

AMBIRAD

HEATING AND VENTILATION SOLUTIONS

Universal Engineering

Case Study

AMBIRAD **AIRBLOC** **NORDAIRNICHE** **BENSON**



 **NORTEK**TM
GLOBAL HVAC



Universal Engineering, Case Study

"We manufacture premium quality components and systems and expect the same standard in our premises, so were very happy with the heating system and the benefits of cost savings and heat distribution capabilities"
Mark Holland - Sales and Marketing Director for Universal Engineering



Mark Holland
Universal Engineering

Case Study: Universal Engineering

Universal Engineering is an engineering service provider with a mix of manufacturing capabilities that support the needs of sub-sea oil and gas, defence and aerospace customers. They have produced a large number of systems for the UK Military of Defence (MoD) These include the design and production of over 1500 ruggedized military trailers that are currently in-service across the globe with the MoD and other prime contractors. Universal Engineering has developed the Ranger, the next generation of armoured fighting vehicles; the Ranger provides the World's best survivability system against blast, ballistic and fragmentation threats whilst also retaining a very high degree of tactical and operational mobility.



"Project Ichthus" involved the redevelopment of an existing facility which also required a new HVAC solution as part of the major refurbishment of the multi-million pound factory. Founded on core competence of value engineering and project management, Universal Engineering build systems, manufacture components and programme work packages for customers who require high quality, thus having a high quality, efficient working environment is essential to the Company in designing the new factory which will employ 200 highly skilled engineers and fabricators at the Llantrisant site. The multi-million pound investment is backed by £2m business finance from the Welsh Government to support the creation of these 200 jobs; Edwina Hart said:

"Advanced manufacturing is a key sector of the Welsh economy and I welcome this investment by Universal Engineering which is already creating a significant number of high skilled jobs as well as career opportunities for young people."

The Nor-Ray-Vac continuous radiant system was ideal for this project as it's designed

specifically for the factory it's required to heat. Radiant heat works by emitting infra-red rays that warm only people and objects. By taking the chill off objects, radiant heating effectively prevents the formation of condensation within a building. It operates without air movement and is very quiet. The Nor-Ray-Vac system is designed to provide uniform heat coverage over the entire floor area. The system can also be configured to satisfy specific temperature requirements in distinct zones, providing differing levels of comfort in accordance with business activities and the overall layout of the building..

The Nor-Ray-Vac systems installed during this refurbishment were designed in specific zones to create flexibility and to ensure that blanket coverage was obtained due to the large floor area of the building, thus being divided into 19 defined work areas. M&E Contractors JW Morris installed 74 Nor-Ray-Vac burners in 19 temperature zones, each zone being controlled by a SmartCom Controller. David Edwards Engineering Manager of JW Morris says **"This is an exceptional heating solution in an otherwise difficult-to-heat facility, the Nor-Ray-Vac heaters are effective in maintaining comfortable temperatures within this vast building"**.



When a Nor-Ray-Vac system is initially designed AmbiRad consider the following criteria to form the basis of each particular design:

- Heat loss of the building for the required thermal environment
- Local climate conditions
- Type of activity in the building
- Specific architectural features relating to the structure

Working together with the Company in question, the architect and contractor, a bespoke Nor-Ray-Vac heating system can

be specifically designed to provide optimum results; reducing overall costs, with savings of up to 60% being achieved over conventional heating systems.

Installation Summary

- > Universal Engineering invested in Nor-Ray-Vac continuous Radiant Tube heating in 19 temperature zones.
- > Uniform Blanket heat coverage.
- > Benefit from even heat distribution at constant temperatures.
- > Savings of up to 60%

Technical Summary

- > Area 167m x 133m roof at 8.7m to 10.7m
- > Heaters X 74 NRV Heaters in 19 Zones
X 19 SmartCom Controllers



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