

News Release



Airtight patent glazing .. Some questions answered

Many specifiers and contractors still find it a struggle to understand the latest revisions to Part L of the Building Regulations relating to the air-tightness of buildings that incorporate glazed structures .

Richard Burgess Sales and Marketing Director of the Lonsdale Metal Company takes a look at some aspects of the Regulations that apply to patent glazing projects so that contractors don't fall foul of the new rules and explains how his company's "airtight" ThermGard patent glazing system has been upgraded to ensure trouble free assembly for installers.

Do the revisions to Part L of the Building Regulations apply to both new build and refurbishment?

The rules apply to all new work on domestic and commercial premises where the buildings envelope is meant to be airtight in order to save energy and curtail carbon emissions. Even refurbishment projects that may be exempt from the Building Regulations must 'enter into the spirit' of the new Regulations and improve air-tightness where possible.

Are any buildings exempt?

Some historic listed buildings where it would dramatically alter their fabric to accommodate the new requirements. However, owners will be expected to make what improvements they can to improve the air-tightness in the areas being refurbished.

Do all buildings have to be tested?

All new buildings will require testing. It is mandatory to test all commercial premises with a total floor area greater than 500m². However, when testing is not to be carried out, a default air-permeability value of 15m³/hr/m²@50pa should be used in any calculations. This is such a poor value, that when combined with even the best U values and building services system efficiency values for heating or air-conditioning it will probably not meet the total energy consumption requirement. In effect, this will mean all non-dwellings will have to be tested although house builders will only have to test each type of dwelling on their sites rather than each individual home.

Are Conservatories exempt?

Unheated conservatories with a floor area less than 30m² currently remain exempt from the

Regulations but only if they are separated from a heated interior by compliant airtight doors with the required U value. If a conservatory is not separated by compliant doors, then it has to meet the latest air-tightness targets. A heated conservatory must also comply for both thermal and air-tightness requirements. Conservatories with a floor area larger than 30m² are always subject to Building Regulations.

I am confused, why do we need to work to 7m³/hr/m²@50pa, when the revised regulations state 10m³/hr/m²@50pa, is the 'worst acceptable standard'?

So you might be! This phrase in the Regulations will probably cause much misunderstanding. Essentially if one combines the 'worst acceptable standards' for air permeability, U values and building services systems, then the buildings envelope is unlikely to meet the new total energy consumption requirements. It can only be assumed if there is a case where air permeability can only achieve 10m³/hr/m² the building will have to have better than 'worst case' U values and building services systems figures.

So what does all this so many..m³/hr/m²@50pa, mean?

Formulas can look over technical but it is simply a way of expressing how much air comes out of or enters the building expressed in cubic metres per hour (m³), per square metre (m²) of the entire building fabric. Pascals (pa) is the customary unit of measuring air pressure. The regulation pressure test has been set at 50pa. Some glazing systems are tested to 600pa or even 1200pa to prove their safety and structural integrity of a particular design. The 50pa is to test the air-tightness of the building as a whole, the pressure being considered 'sensible' by the authorities as it should not cause damage to the building.

Who is responsible for organising the air-tightness test before hand over?

This is expected to be the responsibility of the main contractor but should be specifically expressed in any contracts. It is important the main contractor makes regular inspections during the construction process to ensure the manufacturer's recommendations are being observed by the installers and all workmanship is of a good standard. If the building fails its air-tightness test, it will be an expensive process to 'seal up the gaps'!

Can a Lonsdale's patent glazing system form part of the building's air barrier?

Due to the excellent performance of the Lonsdale ThermGard system contractors can confidently rely on 'airtight' patent glazing assuming it has been installed correctly.

What do installers need to know to ensure Lonsdale patent glazing installations comply with the new air-tightness requirements?

The ThermGard patent glazing system has been separately pressure tested and certified over an area of 2.28m². The measured leakage was 1.44m³/hr, well within the new Regulations. Further improvements have since been made to the gaskets and draught excluders so even better results are expected when the system is tested later this year. It is

important installers fit a draught excluder at the head in addition to the one traditionally supplied at the eaves, otherwise the fitting procedures are the same. To achieve maximum air-tightness, it is important the draught excluders are bedded on compressible sealing foam and the leading edges sealed with low-modulus silicone. Particular attention must be made to the junctions and abutments with the building, as more often than not, these are the most likely air leakage points due to poor workmanship. Lonsdale are happy provide contractors and installers with typical detail drawings showing best method of installation.

Can Lonsdale provide contractors with test certificates?

Copies of the original 2002 test certificate for ThermGard are available on request. The company are currently reviewing its product range and constantly up-grading its designs to ensure easy straight forward installation.

Where can I get more advice and information?

This short article provides only a snapshot of the questions likely to arise about air-tightness in a glazing project and is not meant to be a substitute professional advice. The Air-Tightness, Testing and Measurement Association (ATTMA) has a list of qualified engineers on their website www.attma.org and the Building Research Establishment (BRE) also has excellent information on its website www.bre.co.uk



Note to Editorial Teams

If you wish to publish this News Release in your magazine, digital high resolution photographs can be requested from D4 Communicators via email

bill@d4com.co.uk

▲ Reproduced with kind permission of the BRE