

Press Release

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Shelve preconceptions and boost energy ratings with R&D, says Chiltern Dynamics

A common thread linking companies who have achieved top BFRC window energy ratings is research & development, according to Certified Simulator Mike Chorlton, of Chiltern Dynamics. 'The companies that have achieved A and B ratings have done so by developing their



products with a view to achieving energy efficiency. Simulation is the perfect tool for development, as it can be used prove the thermal performance of products before any capital investment is made for production and tooling.'

Chiltern Dynamics also advises manufacturers to pay particular attention to key aspects of design, such as the sightlines and glazing area. 'The glazing area is a large part of the window for energy rating calculation. The larger the glass fraction, the higher the effect of solar heat gain will be and the whole window U-value may also be slightly improved,' said Mr Chorlton.

Equally, experimenting with IGU options can be worthwhile, but he warned: 'It is pointless simulating with an IGU that cannot be easily procured.' An IGU with a very narrow gas space, high emissivity glass and no gas fill will have a detrimental effect on the whole window U-value. 'The accepted optimum width of gas space is 16mm, but so often the design of the window precludes fitting a 24mm IGU.'

Chiltern Dynamics has worked closely on energy ratings with sister company BM TRADA Certification, one of only three approved bodies in the UK. BM TRADA has to date certified more than 260 windows under the BFRC scheme. 'Another mistake manufacturers make is to hold up a competitor's design and say "they have an A

rating, we'll copy that “, without knowing the intricacies of the research or the technologies used.’

And materials selection is crucial, especially with timber products, said Mr Chorlton. ‘It is vital to ascertain at the onset of simulation the materials used in construction. Calculations to EN10077-2 often use default values for softwood and hardwood, but these defaults are often higher than the actual values for a specific timber type. If at all possible, test reports for thermal conductivity of the timber to be simulated should be obtained.’ Values are available from various sources, but in Chiltern Dynamics’ experience these are seldom backed up by test evidence and should not be used for BFRC rating calculation.

‘ We have handled enough simulations now to know that it takes time and resources to develop a product to achieve higher ratings, ‘ Mr Chorlton added. ‘ Achieving an A-rated product is never guaranteed. Many of the companies now registered with BFRC have gone through many design changes to improve their ratings, which is a healthy trend for the industry.’

- For further information on the BFRC window energy scheme visit www.bmtrada.com or email asumner@bmtrada.com.

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