

Building Regulations Part L & J

Air Leakage



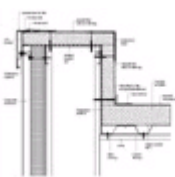
Approved Document L of the Building Regulations has introduced the requirement that the roof and those elements, which penetrate it, should be suitably airtight. From October 2003, the roof of a building with a gross floor area in excess of 1000m² is expected to comply with the requirement if the permeability to air of the roof is tested to the procedures defined in CIBSE TM23. This document states that a building should achieve a permeability to air not exceeding 10m³/h/m², at a reference pressure of 50 Pa. Buildings of less than 1000m² gross floor area require a certificate of conformity indicating that appropriate design details and building techniques have been used. It is anticipated that whilst the current requirement is not onerous, larger buildings should easily comply, it will become steadily more onerous with each revision of the Building Regulations.

Control of Air Leakage

In a single ply roofing system, effective sealing against air leakage can be achieved by a sealed deck (concrete or steel), with appropriate sealing at perimeters and penetrations and by incorporating sealant in the side and head stitching of the steel decks. More commonly and easily a vapour control layer properly sealed to the building perimeter and all penetrations should provide a satisfactory seal. It has been demonstrated that mechanical fasteners driven through the vapour control layer will not affect permeability significantly because the insulation is compressed onto the vapour control layer at each fastening point.

Sarnafil Standard Details show how both EcoVap E and Sarnavap E vapour control layers can be quickly and easily sealed to upstands/penetrations to provide robust detailing and achieve air tightness.

Detailing



Sarnafil roofing systems can easily accommodate junctions, details and penetrations installed at the time of construction, or installed at a later date to suit a change of use of the building or an extension. In all cases, it is critical to consider the interface between all elements of the roof construction and the interface with any other roofing or cladding system. This is part of the role of the Sarnafil Technical Adviser.

In conjunction with the designer, the Technical Adviser will review the roof design to establish what types of details will be required and how best to weatherproof them. The Building Regulations Part L/J 2002 focused on achieving a higher thermal performance and avoiding the creation of a cold bridge, while achieving set levels of air tightness. Detailing must be designed to resist specific wind loading and the project must meet fire and possibly acoustic requirements. All of these considerations will be taken in conjunction with the designer and written into the specification.

To assist the designer this Internet site includes an extensive collection of free Sarnafil 'Standard Detail' Downloads, all designed to aid compliance with Building Regulations Part L/J. These standard details cover many normal construction details. If you cannot find your detail, simply modify an existing one and e-mail your new version to Sarnafil Technical Services for comment.



Transmission of Daylight



Rooflights can provide very durable and effective glare-free natural lighting in deep plan buildings. Since their size and position has a significant effect upon drainage and thermal design it is important to establish the performance requirement at an early stage.

The 2002 amendments to Part L of the Building Regulations for the first time added the design consideration of solar gain, guidance was given on reducing it whilst maintaining adequate levels of natural daylight, especially when considering rooflights.

The SarnaLite range of Modular, Continuous and Rooflight Solutions provide a broad range of natural light provision and ventilation systems, designed specifically for use with Sarnafil membranes and covered by the Sarnafil Extended Products guarantee.



Resistance to Solar Radiation



Resistance to solar radiation concerns issues of durability and of heat absorption and radiation. Infra-red solar radiation has the potential to increase significantly summer cooling loads, even on well insulated roofs, while its ultra-violet component is also a major determinant in the ageing of construction materials. Heat absorption is a function of colour and texture, dark membranes not only absorb more solar radiation and transmit it to the

rest of the roof system; they also radiate heat at night at a greater rate thereby cooling the roof surface.