

KEYING TO VERTICAL AND SLOPING CONCRETE SURFACES

Where smooth formwork has been used, the laitance, or any release agent from the formwork, should be removed by needle gun, wire brushing or other suitable mechanical means. Prior to asphaltting, the prepared surface should be treated with an application of high-bond primer in accordance with the manufacturer's instructions.

KEYING TO BRICKWORK SURFACES

The horizontal joints in the brickwork should be flush pointed and the brickwork treated with an application of high-bond primer in accordance with the manufacturer's instructions.

Engineering bricks do not provide an adequate key for mastic asphalt tanking.

Where mastic asphalt is to be applied to old brickwork, the surface should be cleaned and high-bond primer applied.

FILLETS

Fillets should be formed with a solid angle of tanking grade mastic asphalt, in two coats, with a minimum of 40mm on the face, at approximately 45°.

CHASES

Chases should be provided in brickwork and concrete and should be 25mm x 25mm. The lower nib of the chase should be carefully removed in order to maintain a full thickness of mastic asphalt at this point. The chase should be pointed as soon as practical after asphaltting using a cement, sand, mortar containing a suitable polymer admixture such as styrene butadiene rubber or acrylic.

Special conditions

BOILER HOUSES, SUMPS AND FUEL OIL STORAGE AREAS

Mastic asphalt tanking will be seriously damaged by contact with oils. In tanked basements where fuel oil is stored or spillage of oils may occur, provision should be made for an oil resisting lining which will resist saturation of the concrete loadings by oil leaks and subsequent damage to the tanking.

STORAGE TANK LININGS FOR AGGRESSIVE LIQUIDS

Mastic asphalt linings to tanks used to store liquids in excess of 30°C may be damaged by a softening effect on the bitumen binder. In such cases provision must be made for a protective inner lining, such as impervious brickwork. Acid resisting grades of mastic asphalt are available and the manufacturer should be consulted at the design stage in order to ensure product suitability.

TANK ROOM FLOORS (see flooring section for specification)

Where water storage is located in a tank room at or near roof level the flooring is essentially a waterproof lining serving a similar function to that of mastic asphalt roofing. The amount of usage may be no more than that on an average roof and will involve occasional light maintenance traffic. For this reason a standard roofing grade specification is appropriate unless special traffic or environmental conditions have to be considered when the mastic asphalt manufacturer should be consulted.

VENTILATED BOILER HOUSES

Failure of concrete slabs, with consequent failure of the mastic asphalt tanking due to differential settlement caused by drying out of the subsoil by heat from industrial boilers, can occur unless the floor is adequately ventilated by air spaces immediately below the boiler or by other effective means. The construction should be such that at no time is the mastic asphalt subjected to temperatures in excess of 30° C.

HOT WATER PIPES

Where service pipes carrying hot liquids pass through the mastic asphalt tanking, special detailing and treatment may be required in order to provide both insulation and continuity of the tanking.

MANHOLES

If manholes are located in the basement area, the designer should ensure that the manhole structure is fully contained in a mastic asphalt membrane. The requirements for drains discharging into and draining the manhole are identical to those for other service pipes penetrating the tanking. Provision must be made for protection of the tanking from discharge of aggressive liquids into the manhole (see Tanking detail 9).

DISCHARGE OF HOT LIQUIDS

When a sump or manhole is not in a tanked area and is lined with mastic asphalt, the frequent discharge of hot liquids combined with appreciable fluctuations in level of the liquids in the tank, may cause slumping of the lining. Provision must be made to provide permanent structural support for the mastic asphalt in the form of an inner brickwork lining.

Site work

WORK PLANNING

The mastic asphalt tanking work should not be started until all constructional operations and preparatory work to the basement have been completed. In no circumstances should the area to be tanked be used for storage of any materials, equipment or plant until the asphalt tanking is completed and the loading slab and loading walls have fully set and hardened. At no time should oils or aggressive solvents be stored or used in a tanked area unless provision for a suitably resistant lining has been made.