A TECHNICAL BULLETIN – TB060

APPLICATION OF A TORCH-ON WATERPROOF MEMBRANE OVER POLYSTYRENE FOAM INSULATION

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INTRODUCTION

Polystyrene foam acts as an excellent heat insulator for roofs of all types however it is critical to keep this insulation dry and protected from the weather for long term performance. Application of a torch-on bitumen waterproof membrane remains the proven means of installing an effective waterproof membrane on a roof structure.

Combining these two components provides the best of both worlds and can be easily and safely achieved in spite of the polystyrene being flammable and the application of the torch-on requiring naked flame during application.

The following demonstrates the principal stages of this process.

PLACING THE FOAM AND LAYING THE INSULATION BARRIER

The polystyrene foam with the designated insulative properties is loose laid on the roof substrate. A layer of ARDEX WPM 116 (Fleece Back Base Sheet) is then loose laid over the foam with the runs overlapping.

HEAT FUSING THE OVERLAPPING EDGES OF THE RUNS

The overlapping edges of each run are then heat fused using standard torch-on methods. This process should be carried out only by experienced installers.

PRESSURE FUSING THE LAPS
Immediately following the heat fusing the molten lap edges are thoroughly sealed and bonded using a pressure roller. This process forms a continuous material composition between the adjacent runs of ARDEX WPM 116 (Fleece Back Base Sheet).

INSPECTION OF THE WELDS
The welded sheets are thoroughly inspected to ensure continuity of the welds as this is a critical part of the installation.

MECHANICAL FIXING OF THE BASE SHEET
The welded ARDEX WPM 116 (Fleece Back Base Sheet) is mechanically fixed to the roof substrate and the exposed fixing is sealed with molten bitumen.

COMPLETION OF THE WATERPROOF MEMBRANE INSTALLATION
A second layer of an ARDEX bitumen membrane is then installed by standard continuous torch-on application techniques to complete the insulated waterproof installation.

The second layer may be:

- ARDEX WPM 150 (3mm combined reinforcement bitumen) for areas that are to be covered with pavers, ballast or other such materials; or
- ARDEX WPM 185 Mineral (3.5mm combined reinforcement bitumen coated with mineral chips) for areas that are to be exposed to light foot traffic.

REASON FOR REVISION
Review and update

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