

Preliminary Report on Phase 1 (Single Burner Replacement) of Energy-Saving Burner Retrofit for Kiln No. 6 at New Pearl Lubu Plant 4

I. Installation and Commissioning Timeline

- Installation began on September 22, and all 670 energy-saving burners were installed by October 4.
- Commissioning period: October 5–8.

II. Impact on Production During Installation/Commissioning

- Aside from significant adjustments on October 4 and 5, which caused increased product color variations, production remained normal.

III. Performance of Energy-Saving Burners

- Overall, the energy-saving burners outperform the old ones in all aspects:
- Low-temperature zone: Heats up more easily, with no flame drift or unexpected flameouts.
- High-temperature zone: Smaller temperature fluctuations; no coking or carbon buildup observed.
- All burners demonstrate improved combustion efficiency, with cleaner flames. No red-hot or damaged burner heads/sleeves observed, though long-term monitoring is required.

IV. Quality and Energy Consumption Comparison

1. Post-retrofit product quality remains stable.
2. Energy consumption data comparison (excluding abnormal production days):

A. Pre-Retrofit Data (kiln NO.6, 9mm-thick 750×1500 tiles, two per batch)

Date

9/5–9/16

14-day weighted average: 2.148 m³/m²

B. Post-Retrofit Data (Post-Commissioning)

Date
10/9–10/25
16-day weighted average: 1.927 m ³ /m ²

Overall Gas Consumption Reduction:

$$\frac{2.148 - 1.927}{2.148} \times 100\% = 10.29\%$$

Note: Data collected by our engineers; final metrics subject to verification by New Pearl’s metrology department.

Next Steps:

- Plan to replace 40 silicon carbide nozzles during year-end kiln shutdown, expected to further reduce energy consumption by 2–3%.

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