MICRO, SMALL & MEDIUM ENTERPRISES
सूक्ष्म, लघु एवं मध्यम उद्यम

Ministry of New and Renewable Energy
Government of India

"PROMOTING ENERGY EFFICIENCY AND RENEWABLE ENERGY IN SELECTED MSME CLUSTERS IN INDIA"

To develop and promote a market environment for introducing energy efficiency and enhanced use of renewable energy technologies in process applications in the selected energy-intensive MSME clusters, United Nations Industrial Development Organization (UNIDO) in collaboration with Bureau of Energy Efficiency (BEE) is implementing a project titled "Promoting Energy Efficiency and Renewable Energy in selected MSME clusters in India" funded by Global Environment Facility (GEF) and co-financed by Ministry of Micro, Small and Medium Enterprises (MoMSME) and Ministry of New and Renewable Energy (MNRE).

Installation of a new and efficient crucible in the brass melting induction furnace

Objective

Reduce electricity consumption by installing new and efficient crucible in place of ram lining material in an induction furnace.

Implementation

Installed a new and efficient Morgan made crucible in the brass melting induction furnace in place of ram lining material.

Principle

Morgan crucible provides flexibility of alloy change without wash melt or lining change over. It has almost nil dross sticking, thus ensures full capacity utilization throughout the product life. It provides contamination free molten metal which results in improved metal quality and lower casting rejection. Its average heating time and energy consumption per heat or charge is less compared to traditional ram lined furnaces. It can sustain up to 300 heating cycles.

Savings
₹ 4,48,560

Investment
₹ 37,500

Pay Back
1 month

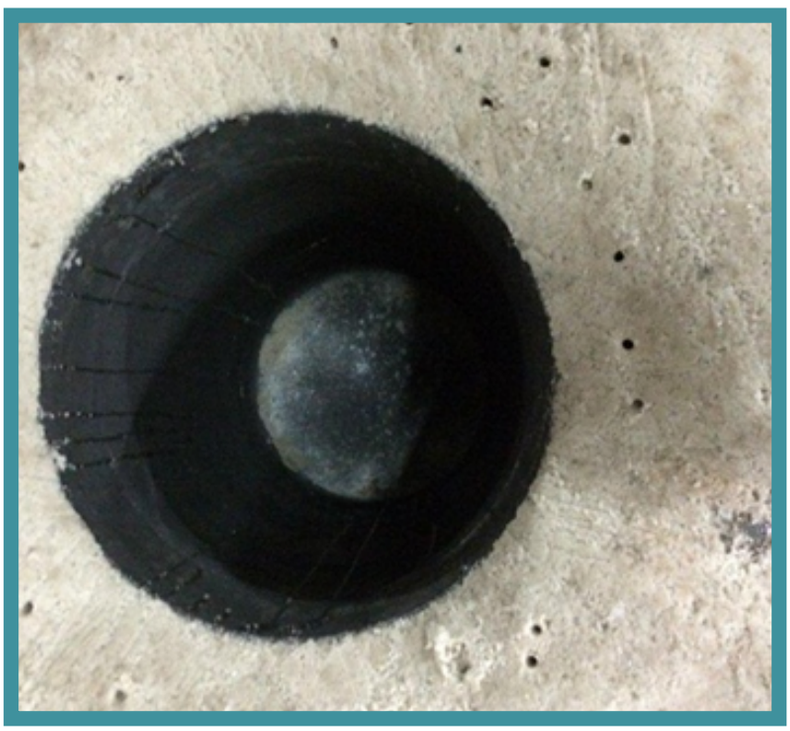
Prepared & designed by:
Confederation of Indian Industry

Unit Profile

Venus Brassotech is a foundry unit established in the year 2014 at Jamnagar. Unit manufactures various type of brass rods for plumbing, electrical and agricultural applications.

Benefits

- **Reduction in heating time per heating cycle**
- **Reduced energy consumption**
- **Reduction in dross generation per charge**



Outcomes

59,808 kWh of annual energy saving

₹ 4,48,560 of annual cost saving

49 T of CO_2 reduction per year (0.82 kg/kWh)

Replication Potential

In all the induction furnaces with traditional ram lining material is used

Cost Economics

Energy savings per batch	**19.8 kWh**
Energy saving per day (9 batches per day)	**178 kWh**
Energy saving per year (336 days/year)	**59,808 kWh**
Cost savings per year (₹ 7.5/kWh)	**₹ 4,48,560**
Investment cost	**₹ 37,500**
Simple Payback period	**1 month**

Calculation

Energy savings per annum (kWh/year) = (Energy consumption before implementation- after implementation, kWh/day) * no of working days/year

Contact details :

Unit
Mr. Keyur Khattar
Venus Brassotech
Plot no. 1/A, Shree Vishwanath Industrial Park-1
Rajkot-Okha By-pass Road, Kansumra, Jamnagar.
+91 78787 87819

Cluster Leader
0

PMU
GEF-UNIDO-BEE
4th Floor, Sewa Bhawan, Sector-1,
R.K. Puram, New Delhi - 110066
gubpmu@beenet.in
+011-26194770

United Nations Industrial Development Organization
Mr Sanjaya Shrestha
Industrial Development Officer
UNIDO
s.shrestha@unido.org