

# Manufacturing of Bricks by using Waste Foundry Sand

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**Abstract:** *The foundry is an industrial sector where various iron, scrap steel, and ferroalloys are melted down in arc furnaces or cupolas, shaped in sand, ceramic, or metal moulds, and the cast, steel, nodular, and tempered foundry products needed in industry are produced as raw or processed materials. Especially in establishments such as factories and workshops that produce parts of the automotive, construction, and machine and in steel industry, foundry sand is used to mould foundry products (iron-steel industry and aluminium- and copper-based alloys). Foundry sand is used to prepare metal foundry moulds. For 1 ton of production, 4-5 tons of sand is required. This ratio may be changed based on the type of the metal that needs to be casted, part size, and moulding technique. Sands that contain more than 90% of silica and 7–15% clay (bentonite or kaolinite clay) and have a sintering temperature of over 1500°C are defined as foundry sands. Foundry sand disposal is a herculean task for the industrial sector in today's scenario. In order to overcome this problem to some extent, it is required to convert it into some useful products. Hence, this project gains its importance for the effective utilization of foundry sand into foundry sand bricks.*

**Keywords:** Red Soil, Bagas And Foundry Sand etc

## REFERENCES

- [1]. S. Maithel, Evaluating Energy Conservation Potential of Brick Production in India, Final Report for SAARC Energy Centre, Islamabad, 2013.
- [2]. Faster, Sustainable And More Inclusive Growth- An Approach To The 12<sup>th</sup> Five Year Plan (2012–2013 to 2016–17), Plan. Comm. India, 2011.
- [3]. Environmental and Energy Sustainability, An Approach for India, McKinsey and Company, 2009.
- [4]. Y. Chen, Y. Zhang, T. Chen, Y. Zhao, S. Bao, Preparation of eco-friendly construction bricks from hematite tailings, *Constr. Build. Mater.* 25 (4) (2011) 2107–2111.
- [5]. X. Lingling, G. Wei, W. Tao, Y. Nanru, Study on fired bricks with replacing clay by flyash in high volume ratio, *Constr. Build. Mater.* 19 (3) (2005) 243–247.
- [6]. R. Menezes, H. Ferreira, G. Neves, H. Lira, H.C. Ferreira, Use of granite sawing wastes in the production of ceramic bricks and tiles, *J. Eur. Ceram. Soc.* 25(7) (2005) 1149–1158.
- [7]. S. Roy, G. Adhikari, R. Gupta, use of gold mill tailings in making bricks: a feasibility study, *Waste Manage. Res.* 25 (5) (2007) 475–482.
- [8]. M. El-Mahllawy, Characteristics of acid resisting bricks made from quarry residues and waste steel slag, *Constr. Build. Mater.* 22 (8) (2008) 1887–1896.