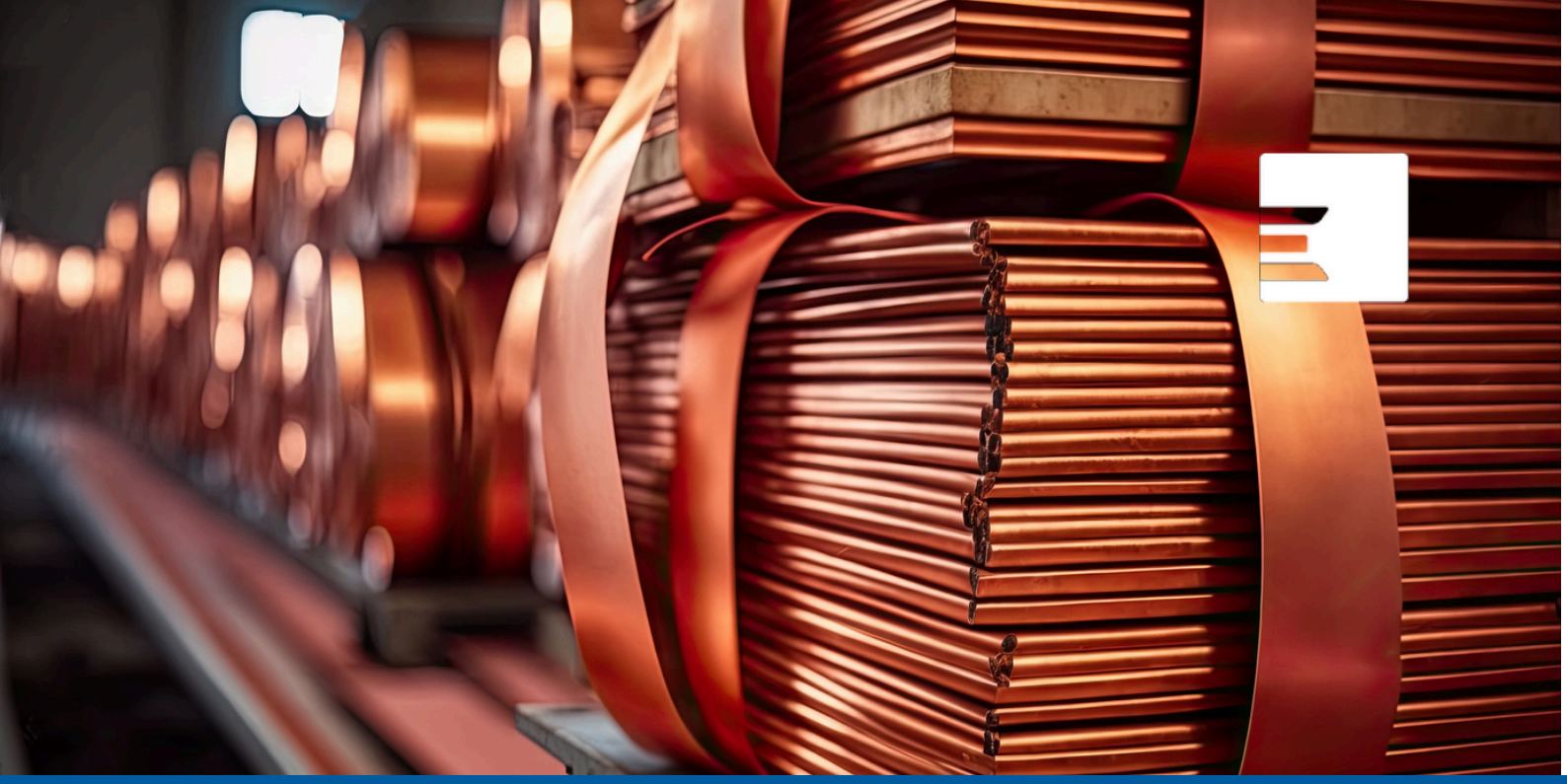

CASE STUDY

200,000 Mtpy Copper Refinery

EPCM

THE EPCM GROUP

www.epcm.com

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EXECUTIVE SUMMARY

This case study examines the development and implementation of a 200,000 Metric Tons Per Year (Mtpy) copper refinery. The project includes the scope of Engineering, Procurement, and Construction Management (EPCM), with a focus on basic and detailed engineering, permanent cathodes, and a cathode stripping machine. The key highlights of the project are its advanced technological integration, efficient design, and substantial economic and environmental benefits.

INTRODUCTION

Copper is a vital industrial metal, widely used in electrical wiring, plumbing, and various other applications. The demand for refined copper has been steadily increasing, necessitating the expansion and modernization of copper refineries. This project aims to establish a state-of-the-art copper refinery with a capacity of 200,000 Mtpy. The primary objectives are to enhance production efficiency, ensure high-quality output, and minimize environmental impact.

PROJECT SCOPE

The EPCM scope of supply for this project includes

- Basic and Detailed Engineering
- Permanent Cathodes
- Cathode Stripping Machine

PROJECT DESCRIPTION

This case study examines the development and implementation of a 200,000 Metric Tons Per Year (Mtpy) copper refinery. The project includes the scope of Engineering, Procurement, and Construction Management (EPCM), with a focus on basic and detailed engineering, permanent cathodes, and a cathode stripping machine. The key highlights of the project are its advanced technological integration, efficient design, and substantial economic and environmental benefits.

ENGINEERING DESIGN

The engineering design phase encompasses both basic and detailed engineering. This phase addresses the initial conceptualization, feasibility studies, and detailed technical specifications. Challenges such as site conditions, resource availability, and regulatory compliance are meticulously addressed to ensure seamless project execution.

PERMANENT CATHODES

Permanent cathodes are a crucial component of the copper refining process. The design specifications include high conductivity, durability, and ease of handling. These cathodes are engineered to enhance the efficiency of the electro-refining process and improve the overall quality of the refined copper.

CATHODE STRIPPING MACHINE

The cathode stripping machine is designed to automate the removal of copper deposits from the cathodes. This machine features advanced operational capabilities, ensuring precision and speed in the stripping process. The benefits include reduced manual labor, increased safety, and higher throughput.

IMPLEMENTATION

The implementation phase is structured around a detailed project timeline, with clearly defined milestones. The project management approach emphasizes coordination, communication, and risk management to ensure timely and successful project completion.

OUTCOMES AND BENEFITS

The expected outcomes of this project include enhanced productivity, superior quality of refined copper, and a positive environmental impact. The economic benefits are significant, with increased revenue generation and job creation in the local community.

CONCLUSION

This case study highlights the comprehensive approach to developing a 200,000 Mtpy copper refinery. The integration of advanced engineering, permanent cathodes, and a cathode stripping machine ensures a high-performance and sustainable operation. The project is poised to meet the growing demand for refined copper while contributing to economic growth and environmental stewardship.

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