

InTenZ Heavy Industrial Foundry Systems

High-Capacity Furnace Thermal Stress Audit & Gas Conditioning Case Study

1. Industrial Infrastructure Framework

Documents the continuous field operational profile of the InTenZ non-chemical fluid and gas conditioning technology architecture within a heavy industrial foundry melting line.

- **Testing Application:** Heavy foundry furnace line (3.3-Short Ton Capacity, Unit 6).
- **Timeline Tracked:** Pre-installation control baseline logged from October 1, 2023, to March 12, 2024.
Post-installation horizon logged through June 2024.



2. Combustion & Fuel Efficiency Matrix

Initial parameters recorded an internal 30-day stabilization cycle where the molecular conditioning system cleared legacy soot accumulation from burner heads before yielding massive volumetric compression.

Evaluated Parameter	Pre-Treatment Control Baseline	InTenZ Post-Stabilization (Months 2–3)	Net Technical Outcome / ROI Impact
Average Natural Gas Consumption	Standard Baseline (100%)	9.0% to 9.5% Absolute Volumetric Reduction	Sustained thermal efficiency achieved via improved molecular gas arrangement and completed burner cleaning.
Burner Scale & Fouling Rate	Persistent Carbon Accretion	Eradicated After Day 30	Continuous self-cleaning eliminates high-frequency manual nozzle adjustments.

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HIGH-CAPACITY FURNACE THERMAL STRESS AUDIT & GAS CONDITIONING CASE STUDY RESULTS. GAS CONDITIONING CASE STUDY RESULTS.

INDUSTRIAL DECARBONIZATION MANDATES



SCOPE 1 EMISSIONS SAVINGS.



Having actual natural gas volumes assists manufacturing sites in satisfying strict US Scope 1 GHG limits.



DIRECT OPEX CREDIT YIELDS

PRE-AUDIT GAS REQUIREMENT.



EXTREME UTILITY PROCUREMENT COST CUTBACKS.

AUDIT-VERIFIED 9.5% REDUCTION.



Achieved through verified reduction in high-volume gas requirements.



RESULTS BASED ON AUDIT-VERIFIED DATA.

3. US Regulatory Alignment & Risk Mitigation

- **Industrial Decarbonization Mandates:** Shaving up to 9.5% off natural gas volumes assists manufacturing sites in satisfying strict US Scope 1 greenhouse gas limits.

4. B2B Commercial Value Proposition & Facility ROI

- **Direct OpEx Credit Yields:** A verified 9.5% reduction in high-volume gas requirements drives extreme utility procurement cost cutbacks.

Technical Notes & Asset Protection: This document summarizes real-world operational performance data compiled and verified by independent technical field engineers. All underlying asset identifiers have been anonymized to protect proprietary operating metrics under standard compliance guidelines.