LIFT PIT LINERS

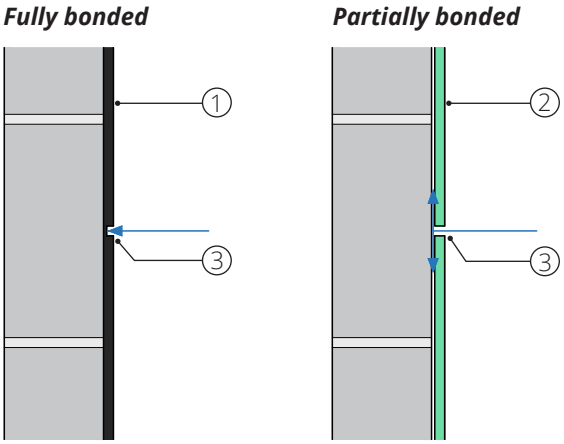
Introduction
Lift pit liners have become increasingly popular on-site, however for our Warranty Standards we do not accept their use. This article identifies the concerns we have in regards to lift pit liners.

Applicable sections of the Technical Manual
- Section 2 - Basements

Performance requirements
For all materials, products and building systems used within structural waterproofing work on Warrantied projects, we require that they are appropriately tested and approved for their intended purpose.

Key considerations
Typical installation method
A lift pit is formed from masonry with a structural concrete base. The lift pit liner is then loosely laid into this structure. A further concrete screed is placed on top of the liner in the bottom, and then a leaf of masonry added internally but set away from the liner approximately 40-50mm. The resultant cavity is then filled with a lean mix concrete to form a loading coat which holds the liner in place if water pressure comes to bear against its location. In each plane, the material is intended to form a barrier to water and is 'sandwiched' by building fabric.

The risk posed by a lack of bond
Barrier material choices within BS8102 is focused on sheets, liquids and coatings. These materials share a critical feature in that they bond to the substrate as they are applied. This bond to the structure is key in avoiding the risk of water tracking and preventing lateral migration of water from a defect in the liner. Whereas, the predominant material for lift pit liners is glass reinforced plastic (GRP) which is formed into a lift pit shape, loosely laid or placed into position and 'sandwiched' by follow on material. This is not bonded in the same way as an applied material e.g. sheets, liquids and coatings and as such has a higher risk of lateral migration of water from a defect in the liner.



1. Fully bonded barrier preventing water from tracking from a defect in the membrane to a crack/joint in the wall.
2. Partially bonded barrier allowing water to track.
3. Defect in the barrier.

The risk posed by a lack of appropriate testing
Lift pit liners presented as waterproofing solutions on Warrantied project may have test data around compressive strength, tensile strength and water absorption but lack testing data in the critical areas of water tightness and lateral water migration.

The risk associated with a lack of access for repair
A GRP lift pit liner offers only a singular protection layer and as it is installed within a 'sandwiched' type construction, early detection of a defect is not possible, and subsequently no access is afforded to repair the material in the event of a defect arising. The method of 'sandwiching' waterproofing materials was removed from the guidance of BS8102 in the 2022 revision.

Reducing the impact of failures
The key point for reducing the impact of failures is that any single system of protection is accessible as this is an important factor in identifying a defect and executing a repair.

Warranty stance
For Warranty purposes, we do not accept the use of lift pit liners due to the reasons highlighted within this article.