ASCOT
electrical heating

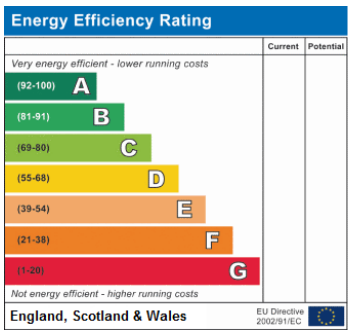
#MyInstall

The Premspec Group Limited
T | 029 2130 3710
E | ascot@premspec.co.uk
www.premspec.co.uk

Electric heating and EPC ratings

With so much confusion being created through new legislation of EcoDesign LOT20 and UK landlords Energy Performance Certificate (EPC) of an E or above in order to comply with legal obligations to rent, we are hoping to add some clarity for all.

What is an EPC Rating?



Many people would have seen a label on many different types of products and literature similar to the illustration here. This is a standard EPC chart which indicates the energy efficiency of a property, which is often mistaken with EU energy labels seen on white goods.

These EPC certificates are created using the governments Standard Assessment Procedure (SAP) and contain information acquired from a property's typical energy usage its running costs. This is done by using information about the building, for example the types of windows used, quality of the buildings insulation, heating systems and the lighting used. An EPC assessors will make an estimate of a property's overall efficiency and then offer suggestions on what the property owner could do to improve the overall efficacy and improve running costs of the building.

We are often asked by wholesale customers, electrical contractors and landlords "*what is the EPC rating of your ASCOT electric radiators?*" However, EPC ratings can only be applied to a property and not a product. This is further complicated because electric local space heaters aren't included in the list of appliances that require energy labels, which means that with the current calculations for EPC ratings they sit outside of the equation.

The Premspec Group Limited
T | 029 2130 3710
E | ascot@premspec.co.uk
www.premspec.co.uk

How are EPC ratings calculated for property's

This has become a frustrating issue for manufacturers such as us and landlords across the country as information about EPC ratings and how they are calculated is hard to come by. The key factor to why is due to EPC ratings are only available when the assessments are conducted by a qualified assessors and partly because the EPC calculations are created by entering data gathered from the assessment in a bespoke software not available to others. The exact formula isn't one that is shared outside of agencies. Some basic information is available to aid us to gain some idea of what is taken into consideration and what aspects are assessed and included into the assessment.

What factors do we know that assessors are looking for?

The varied level of aspects that each assessor is looking for and take into account have a huge range such as age of the building all the way to types of heating controls installed. The main information used does include:

- Property type and dimensions
- Insulation of the property
- Windows, type of and glazing
- Lighting systems
- Wall, roof and construction of floors
- Water heating systems
- Primary and secondary heating systems
- Primary heating control systems

Once the property has been assessed the landlord will be supplied with an EPC which will outline the property's predicted and potential running costs. It will also include a list of any changes that could improve the property.

The Premspec Group Limited
T | 029 2130 3710
E | ascot@premspec.co.uk
www.premspec.co.uk

Suggested improvements to the property will range from simple amendments such as LED lamp,. they can at times be more substantial works such as wall insulations.
When everything has been taken into account, each aspect of your property will be given a rating of five stars to indicate the properties performance. For example, if the property has old technology such as incandescent lamps throughout most of the property will acquire a single star rating, yet an LED alternative will have a five star application.
The following diagram is an assessment of the key individual elements that have an impact on a home's performance rating. Each element I assed against the following scale: Very poor/Poor/Average/Good/Very good.

Element	Description	Current performance	
		Energy Efficiency	Environmental
Walls	Cavity wall, as built (no insulation)	Poor	Poor
Roof	Pitched, 250 mm loft insulation	Good	Good
Floor	Solid, no insulation (assumed)	–	–
Windows	Partial double glazing	Poor	Poor
Main heating	Boiler and radiators, mains gas	Average	Average
Main heating controls	Programmer, room thermostat and TRVs	Average	Average
Secondary heating	None	–	–
Hot water	From main system, no cylinderstat	Poor	Poor
Lighting	Low energy lighting in 75% of fixed outlets	Very good	Very good
Current energy efficiency rating		F 37	

Does electric heating affect a properties EPC rating?

The short evaluation of this frequently asked question is yes. Electric heating will impact the overall EPC rating of a property due to an outdated set of generalisations that are made over the running costs of the systems. These generalisations also extend to the energy consumption rates of the systems as well, which further evidences the outdated and non-encompassing data used by the assessors criteria to create the EPC.

The Premspec Group Limited
T | 029 2130 3710
E | ascot@premspec.co.uk
www.premspec.co.uk

Because EPC ratings are not created using data of efficiency at the point of use, at which electric heating always receives a 100% as a rating, EPC's are focused around base cost per unit of energy. Due to this gas is favoured over electric as although it is less efficient and not renewable it is cheaper per unit to purchase. Yet the inaccuracy of EPC ratings also extends to CO_2 rating as this assessment is based on the production of electricity being generated through outdated power stations. ***This does not necessarily mean that you electric heating system is of poor quality or more expensive or less carbon efficient than gas.*** In contrast the most sophisticated electric heating solutions which run on renewable energy systems would still only receive a single star rating purely based on the fact that predominately on fossil fuels to create the electricity.

How useful are EPC rating under their current structure and inclusion of new technology?

EPC ratings have been criticised and reforms have been forced a few times since the inception of this classification system. Most recently it was agreed that older listed buildings couldn't accommodate modern insulation methods, this has forced new measures to be taken into account yet new concerns have been raised in regards to the overall accuracy of the calculations. There has already been new data from the Build Research Establishment has indicated that there are ***over 100,000 properties could be incorrectly classified as F or G*** simply because the energy efficient of solid and uninsulated cavity walls has been hugely underestimated.

This is only one of many examples. EPC ratings are becoming a huge issue for landlords in respect to electric heating due to the recommendations that are frequently made. Properties with the latest electric heating systems such our ASCOT range are given one star ratings with the suggestion the products are replaced with outdated and less efficient storage heaters. This form of heating system is terribly out of favour due to their

The Premspec Group Limited
T | 029 2130 3710
E | ascot@premspec.co.uk
www.premspec.co.uk

inefficiency and lack of control. This form of heating is only able to gain a rating with the EPC criteria due to their ability of usage during off-peak tariffs so that an end user can take advantage of a lower cost energy cost.

Yet in energy consumption terms, this form of heating is horrendously inefficient because of how much electricity they actually consume and how ineffective they are as a primary heating solution throughout the course of a 24 hour requirement.

So what is EcoDesign Lot20 and why is it now law without EPC recognition?

The 2018 EcoDesign Lot20 legislation that came into law to support the global energy-efficiency targets highlighted to a huge degree the archaic nature of existing electric heating solutions such as storage heaters. The conditions set for storage heaters were among the most stringent due to their lack of efficiency and meant that this technology was in the vast majority forced to be phased out. With this fact in hand the question rests on the EPC calculations as to why landlords are still being forced to install them as a source of heating in their properties.

The answer can be simplified to a basic categorisation issue and how electric heating is treated under the Standard Assessment Procedure. As mentioned, the current assessment assumes that all electricity is generated from the use of fossil fuels and therefore the only serration between consumption rates is that a storage heater can be “charged” during off peak hours. This doesn’t not take into account the modern technology that is incorporated into ASCOT heating products and other similar products on the market. ASCOT electric heaters included multiple features that include the reduction of consumption to maintain temperatures, open window functions, programmable settings to ensure energy is only consumed at levels and at time it's required. These types of heaters are far more energy efficient in consumption and far more cost effective to run. Most storage heaters cannot maintain the level of heat required when charged during an evening throughout the day and then into the night,

The Premspec Group Limited
T | 029 2130 3710
E | ascot@premspec.co.uk
www.premspec.co.uk

this then leads to the end user using features such as the convector boost functions. This is very expensive and highly carbon positive.

EPC ratings are currently categorising electric heating as though it has not developed within a ten year period, dating back to when this technology was in its infancy. LOT20 electric heating such as ASCOT heating products has developed vastly in the past ten years, in a very similar fashion to the smart phone.

There is some positive opportunities coming in the near future thanks to the governments plans to get all privately rented properties to C ratings by 2030, This simply cannot be achieved with the EPC ratings structured as they are.

We with ASCOT as a brand are actively working to help push legislation change to have efficient EcoDesign Lot20 products included into accurate EPC rating categories so that both landlords and end user can benefit from using upgraded and more energy efficient technology without being penalised.