

# Energy Efficiency in Production

## TILES PRODUCTION

### REFRACTORY COATING FOR AMBIENT TEMPERATURE REDUCTION

A high emissivity coating when applied on the hot face lining to any thermal processing vessel, a durable high emissivity film is developed. The result is an increase in both the absorption and radiation capacity of the coated surface. The coating also provides protection from the corrosive chemical elements contained in fossil fuels and due to non-stick characteristics, it significantly reduces the adhesion of soot, ash, or scale.

### OXYGEN ANALYZER

A semi-automatic system where it shows the pressure and oxygen level. If there is any variation between the set parameters and actual then we can adjust them as per requirement. This will reduce the energy loss and production loss caused due to the variations with immediate effect.

### FUEL SAVING CATALYST

It is a non-mechanical device that is installed in-line of the fuel line, between the fuel tank and the burner. The device constructively reformulates any hydrocarbon fuel passing through the catalyst enabling it to burn more effectively.

### AUTO AIR REGULATORS

They are balanced modulators that reduce fluid pressure to a charging pressure value, guaranteeing a constant ratio between fuel and combustion agents, resulting in more efficient combustion and reducing consumption. It operates on the combustion air pipeline and is modulated by a pressure signal coming from the fuel gas line.

### VULCAN BURNERS

They are installed for heat focus and reduced combustion cones. Their main objectives are Optimum Air/Gas mixing, maximum operating performance, and is flexible in use.

### X PLATE

A self-operating equipment that transfers the charge of electrons from the fan to the X-plate. It helps the hot air to be able to combust easier inside the furnace.

## GRES PORCELAIN TILES

Consistent Fuel consumption per m2 between 2021-2022

-9%

Reduction in Electricity Consumption per m2

## RED BODY TILES

-4%

Reduction in Fuel Consumption per m2

-6%

Reduction in Electricity Consumption per m2

Through our initiatives, we have been able to reduce the energy consumption per m2 of 2 of our major product lines - Gres Porcelain & Red Body Tiles

## SANITARY WARE PRODUCTION

### INITIATIVES FOR EFFICIENCY IN ELECTRICITY CONSUMPTION

- Smart ceiling fans installation
- Dust collector Auto cut off Modification
- Window A/C thermostat to circuit board installation
- Spray booth & inspection blower motor Modification
- Capacitor Bank Modification for contactor to thyristor switching
- VFD Application installation (reduction in hrs cycle)
- Pre Dryer Modification
- Window A/C to split A/C VFD model installation
- Green Turbo ventilator fan installation
- Temperature Controller Installed In Engobe Dryer

### INITIATIVES FOR EFFICIENCY IN FUEL CONSUMPTION

- **SiC Conversion:** In 2018-19, we developed 5 types of Silicon carbide setters to improve loading efficiency.
- **Hot Combustion air for TK-4:** To recover air from kiln chimneys for combustion.
- **Ancora Burners:** We are piloting ANCORA burners to improve fuel efficiency (expected to be 5%)
- **X- plate:** X plate is our patent technology, which decluster the combustion of air and subsequently provides combustion efficiency.

### Additional savings in electricity consumption in 2021 & 2022 from initiatives

2021

1436.72 MWH

2022

1178.33 MWH

## FAUCETS PRODUCTION

### INITIATIVES FOR EFFICIENCY IN ELECTRICITY CONSUMPTION

In 2022, the energy consumption in faucet production increased from 15160 GJ to 16308 GJ, which resulted in an increase in energy intensity of production by 25%. However, our energy intensity of sales remained consistent in both 2021 & 2022 at ~ 92 GJ/M AED.

In 2023, we plan to undertake further initiatives to reduce energy consumption. As per our plan, we expect energy savings of 20.7 GJ per month.

25%

Increase in Energy Intensity of Faucet Production.

However, we have

CONSISTENT

Energy Intensity of Faucet Sales in 2021 & 2022

## TABLEWARE PRODUCTION

### INITIATIVES FOR EFFICIENCY IN ELECTRICITY CONSUMPTION

In order to enable energy efficiency in the production of our Tableware, we ensure that our monthly electricity & fuel consumption do not exceed 60% and 1.2% of our total production quantity. Our initiatives include:

- Using X-plates to improve the efficiency of firing with lesser energy consumption
- Using the heat from hot pipe for aiding combustion (waste heat recovery)

-10.5%

Reduction in Energy Intensity of Tableware Production between 2021-22