

Sunrise Pottery Works
P. B. No. 51, Amarapar.
THANGADH - 363 530 (Guj.)

Sunrise Pottery Works
P. B. No. 51, Amarapar.
THANGADH - 363 530 (Guj.)

***Commissioning report for demo
project***
***Energy saving in glaze ball
mill***

Byusing high alumina ceramic media/lining
For implementation as demonstration projects

Under GEF-UNIDO-BEE

‘Promoting EE/RE in selected MSME cluster in India

THANGADH CERAMIC CLUSTER

Unit Owner Name:-Mr. Kirtibhai Maru

Unit Name:- M/s Sunrise pottery works.

Erector name :- M/s Parishram trading company Thangadh

Sunrise Pottery Works
શ્રીમદ્ પાર્શ્વરામ ત્રાડિંગ કંપની
PARTNER

Summary of comparison & Benefit of high alumina grinding media/Lining

- Wear & tare of high alumina grinding media about 0.2 % very less in compare to natural media i.e. about 2.0 %
- Power energy cost reduce it is help for reduce in overall cost of production by power energy saving.
- Glaze making grinding time near about 55 % so it is help full to take more charge by using same ball mill.
- Approximately 45 % energy saving of power by using high alumina grinding media/lining for glaze grinding..
- No any contamination of media harm full because it made from same type of ceramic material.
- Due to less grinding time, less contamination added in glaze material.
- Lining life is very long, no needed to erect lining in two years its life is about 5 to 7 years.
- Shape of media even round or cylindrical as per requirement.
- Size can be available as per requirement from 25 mm to 50 mm.
- Due to thickness of high alumina lining is less than natural stone lining 10% more space available for loading.

Table shows that by adopting new technology 10 hours grinding time reduce saves 43 % electrical energy.

NATURAL GRINDING MEDIA / HIGH ALUMINA GRINDING MEDIA			
BALMILL SIZE 7FT X7FT 20 H.P. motor	NATURAL MEDIA	HIGH ALUMINA MEDIA	Kwh consumed Natural /high alumina
Total weight of grinding media kg	2000 kg	2000kg	
Lining life	2 years	7 years	
Grinding time hours for one charge	21 to 22	12 to 13	313 kwh/178 kwh
Shape & Size	Uneven	Even	
Specific gravity of material gr/cc	2.4 gm/cc	3.7 gm/cc	
Wear & tare ratio of pebbles	2%	0.2 %	
Electrical energy saving per charge			43 %

Sunrise Pottery Works
 5153 712 2147 711
PARTNER

After implementing & commissioning above technology at M/s sunrise pottery works at Thangadh Gujrat as demo project, all data recorded before & after to

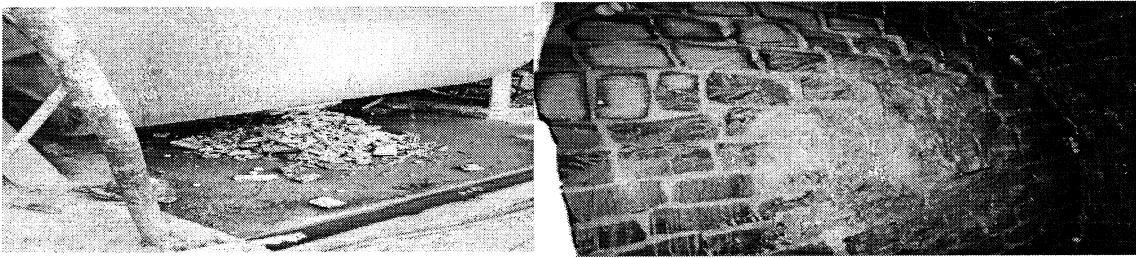
Month	Total Ball mill Charge In Month Nos	Loading Of material/mill	Grinding Hours /kwh consumed per charge	Motor H.P	GLAZE RECISUE ON 300#MESH%
MAY2017	19	2000KG	21HRS/313 kwh	20hp	0.25%
JUNE2017	17	2000KG	21HRS/313 kwh	20 hp	0.30%
JULY2017	14	2000KG	21HRS/313 kwh	20 hp	0.25%
AUG2017	17	2000KG	21HRS/313 kwh	20 hp	0.25%
SEP2017	15	2000KG	21HRS/313 kwh	20 hp	0.25%
OCT2017	18	2000KG	21HRS/313 kwh	20 hp	0.25%
NOV2017	19	2000KG	21HRS/313 kwh	20 hp	0.25%
DEC2017	17	2000KG	21HRS/313 kwh	20 hp	0.30%

show practical result for cluster in next pages of this report.

PERFORMANCE BEFORE IMPLIMANTATION OF TECHNOLOGY

Sunrise Pottery Works
 સરિષ્ઠ પોટરી વર્ક્સ
PARTNER

JAN2018	19	2000KG	21HRS/313 kwh	20 hp	0.25%
FEB2018	15	2000KG	21HRS/313 kwh	20 hp	0.25%
MAR2018	18	2000KG	21HRS/313 kwh	20 hp	0.25%
APR2018	19	2000KG	21HRS/313 kwh	20 hp	0.25%



Removing natural lining old lining natural lining in ball mill

Sunrise Pottery Works
 5103 412 2147 712
PARTNER

INSPECTION & TECHNICAL REPORT FOR DEMO PROJECT ERECTION & COMMISSIONING

AT M/S SUNRISE POTTERY WORKS, THANGADH.

1. NAME OF TECHNOLOGY IMPLEMENTED:-

"ENERGY SAVING IN GLAZE BALLMILL GRINDING BY REPLACING 92% HIGH ALUMINA CERAMIC GRINDING MEDIA/LINING IN PLACE OF ORDINARY NATURAL LINING.

2. MATERIAL QUATATIO OBSERVATION:-

Quotation for material for lining/media for 92% ceramic material as per reasonable price for required quality & quantity as per market rate.

3. INSPECTION OF SUPPLIED MATERIAL AT SITE:-

FOUND AS PER STANDARD SPECIFICATION & NORMS.

4. ERECTION WORK OF BALLMILL LINING:-

Properly constructed with white cement material. Curing of erected material by filling ball mill with water for 7 days for getting strength & bonding.

5. WASHING:-

Before trial run ball mill charge with wash charge with abrasive material to remove cementation on surface of lining to remove extra cement & smoothing surface of lining.

6. TRIAL RUN:-

Trial charge load by adding grinding media as per norms, loaded glaze material with water to set grinding hours as per new technology norms.

7. COMMISSIONING:-

After successful trial charge, as per data of new technology regular grinding of glaze preparation started successfully for production. Below data observed noted for certification of new high alumina lining media technology for glaze to reduce grinding hours to save electric energy in compare to old technology.

FIVE-MONTH DATA AFTER COMMISSIONING PROJECT

Date	Loading of material per charge kgs	Total ball mill charge during month	Grinding hours/Kwh consumed per charge	Motor H.P.	Glaze residue on 300 mesh sieve %
October 2018	2000	17	12 h / 178 kwh	20	0.25
November 2018	2000	15	12 h / 178 kwh	20	0.30
December 2018	2000	17	12 h / 178 kwh	20	0.30
January 2019	2000	16	12 h / 178 kwh	20	0.30
February 2019	2000	14	12 h / 178 kwh	20	0.25

Sunrise Pottery Works

சுர்ரீஸ் பரட்டரி வர୍କ்ஸ்

PARTNER

**Optimus Energy
Services**

Vivek. J. Sharma
PGDBA (Operations), B.E Mechanical,
Chartered Engineer,
B.E.E Certified Energy Auditor
11, Haridham Society, Raiya Road,
Rajkot-360007, Gujarat,
vivekopten@gmail.com

To whom so ever it may be concerned

Commissioning Certificate

TO,

1. THE PROJECT MANAGER
BUREAU OF ENERGY EFFICIENCY
4TH FLOOR SEWA BHAVAN, NEW DELHI
2. THE REPRESENTATIVE
UNITED NATION INDUSTRIAL DEVELOPMENT ORGANISATION (UNIDO)
NEW DELHI .

SUBJECT: - Submission of letter for certifying procurement quotation & commissioning of pilot project.

Dear Sir,

As per sanction letter no. IND / PRO / 300 (37) / 445 Dt: 13th April 2018
From UNIDO for "Promoting Energy Efficiency and Renewable energy in Selected MSME Cluster in India" for implementation of pilot project of "ENERGY SAVING IN GLAZE BALLMILL BY USING HIGH ALUMINA CERAMIC MEDIA/LINING IN GLAZE BALL MILL REPLACING ORDINARY NATURAL LINNING/MEDIA" at M/s SUNRISE POTTERY WORKS, THANGADH, GUJARAT STATE, INDIA & tri party agreement between BEE-UNIDO-M/S SUNRISE POTTERY WORK.

I certify that owner completed pilot project & commissioned successfully after trial run.

I observed & inspected procurement quotation material, erection & trial run of glaze ball mill after replacing new high alumina lining/media and found satisfactory.

I also found commissioning data satisfactory as per specified in agreement for new technology for working/ in operation.

Hereby with this I am certifying the new implemented project erection and its operation is satisfactory & successful after trial run /commissioning.

DT. 15TH OCTOBER 2018
PLACE: - THANGADH
GUJARAT, INDIA


SHARMA VIVEK JAINATH
CHARTERED ENGINEER-
Registration No.: M-1572746

Sharma Vivek Jainath
(Chartered Engineer-India)
C. Eng No. : M-1572746
The Institution of Engineers (India)