



INFRARED ELECTRIC HEATING FOR WAREHOUSES: HOWMET AEROSPACE

SHADOW
Industrial Infrared

www.shadowindustrial.co.uk

Shadow Industrials Industry Leading Heating Solution

At Shadow Industrial, we strive for excellence when it comes to providing warmth in industrial spaces. Our business stands out as a beacon of innovation and practicality. We offer revolutionary heating solutions that transcend the limitations of traditional warm air heating methods. In warehouses particularly, our infrared heaters have proven transformative, addressing challenges in ways that conventional systems fall short. The following case study delves into an instance where our industrial infrared heaters brought warmth and efficiency to a large warehouse. The company had been seeking an efficient and eco-friendly heating solution, as their old system was neither effective nor cost-efficient. From overcoming freezing conditions to ensuring worker comfort and productivity, our heaters emerged as a cornerstone solution, showcasing the unique benefits they bring to industrial warehouses.

How does Shadow Industrial Infrared Heating work?

Effectively heating a large open building presents unique challenges, especially in spaces with limited insulation and susceptible to heat loss through draughts or intermittent use. Shadow Industrial's infrared heating solutions, address these challenges.

Our heaters utilise the most advanced shortwave heating technology, emitting focused radiant heat from precision-engineered Ultra Low Glare lamps and mirror quality parabolic reflectors. When directed downward, the heat creates a comfortable and instant warmth, precisely mimicking the gentle heat of the sun. Ideal for industrial sites, as well as culturally significant historic buildings, our heaters instantly reach optimal temperatures. They remain unaffected by changes in air movement, such as draughts or within less-insulated spaces. Each heater or group of heaters can be utilised exactly when needed, providing not just optimum warmth but also significant energy cost savings.



Why Choose Shadow Industrial for Warehouses:

- Shadow Industrial is a leading manufacturer renowned for innovation. We have been pioneering infrared heating solutions for over a decade.
- Our electric heating systems present a low-carbon, net-zero alternative that is ideal for warehouses, industrial facilities, and large commercial buildings. Aligning seamlessly with sustainability and efficiency goals, our solutions offer compliance and environmental responsibility that meet today's industrial standards.
- We are deeply committed to the longevity of industrial structures and have successfully executed numerous heating projects with both preservation and comfort in mind. Our dedication to maintaining the operational integrity and functionality of large-scale buildings leads us to effective heating solutions that seamlessly integrate into the existing infrastructure.
- All clients benefit from our expertise and a FREE bespoke design service. This helps ensure optimal performance, durability, and aesthetic harmony for your specific heating needs.



Case Study: Howmet Aerospace

Background & Challenges

Client Overview

Howmet Aerospace is a leading producer of components for aero engines and industrial gas turbines, as well as fastening systems and various engineered structures. The company is committed to advancing the sustainability of their customers and the markets they serve through innovative engineering and operational practices. Howmet focuses on minimising environmental impact by reducing emissions, conserving energy and water, eliminating waste, and creating products that support these goals. Howmet Aerospace faced significant challenges with their existing heating system, which was based on gas-fired air blowers. This system was not only inefficient but also costly to operate, leading to high energy consumption and expenses. The company sought a solution that would enhance their heating efficiency, reduce energy consumption, and align with their sustainability goals.

Project Initiation Objectives:

Howmet Aerospace aimed to achieve several key objectives with the implementation of industrial infrared heating solutions:

- Improve the efficiency of space heating within their facility
- Reduce overall energy consumption and operational costs
- Align the heating system with their sustainability and emission reduction goals

Project Details

Solution Design

To address Howmet Aerospace's needs, we proposed a comprehensive suite of infrared heating solutions.

The specific products and their specifications included:

- Shadow Infinity 12kW Industrial Heater (4 units)
- Shadow 4kW Industrial Heater (2 units)
- Shadow 3kW Industrial Heater (1 unit)
- Infresco IP65 Heater Controller 6kW (3 units)
- PIR 240v (5 units)
- 6kW Remote Variable Heater Controller (receiver) (9 units)
- 3 Zone Master Controller (transmitter) wall mounted (2 units)
- Shadow Infinity 6kW Industrial Heater (2 units)
- Infresco IP65 Heater Controller 6kW (1 unit)

These products were chosen for their high efficiency, reliability, and suitability for industrial applications. Customisations were made to ensure the heaters met the specific spatial and operational requirements of Howmet Aerospace.

CONTACT US TO DISCUSS THE OPTIONS FOR YOUR HISTORICAL BUILDING:

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IMPLEMENTATION

The implementation process was carefully planned and executed to minimise disruption to Howmet Aerospace's operations. The timeline and key milestones included:

- Initial Assessment: Detailed analysis of the existing heating system and requirements
- Design Phase: Customisation of the proposed infrared heating solution
- Installation: Systematic installation of the heaters and controllers
- Testing and Optimisation: Ensuring optimal performance and integration with existing systems

Key team members from both Howmet Aerospace and our side were involved throughout the project to ensure smooth execution and address any challenges.

Innovative Technologies

Our infrared heating solutions employed cutting-edge technologies to enhance efficiency and performance. The key innovations included:

- Infrared Heating Technology: Providing direct and efficient heating to the space
- Advanced Control Systems: Utilising Infresco IP65 Heater Controllers and remote variable controllers for precise temperature management



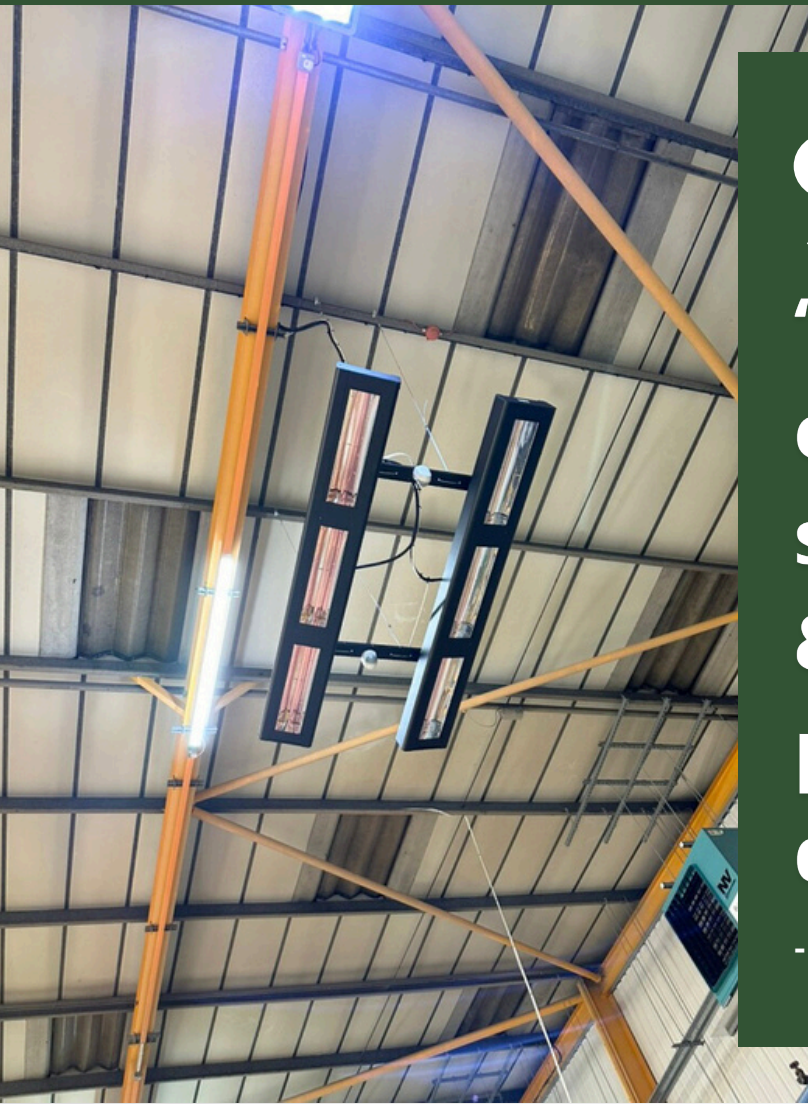
Integration with Existing Systems:

Seamlessly replacing the old gas system with our infrared solutions, resulting in significant improvements in efficiency.

Integration

The transition from gas-fired air blowers to infrared heaters marked a significant upgrade. By replacing the inefficient gas system, Howmet Aerospace was able to leverage our infrared heaters to achieve substantial energy savings and improved heating performance.





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“Our most effective sustainability & efficiency project to date”

- Howmet Aerospace Representative

Outcomes and Impact:

Results

The implementation of our infrared heating solutions led to remarkable improvements:

- **Energy Savings:** Over 90% reduction in energy consumption compared to the previous year
- **Efficiency:** Heating a 5,000 m² factory floor with significantly lower energy usage
- **Cost Reduction:** Annual energy consumption dropped from 150,000 kWh (gas) to approximately 16,000 kWh (electricity)

Client Feedback:

Howmet Aerospace expressed high satisfaction with the results. They highlighted the infrared heating project as their best-performing sustainability and efficiency initiative. The investment in the new system paid for itself in under a year, demonstrating the project's success.

Testimonials

"Switching to infrared heating was our most effective sustainability and efficiency project to date. The results speak for themselves"

- Howmet Aerospace Representative



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