

## LOADING SLABS AND WALLS, PROTECTIVE WALLS AND SCREED

When placing concrete or erected brickwork, either for the loading of internal tanking, or the protection of external tanking, the greatest of care must be exercised by operatives in order to avoid impact or other damage to the mastic asphalt. Similar care must be taken when laying the 50mm protective screed, referred to under the heading for internal and external tanking.

## TANK LININGS FOR LIQUID-CONTAINING STRUCTURES

The purpose of a mastic asphalt lining is to prevent the escape of liquids from a containing structure. The lining is always applied in three coats to a total thickness of 30mm on horizontal and 20mm on vertical surfaces.

The internal pressure of the contained liquid, against the lining, should be calculated in a similar way to external pressure in tanking applications but taking into account the density of the liquid and, where the level of liquid in the container is at a relatively constant high level, this pressure will be sufficient to prevent any loss of adhesion of the mastic asphalt to the structural surfaces.

## PUMPING

It is essential that the ground water table is kept below the level of the base concrete throughout the entire tanking operation, and for this purpose, site de-watering or pumping must be provided on a continuous and uninterrupted basis until the loading slab and concrete walls have hardened and/or the mortar in the brickwork has set.

It must be emphasised that complete continuity of the pumping operation must be maintained throughout the entire tanking operation and no interruption of the pumping must be permitted for whatever reason until the loading slab and walls are fully hardened and set. In view of the extreme importance of this factor, those responsible for the operation should consider the provision of emergency standby facilities, to allow for any possible breakdown in the main pumping mechanism. The asphalter cannot take responsibility for any damage to the tanking which may occur due to water pressure on the unloaded mastic asphalt.

## BACKFILLING

No backfilling should be carried out until all the tanking and loading is complete.

## Design of the base

### GENERAL

The concrete slab on which mastic asphalt tanking is applied must be designed and laid in a manner to ensure that any superimposed loads, such as a protective screed, concrete loading slabs and plant, equipment or machinery subsequently used or installed, can be supported without deflection or other movement which could induce cracking in the mastic asphalt tanking.

Any substrate to receive mastic asphalt tanking should be reasonably dry, even, free from dust, laitance, grease, dirt, sharp arrisses or holes.

Where the mastic asphalt tanking meets the damp-proof course above ground level, it is essential to ensure that there is complete continuity between the mastic asphalt and the dpc in order to prevent water ingress at the high level. The dpc material should therefore be compatible with mastic asphalt both in terms of composition and manner of application.

## SUBSTRATES

### CONCRETE

For in situ concrete, the surface should be provided with a float finish to a plane, even surface free from ridges and indentations.

### STRUCTURAL WALLS

It is imperative that the vertical mastic asphalt should always be applied to structural walls capable of resisting any anticipated internal or external loads or pressure.

### KEYING TO VERTICAL AND SLOPING SURFACES

When mastic asphalt is applied to vertical and sloping surfaces, the top of the mastic asphalt shall be tucked into a continuous groove of 25mm x 25mm formed in the structure and its exposed part should be formed with a splay, or continued horizontally to form a mastic asphalt capping.

Mastic asphalt will not adhere satisfactorily to vertical and steeply sloping surfaces unless such surfaces afford an adequate key.



## Mastic asphalt tanking

### GENERAL

In all cases of tanking and tank lining, the mastic asphalt tanking must be applied in three coats to a total thickness of 30mm on the horizontal and 20mm on sloping and vertical faces, with a two coat angle fillet at all internal angles.

Due to the molten nature of mastic asphalt nominal thicknesses given are indicative rather than precise. Any irregularities in the horizontal substrate will be reflected in the final surface with accompanying inconsistencies of thickness.

### HORIZONTAL, SLOPING AND VERTICAL SURFACES

#### HORIZONTAL SURFACES UP TO AND INCLUDING 10° PITCH

On horizontal surfaces up to and including 10° pitch the mastic asphalt should be laid in three coats to a thickness of 30mm directly to the substrate.

#### SLOPING AND VERTICAL SURFACES OVER 10° PITCH, OTHER THAN LIGHTWEIGHT CONCRETE

On sloping and vertical surfaces over 10° pitch the mastic asphalt should be laid in three coats to a thickness of 20mm without a separating membrane.

#### SLOPING AND VERTICAL SURFACES OF LIGHTWEIGHT CONCRETE OVER 10° PITCH

On sloping and vertical surfaces of lightweight concrete the mastic asphalt should be laid in three coats to a thickness of 20mm.

The preparation of lightweight concrete to receive mastic asphalt tanking is detailed in section 95.1.2 of BS 8102:1990.

## TANKING

tanking