

AN UPDATE ON EXTERNAL WALL INSULATION

In dealing with a recent technical referral we have become aware that certain Local Authority Building Control departments, particularly in the London areas are now advising Developers to avoid using polystyrene based EWI systems on developments 'below 18m'.

(please note the proposed changes to Regulation 7 and amendment to Approved Document B volume 2 will ban the use of combustible materials in external wall constructions in buildings with a storey over 18m. This will come into effect 21st December 2018).

In the case of this referral, the Developer was switching from an EPS based EWI system to a mineral wool based EWI for their light steel frame structure. The mineral wool based system however, when checked, only had third party accreditation for use on timber frame.

Certain issues become evident out of this switch, particularly as in this case, the project has started and the design and procurement stages had already been completed.

Third party product approval:

There are fewer mineral wool based EWI systems with third party approval than EPS / XPS based systems.

Most of the Third party product approvals for EPS / XPS systems have only been assessed for light steel frame substrates where the system vertical rail supports match up with substrate stud supports at 600mm centres.

Those Mineral wool based EWI systems with third party approvals, identify vertical rail supports for the EWI system at 300mm centres and have generally, only been assessed in conjunction with timber frame substrates.

The change to adopting mineral wool based EWI systems particularly on a light steel frame substrate raises the issues of:

- A third party approved mineral wool EWI being used on a substrate it has not been assessed for by the product approval body
- The additional vertical rail supports potentially being fixed (at 300mm centres) to the sheathing board in between the metal studs (Note: Mineral wool based EWI systems require closer supports to avoid flexing!)
- Where the design has already been completed before the switch, the Developers structural engineer will have to reassess the supporting construction to accommodate the reduced centres of the EWI system supports. This may require proving the sheathing boards ability to take the fixings and loads from the EWI system



Summary

- Projects must be checked that the EWI system has a third party product approval for the substrate it is fixed too
- The EWI system vertical supports must be adequately supported by the substructure. If it also includes fixing to sheathing board (between studs) The structural engineer must prove the adequacy of the sheathing board to take the additional loads and pull tests will be required
- Where a light steel frame structure is proposed a drained cavity is required. If a timber frame structure proposed, additional venting is also required

We are aware that some EWI manufacturers of Mineral wool based systems are playing catch up with their Third party approvals to include approval with light steel frame substrates, but the issue of updated certificates may take time to publish.

Where a Mineral wool based EWI system is proposed without third party approval for the substrate; this must be referred as soon as possible to Technical Standards via the Technical referral inbox procedure. We will review on a case by case situation only, with the Facades team and decisions on acceptance will not appear on the product acceptability register to avoid the “well you approved it on that site” scenario.
