

Design and Optimize Product Cost of Screw Conveyor

Mr. Yadnyik Kiran Borse¹, Mr. Hemant Pannalal Siddha², Mr. Sagar Sunil Gonjari³

Mr. Rushikesh Sunil Warade⁴, Dr. Prakash Kadam⁵

Students, Department of Mechanical Engineering^{1,2,3,4}

Professor, Department of Mechanical Engineering⁵

Jaywantrao Sawant College of Engineering, Pune, India

Abstract: The screw conveyor is a commonly used device in industries for material handling and transportation. The purpose of this project is to design and optimize the product cost of a screw conveyor. The design process involves determining the required specifications of the conveyor, selecting appropriate materials, and optimizing the design to minimize the cost of production.

1. Select appropriate materials: The materials used for the screw conveyor will be selected based on their properties, such as strength, durability, and resistance to wear and corrosion.

2. Select appropriate materials: The materials used for the screw conveyor will be selected based on their properties, such as strength, durability, and resistance to wear and corrosion.

3. Design the screw conveyor: The screw conveyor will be designed using standard engineering principles. The design will also be optimized to reduce the cost of production.

4. Optimize the design: The design will be optimized using Ansys Software, which will enable us to test different designs and configurations to find the most cost-effective option..

Keywords: Material Selection, Optimizing Screw Conveyor, Manufacturing Process, Cost Analysis, Testing And Validation,, Design Analysis.

REFERENCES

- [1]. De Beer, J., J. Harnisch, M. Kerssemeeckers, 1999. Greenhouse Gas Emissions from Iron and Steel Production, Ecofys, The Netherlands.
- [2]. CEC, 1999. Integrated Pollution Prevention and Control (IPPC). Best available techniques reference document on the production of iron and steel, European Commission, Directorate-General Joint Research Centre, Seville, Spain.
- [3]. Daniels, B.W. and H.C. Moll, 1998. The base metal industry: Technological descriptions of processes and production routes; status quo and prospects. Center for Energy and Environmental Studies, Research Paper no 92, University of Groningen, Groningen, The Netherlands.
- [4]. Ellis, J. and M. Bosi, 1999. Options for Project Emission Baselines. OECD and IEA information paper, Paris.
- [5]. Gilecki, 2000. Personal communication with Ryszanol Gilecki, Agencja Rynku Energii S.A., Warsaw, Poland, on 14 March 2000.
- [6]. Lawrence Berkeley National Laboratory, 1999. International Network on Energy Demand in the Industrial Sector (INEDIS) Database. Berkeley, CA: LBNL