

Key Questions: Tapered Systems

YOUR QUESTIONS ANSWERED...

IMA members Simon Blackham, Technical Manager at Recticel Insulation and Richard Clennell, Product Manager at Bauder, offer some insight into the benefits and considerations that contractors need to be aware of before deciding to install a tapered roofing system.

Q: What are the key advantages of a tapered roof system over other roofing systems such as cement screed roof solutions?

SB: It's essentially two solutions in one as you are able to install falls in accordance with BS6229 and insulate the roof in accordance with Part L of Building Regulations.

RC: Another key advantage of a tapered system is that it is suitable for use with differing roofing systems such as bitumen, single-ply and cold liquids. It can be incorporated within the warm roof construction of a new-build or refurbishment flat roof system.

SB: We should also point that it has good compressive strength to resist physical damage and offers flexibility to re-direct falls and create complex configurations with multi-directional falls.

Q: What are some of the issues to consider when designing insulation for flat roofs?

SB: It's important to consider the outlet position and the direction you'd like the water to go in, as well as the height of upstands if you have a long fall and therefore a higher starting depth of insulation. Depending on the waterproofing system being chosen, roof accessories such as crickets, rooflight deflectors, insulated upstands and angle filets can be included as part of the insulation system. Care should be taken to ensure the correct insulation facer type is chosen for the correct waterproofing system.

RC: The design should also ensure the minimum U-value requirements are met (0.35W/m²K) and falls in gutters are created to avoid standing water.

Q: Can you explain why fall calculations are such a critical element of the roofing design?

SB: Ponding water can damage the roof structure, is a risk due to freezing and is unsightly as it attracts debris that will stain the roof. Contractors should install a compliant roof drainage solution with falls that comply to code of good practice and design guidance directives from the likes of SPRA (Single Ply Roofing Association), NHBC and LABC.

RC: Improving drainage falls so that flat roofs can shed water is key. Our tapered insulation is designed to be laid on a 'flat' deck with no hollows or back-falls.

Q: Are there height or drainage limitations with tapered roofing systems?

RC: As long as details are discussed prior to ordering the scheme, then the tapered design can be adapted to try and overcome upstand height issues. Refurbishment can be an issue where they cannot remove an existing object such as clerestory windows.

SB: I agree, it depends on the roof more than anything. If there are door or window thresholds involved this can complicate the design.

RC: We will always try and come up with a design that causes the least impact to the drainage and thermal value.

Q: How can tapered insulation solutions aid compliance with Building Regs?

SB: Compliance with Part L of Building



Left: Simon Blackham – Recticel Insulation and below, Richard Clennell – Bauder.

Regulations is “designed in” while also installing a compliant roof drainage solution.



RC: Schemes should be designed with high thermal efficiency to hit or exceed the target U-values required. To conform to Building Regulations, systems should be tested to BS EN 13501-5 and granted Broof(t4). With fire spread an important factor in roof design, this Broof(t4) certification is the highest performance European fire rating for a flat roof system.

Q: How does tapered insulation reduce installation time?

RC: Tapered insulation can be retro-fitted as part of the waterproofing system during the refurbishment of a flat roof where drainage falls are insufficient.

SB: There are schemes that come in pre-bonded sections. This means installers can install increased depths of insulation with only one on site bond. Schemes can also come in multi-layered designs which will reduce the cost of the scheme. Designed schemes reduce the time installers need to apply the insulation and stops them having to cut their own mitres and valley details. Off-site production ensures consistent high quality insulation schemes.

Contact IMA / Recticel / Bauder

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