

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.

PREPARATORY SITE WORK PRIOR TO ASPHALTING

The main contractor should ensure, where appropriate, that:

- a) The base has been properly laid to the specified levels, tolerances and finish; the equivalent of wood float finish being required on horizontal concrete screeds or slabs
- b) All chases have been properly cut
- c) Dry working conditions have been provided by pumping etc.
- d) Vertical surfaces have been correctly prepared
- e) Any oil, grease, paint or other contamination has been removed from all surfaces to be asphalted to the satisfaction of the mastic asphalt contractor

ACHIEVING REQUIRED QUALITY OF WORK

In order to achieve the required quality of work, steps should be taken to ensure that:

- a) Design and specification decisions are taken, recorded and transmitted by the designer
- b) The design intentions are understood and achievable in the given circumstances
- c) The work is regularly monitored to assure conformance

DOCUMENTATION AND PREPARATION

Full documentation should be prepared as described. There should be a full exchange of information before the work begins on site.

Any queries should be resolved before the work begins. Clear instruction on all aspects of the work involved should be given to personnel.

Before work begins all necessary scaffolding should be in position together with sufficient hoisting facilities and measures appropriate for the protection of personnel and the public. It is particularly important that roofs be provided with safety rails and all openings adequately protected.

The base should be in an adequate condition to receive the mastic asphalt and all necessary builder's work should have been completed.

Equipment should be sited as close as is practicable to the area being worked.

RECEIVING AND CHECKING MATERIALS

Materials should be checked upon arrival on site to ensure that they:

- a) Are correctly marked and/or, where applicable, are in the manufacturer's original wrappers
- b) Conform to the specification
- c) Are sufficient for the work

Goods that do not meet requirements should be removed from site.

TANKING

tanking

EXTERNAL TANKING EXCAVATION

To provide the operative with sufficient working space to apply the mastic asphalt to the external face of the structure a minimum width of 900mm beyond the wall face should be allowed.

INTERNAL TANKING EXCAVATION

In all tanking operations it is necessary to maintain dry working conditions and it is recommended that in internal tanking operations a space of 300mm should be provided around the structure to a minimum of 300mm below the foundation level to keep the walls as dry as possible during the progress of the asphalt work and the subsequent loading of horizontal and vertical tanking.

Workmanship

RE MELTING

Strict temperature control should be maintained throughout the remelting process. Generally, the temperature of the mastic asphalt should not exceed 230 degrees Centigrade.

Remelting should be carried out in mechanically agitated mixers, and cauldrons should only be used in exceptional circumstances, governed by site conditions and the areas of mastic asphalt to be laid.

TRANSPORT OF MOLTEN MATERIAL

When the material is sufficiently molten to be workable, it should be carried in buckets, wheelbarrows or heated dumpers to the point of laying. To prevent the molten material from sticking to the buckets, wheelbarrows, etc. they may be sprinkled inside with a minimum quantity of inorganic dust such as limestone dust. For acid resisting mastic asphalt a silica or similar acid resisting dust should be used.

LAYING THE MASTIC ASPHALT TANKING

HORIZONTAL WORK

Mastic asphalt tanking should be laid in bays in three coats.

Each coat of each bay should be spread evenly and uniformly by means of a float, to the recommended thickness, on to the previously prepared surface, the separating membrane or the preceding coat. Timber or metal gauges should be used in order to ensure accuracy.

Each coat of mastic asphalt should be followed by the succeeding coat as soon as is practicable without undue delay, since exposure to contamination, for example, by dust or dirt, might impair adhesion and cause blistering.

If 'blowing' occurs, the bubbles should be stabbed and the area affected carefully made good while the mastic asphalt is still hot.

TANKING

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