Quality Alert

MORGAN SINDALL CONSTRUCTION

Damage to the roof VCL allowing water ingress

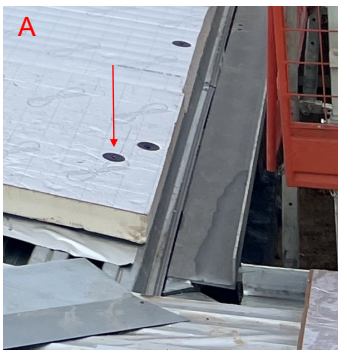
What is the function of a VCL (Vapour control layer):
A vapour control layer is a thin layer of membrane which is designed to limit the passing of water vapour and moisture through your roof construction.

Location of the VCL:
Various roof design due to the performance requirements the VCL may be install directly on to the liner sheet or on top of the loose lay insulation. In most if not all cases, the VCL sections are sealed to each other at overlaps, at perimeters as part of its controlling function.

Project roof:
Comprised of a profiled liner sheet, VCL Two staggered layers of ridged insulation board and a standing seam top sheet.

Issue found:
Water ingress emanating from the underside of the liner sheet.
Reasons for the issue:

- When the initial insulation boards were being install, care was not fully afforded to the correct location of the retaining fixings i.e. in the top of the profile, resulting in the VCL being punctured. Interim inspection and HOLD points required.



- This is compounded further by the installation of the second board layer, when laid in to a large area prior to fixing the profile location is not clear unless setting out has been conducted to pinpoint the location, this results in the VCL being punctured several times, until the top of the profile is found. Interim inspection and HOLD points required. see photo A & B
- Further to the above, items were being fixed to the underside of the liner sheet. The drill bit used was oversized to the depth of the profiled liner sheet, which caused puncturing the VCL.

Long term implications:
If undetected or not fully resolved long term deterioration of the liner sheet and void fixing will take place and won't become apparent for some years when failure takes place. This has the potential to become a very costly legacy issue.

Process:
The Inspection/QA process for both the contractor and MS, are detailed sufficiently to capture all stages and compliance of the installation, thus allowing for early detection of defects.
Knowledge of interfacing works by other contractors.

This advice should be used, where the above is applicable, and the information discussed with your team highlighting the following points:

- **Understanding the product/s and how they are installed**
- **Ensure the ITP hold points are clearly established and adhered to**
- **Robust inspection process is conducted MS and contractor**

Toolbox Talk Packages (put an 'x' next to the related work packages):

	Brickwork / Blockwork		Doors & Windows		Roof	X	Drainage		Frames		Roads, Paths, Pavings & Surfacings		Site preparation works
	Substructure		FFE		Flooring		Internal walls & partitions, Ceilings	X	Joinery / General Carpentry		Painting		Fire & Lightning protection
	Walling (Tiling)		Electrical installations	X	Services / Systems	X	Water installations		DFMA (Offsite Manufacture)		Design		Miscellaneous

Everyone has the right to be 100% Safe