

# Tests highlight energy efficiency benefits of electric central heating system

Most manufacturers of electric heating products do not provide a guideline of running costs for their customers. The heatloss from a particular room will vary at different times of the day and from day to day, due to the many variables involved.

No two situations are the same and factors such as room sizes, wall and floor construction, number of outside walls, electricity tariff, on/off periods, required room temperature, number of occupants, outside air temperature, other heat generating appliances in operation and so on are all relevant.

However, Kalirel continually strive to exceed market expectations and to prove the efficiency of their products Kalirel commissioned a leading independent testing company, BSRIA, to undertake comparison testing between one of their radiators and a leading brand E7 storage heater.

The purpose of the test was to prove the difference between Kalirel and traditional electric heating in terms of temperature stability, control and running costs in an identical situation.

Over a 24 hour period Kalirel provided temperature stability within 0.3°C. The Kalirel radiator used over 59% less electricity than the storage radiator and cost over 36.5% less to run.

BSRIA constructed a test room to generate a realistic maximum heatloss calculation of an average living room and accurate T-type thermocouples were used to monitor temperatures for measurement and control purposes in and around the facility. The electrical power consumption of the heater being tested was measured using a Yokogawa kilowatt-hour meter, logged at 5-minute intervals.

The Kalirel product tested was a Systelia Cyclope 2000 watt radiator. The leading brand storage heater used in the tests was an ultra-slim automatic storage heater and convector heater with a 3.4 kw/h performance input rating providing a maximum charge acceptance of 23.8 kw/h over a seven hour (E7) period. The built-in convector heater is capable of providing a maximum 2000w output.

During the entire testing period, the Kalirel radiator used almost exactly the same amount of energy as the level of heatloss. Subsequently, this proves that Kalirel provides the right amount of heat, as and when needed – no waste.

The data collected during the tests in a static chamber with cooling applied to the room to replicate heatloss, also showed the temperature stability of Kalirel in contrast to the vast temperature fluctuation of the storage heater, which was shown to release heat when the majority of households would be empty, resulting in an individual room being below accepted normal comfort temperature when the occupants would be at home during the evening.

To provide an accurate lifetime guide to heating system running costs, other factors must also be considered such as purchase and installation prices, annual fuel costs, system maintenance, servicing and life expectancy.

Taking these factors into account when comparing oil, LPG and gas with Kalirel electric heating for a typical three-bedroomed, cavity insulated house, the yearly difference between running costs for gas and electric systems is very little. However, the actual lifetime costs per year were as follows: £1,740 for oil, £1,590 for LPG, £1,170 for gas and £983.33 – which clearly showed a Kalirel electric heating system is the lowest costing option.

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