

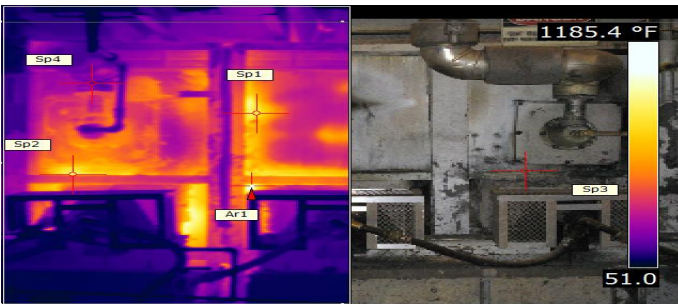
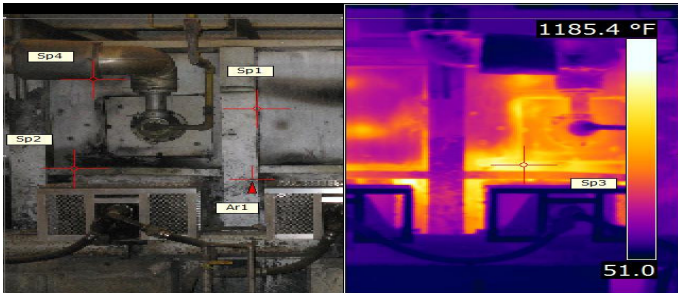
Furnace Lining Audit

PURPOSE:

To provide a comprehensive Thermal Profile of furnace heating equipment to identify the insulating performance of the refractory lining.

Cardinal Refractories Inc. Thermal Imaging camera will clearly identify the effectiveness of current lining materials performance versus design expectations. As well those areas that have degraded over time, due to mechanical and thermal exposure.

ACTUAL SURVEY PHOTO'S:



<u>Location</u>	<u>Shell Temp.</u>	<u>Energy Cost</u>
AR1	1022°F	\$816.20/sq.ft
SP2	848.2°F	\$495.60/sq.ft.
SP1	804.2°F	\$567.10/sq.ft.
SP4	178.3°F	\$15.20/sq.ft.

PROGRAM:

Thermography Inspection - a series of Thermal images of the furnace.

Thermal Summary - a detailed summary of actual furnace shell temperatures, calculated heat loss from the shell temperature analyzing energy consumption and cost.

Solutions/Recommendations - a product solution chart of state of the art materials to have the furnace lining perform as designed.

Results Tracking - Thermal surveys will be completed after lining modifications to verify results.

SUMMARY

The reheat, tunnel, slab or forge furnaces within a production facility are the largest consumers of natural gas. The effectiveness of the operation-burner settings and input, refractory lining performance and maintenance of these two areas are a significant percentage of operating costs.

Why not find out the cost of operating these furnaces as they are currently functioning? And then, understand the dollars in savings that can be achieved by investing in a variation of methods, adjustments and a high quality insulating system.

You receive invaluable tangible information to reduce operating costs. You decide how to act on the information.

Please note: In several States or Provinces these survey/audit costs may be reimbursable by the local gas supply company.

Please ask about our Audit Rebate Program.