



**INFRARED ELECTRIC HEATING
FOR PLACES OF WORSHIP AND
HERITAGE SITES**

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 sacred 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 places of worship, particularly churches, our infrared heaters have proven transformative, addressing challenges in ways that conventional systems fall short. The following case study delves into one such instance where our industrial infrared heaters brought unparalleled warmth and comfort to an ancient church that endured three winters without heating. From overcoming chilly conditions to ensuring the congregation's well-being during services, our heaters emerged as a cornerstone solution, showcasing the unique benefits they bring to spaces of worship.

How does Shadow Industrial Infrared Heating work?

Effectively heating a historical 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 churches, heritage sites, and 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 Churches:

- 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 heritage structures, churches, and culturally significant buildings.
- Aligning seamlessly with The Church of England's Heat Decarbonisation Plan, our solutions offer compliance and sustainability that is in keeping with today's environmental ambitions.
- We are deeply committed to the longevity of heritage buildings and have successfully executed numerous heating projects with both preservation and comfort in mind.
- Our dedication to preserving the integrity and cultural significance of historic structures leads us to tasteful heating solutions that seamlessly integrate into the architectural fabric.
- 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: St Helen's Church, Colchester

Overview & Challenges Before Installation:

The St Helen's Chapel Antiochian Parish confronted a formidable issue upon its purchase of the church from the Church Conservation Trust – a glaring absence of heating. Over three consecutive winters, worshippers endured the harsh chill, with temperatures plummeting to below zero degrees Celsius during services. This harsh reality rendered the sacred space far from pleasant and inviting for congregational worship. Initial solutions involving oil-fired heaters proved futile, failing to provide the desired warmth, and leaving churchgoers in discomfort. Even attempts with industrial fan heaters proved suboptimal, introducing disruptive noise, and falling short of effectively heating the congregation. The nave and the tower of the church date from the 12th century. The aisles, the transepts, and the chancel were added 200 years later. Despite extensive restoration and emergency repairs, the church still lacked a heating system that respected its historical significance while ensuring practical usability. The lack of heating posed severe challenges, particularly for older individuals and children attending services. They needed a functional heating system installed fast.

Selection of Infrared Heating:

The choice to implement infrared heating stemmed from the recommendation of an electrician guided by a comprehensive heating options report. Considering the distinct structural challenges posed by the church's size and composition, there were apprehensions around the available heating methods. Underfloor heating, incurred a substantial cost exceeding £100,000 and presented a significant drawback, requiring activation several hours prior to the church's intended use. Recognising the unsuitability of underfloor heating for this historic structure, coupled with the complications and massive disruptions associated with installation and repairs – swayed the decision to opt for an electric infrared heating solution. Our heating solution effectively tackled the existing challenges and offered a markedly superior alternative compared to any other options available for the situation with a cost of under £20,000 including installation.

**CONTACT US TO DISCUSS THE OPTIONS
FOR YOUR HISTORICAL BUILDING:**

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INSTALLATION OF INFRARED HEATERS:

After a free site visit to gain a better concept of the space and how it is used in a practical sense, as this heavily influences how we configure the system for optimum usability. We provided a carefully designed heating specification with 6 heating zones, considering aesthetic, power availability, and optimal heater placement. These zones consider how the space is operated and how to maximise heating efficiency taking full advantage of the way the infrared system heats people and not the air. In the Transepts we specified using our compact 6kW units hung from the ceiling due to the shape of the heat coverage. For this installation we opted to provide additional heat per meter squared to the Nave. In this instance, there was a 100A x 3 phase electricity supply available, so were not limited in terms of energy usage. This specification allows for additional heat to be used in this area if it is especially cold and the space is being used for elderly or young children, such as a crèche.



Once the heater specification was designed and approved we then worked on a zoning system to configure the controllers in a way that worked for this specific churches use.

"It does exactly what we need it to do"

The swift and responsive nature of the system optimises energy efficiency but also empowers the church community with a level of heating flexibility that was previously unattainable.





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**‘It's warm
the second
you turn it
on... It's
brilliant.’**

-Father Mark Shillaker

Why Infrared Heating was the Ideal Choice:

The installation of infrared heating has significantly improved the comfort of congregants, allowing them to now comfortably remove coats during services. Positive feedback has flowed in, with some individuals humorously noting that the warmth was almost too much, shocked at the difference the system has made. The impact was particularly felt among older people and children, for whom extreme cold can have an adverse impact on health during extended services. Infrared heating successfully overcame concerns about ambient heating for the entire structure that underfloor heating had posed. This heating system does not require any warm-up times, when you switch the heaters on it provides instant warming heat, alike to sitting in the sun on a clear day.

The church had been concerned that a generous gift of £10,000 they had received wouldn't go far in funding the project. However, this actually covered the cost of the heaters—with the exact specification that the building required. This was a stark contrast to the cost of other systems that had been considered. The infrared heating solution the church selected provides much better responsiveness, controllability, and cost-effectiveness compared to other available options. The unparalleled controllability of our infrared heating system is fast emerging as a game-changer in churches and other hard-to-heat venues. The instant response of infrared heat allows for precise and immediate adjustments to cater to the varying comfort preferences of worshippers. This newfound control ensures that St Helen's church remains an inviting and comfortable environment year-round – at the touch of a button.



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