Technical Insulation

Understanding the Minimum Energy Efficiency Standards

Technical Bulletin

Summary

Over the coming years, England, Scotland and Wales are all due to introduce new requirements setting tougher energy targets for both new and existing rental properties. These are contained in the Minimum Energy Efficiency Standards (MEES) also known as the Private Rental Standards (PRS).

It is already a requirement for all rental domestic and most non-domestic properties in England and Wales to achieve a minimum Energy Performance Certificate (EPC) rating of E (subject to certain exemptions). However, from 2025, the requirements will begin to get notably tougher. In addition, new Performance Based Ratings are set to be introduced for certain non-domestic buildings. These changes mean that the energy performance of many buildings will need to be significantly improved. The most effective changes will need to be determined on a building-by-building basis, however, one simple approach can be to upgrade the insulation used on pipe and ductwork.

How do MEES Work?

In England and Wales, all domestic rental properties which are subject to EPCs must achieve a rating of E or better unless the landlord has registered a valid exemption.

Currently, non-domestic properties which require an EPC must also achieve a rating of E or better when their lease is renewed. From 1 April 2023, the regulations are tightening and it will become unlawful for a landlord to "continue to let" a sub-standard property, unless they have made all possible cost-effective energy efficiency improvements prescribed by MEES, or one of the exemptions applies – i.e. both new leases and existing ones will come into scope.

What are EPCs?

Energy Performance Certificates, or EPCs, are essentially a report card stating how energy efficient a building is and how much carbon emissions it produces). An energy assessor carries out a review of the property looking at aspects such as whether the building fabric and services are insulated and the efficiency of the heating and lighting systems used. They then input this into software to generate a score for the property (e.g. SAP or RDSAP for domestic, or SBEM for Non-domestic). From this, the property is then graded from an A (best) to G (worst) for 'Energy Efficiency Rating' and for 'Environmental Impact'. The EPC certificate is valid for 10 years and will outline a series of recommendations on how the energy efficiency and carbon emissions of the property can be improved.

What are the Penalties for Non-compliance With MEES?

The penalties for non-compliance with MEES can be substantial. Breaches which last over 3 months can lead to fines of £5,000 for domestic properties and fines of up to £150,000 for non-domestic properties.

What are Valid Exemptions?

In certain cases, it is possible for landlords to apply for their property to be exempted from MEES. These exemptions must be lodged on a public register and currently apply where:

- The cost of the cheapest improvement is more than £3,500 (domestic properties only);
- The measure will not achieve payback on the cost of purchasing and installing within 7 years (non-domestic properties only);
- All relevant energy efficiency improvements for the property have been made but it still doesn't achieve an EPC of E; or
- Specific third-party consent cannot be achieved for the measures (e.g. planning permission for external wall insulation from the local planning authority).

Do MEES Currently Apply in Scotland?

There is currently no Minimum Energy Efficiency Standard in Scotland.

The Scottish Government had originally intended to require that all private rented properties with an EPC to achieve an EPC of D from 1st April 2022 with this applying to all properties from 31st March 2025, however, this was temporarily shelved during the COVID pandemic.

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What is the Anticipated Timescale for Homes to Reach Band C?

The Fuel Poverty (England) Regulations 2014 set a target requiring that as many fuel poor homes as is reasonably practicable achieve a minimum energy efficiency rating of Band C by the end of 2030. The 2015 fuel poverty strategy also set out interim milestones of raising as many fuel poor homes as reasonably practicable to Band E by 2020, and as many fuel poor homes as is reasonably practicable to Band D by 2025.

The Government's Clean Growth Strategy reiterated this target stating "We want all fuel poor homes to be upgraded to Energy Performance Certificate (EPC) Band C by 2030 and our aspiration is for as many homes as possible to be EPC Band C by 2035 where practical, cost-effective and affordable"

How are MEES Likely to Change That Timescale?

In England and Wales, the Governments have proposed a phased introduction of tougher MEES requirements. At present, the proposals would follow the timeline below:

- 2025 – all residential rental properties subject to EPCs must achieve a rating of at least EPC rating of C at the start of a new tenancy (unless they have valid exemptions). All non-domestic properties must have valid EPCs.
- 2027 – all private rented non-domestic properties which are subject to EPCs must achieve a rating of at least C (unless they have valid exemptions).
- 2028 – all residential rental properties subject to EPCs must have a rating of at least C (unless they have valid exemptions). All non-domestic properties must have valid EPCs.
- 2030 – all private rented non-domestic properties which are subject to EPCs must have a rating of at least B.

Alongside this phased introduction, it is expected that the list of valid exemptions will be reduced over time, encouraging greater levels of improvement action, where appropriate, as the minimum performance standards are tightened.

At present, around 59% of domestic dwellings and 65% of non-domestic buildings have an EPC rating of D or worse and 35% of non-domestic buildings are currently in Band C. This means virtually all private rented non-domestic buildings will need to be upgraded by the end of the decade and around two thirds of domestic rental properties.

The Scottish Government also announced within its Heat in Buildings Strategy that it will require all private rental housing to achieve an EPC of C (where technically and feasibly possible) when starting a new tenancy after 2025, this will then apply to all leases from 2028.

What are the Performance Based Ratings?

In addition to these changes to MEES, the governments in England, Scotland and Wales have also run a consultation looking to introduce annual Performance Based Ratings. These would initially apply to commercial and industrial buildings with a footprint of over 1,000 m^2. Landlords would be required to disclose the annual energy demand from these buildings. The building will then be given a rating based on this performance which will be publicly available. This rating system is intended to close the 'performance gap' which often results when energy saving measures are incorrectly designed or installed. Although we are still awaiting the outcome of the consultation, these ratings could apply to buildings as soon as 2024.

How can Pipe Insulation Help Meet MEES Targets?

With the proposed changes to MEES fast-approaching, it is important for landlords to start considering now how best to upgrade the energy performance of their properties.

Installing or upgrading the insulation around pipe and ductwork can be one of the simplest and most affordable improvements which can be introduced – particularly where these services are easily accessible. When correctly installed, these measures will continue to deliver lasting savings across the lifespan of the building with minimal maintenance, reducing reliance on renewable technologies which are both costly and have a limited lifespan.

Our Kooltherm® Pipe Insulation is one of the thinnest, most thermally efficient pipe insulation products. This makes it easier to install in tight service spaces and also means it is possible to achieve notable improvements in system performance by replacing existing lower performing insulation materials, such as glass or mineral fibre lagging, with the same thickness of Kooltherm® Pipe Insulation.

This can also make it possible to go beyond the minimum requirements and achieve enhanced specifications, such as the ECA & Y50 Enhanced table, further improving the overall performance of building services. This will be especially beneficial as buildings move to low or zero carbon heating technologies such as heat pumps. These perform most efficiently at lower flow temperatures than conventional gas fired systems, making it crucial to minimise losses from pipework.

To further upgrade performance, we can also supply Kooltherm® Insulated Pipe Support Inserts. These help to isolate pipework at pipe supports, hanger brackets and clamps, reducing heat transfer from thermal bridges at these points. Thermal analysis of a +75°C LTHW system to BS EN ISO 10211: 2007 (Thermal bridges in building construction - Heat flows and surface temperatures - Detailed calculations) has shown that Kingspan Kooltherm® Insulated Pipe Support Inserts can limit heat loss by up to 4x more than rubber lined pipe clips, 5x more than metal pipe clips and 10x more than hardwood pipe support inserts.

How can Duct Insulation Help to Meet MEES Targets?

When looking to improve the performance of mechanical ventilation services within a building, it is also important to consider improvements to the associated ductwork.

Where existing ductwork is being retained, Kooltherm® Duct Insulation can provide a thin and thermally efficient solution to reduce heat transfer to and from ductwork. The rigid insulation boards can be supplied in a range of profiles to suit circular, oval and square ductwork. We also offer Kingspan Therma™ Duct which is specially designed for use on external ductwork and associated equipment.

Alternatively, where the existing HVAC system is being replaced, our KoolDuct® System can provide a lightweight solution which eliminates the need for galvanised steel ductwork. The system is formed from pre-insulated panels which can be rapidly fabricated on-site by dedicated delivery partners and fitted in standard lengths of up to 2.95 m – allowing a fast-track installation which can reduce the cost of refits and allow the rental value of properties to be realised more quickly.

In addition to being highly insulated, air-leakage rates from ductwork fabricated from the KoolDuct® System can be reduced to a fraction of those typical of rectangular sheet metal ductwork, meeting air-leakage Class C and D both at low and medium pressures. This can allow the use of smaller fans which not only have a lower upfront cost, but are also cheaper and more efficient to operate across the lifespan of the building.

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