

Plant room floors & tank room floors

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 the mastic asphalt roofing. The amount of usage may be no more than that on an average roof and will involve occasional light maintenance traffic. In this situation roofing grade mastic asphalt should be used unless special traffic or environmental conditions have to be considered, when the mastic asphalt manufacturer should be consulted.

Spark resistant flooring

In certain circumstances, as in some types of munition factories, special grades of mastic asphalt should be used in order to minimise the risks of fire or of explosion from sparking. Where spark resistant flooring is required, a mastic asphalt manufacturer should be consulted for guidance.

Oil resisting flooring

Oil resisting mastic asphalts are no longer available and so a suitable oil resistant coating should be applied over the mastic asphalt. The oil resistant coating should be applied as soon as possible after installation of the flooring and prior to any traffic or the floor being put into service.

Flooring for unheated buildings

Paving grade flooring should be laid in one coat within the range of 25mm to 50mm thick. It may be laid externally or in unheated areas. In areas of heavy traffic or areas where heavy loads are anticipated, reference should be made to the mastic asphalt manufacturer for guidance. In the case of paving grade material, the percentage of coarse aggregate to be added may be varied within the limits given within BS EN 13108-6, proportional to the thickness to be laid.

Detail considerations

Surface finishes

Grades I, II and III flooring can be finished by sand rubbing or with a natural float finish. Grade IV flooring should always be sand rubbed.

Mastic asphalt underlays to other floor finishes should receive a sand rubbed or natural float finish in accordance with the requirements of the manufacturer of the floor covering.

Where paving grade mastic asphalt is used for flooring in unheated buildings, the surface should be sand rubbed. However, sand rubbing would be inappropriate for certain applications such as unheated sports halls where contamination of the vinyl adhesive may be a consideration.



Separating membranes

Grades I, II and III flooring should be laid on a glass fibre separating membrane. This should always be used when it is suspected that there is no adequate damp-proof membrane below the concrete ground slab or where a suspended concrete slab is located over areas where wet processes could permit moisture vapour to penetrate the concrete. The separating membrane should be laid loose with a 50mm lapped joint. The use of a separating membrane between waterproofing and flooring grades of mastic asphalt is not recommended.

Grade IV flooring should preferably be laid directly on the concrete base. However, a separating membrane is essential in the following circumstances:

- Where the base is of a porous or open texture such as no fines or lightweight concrete
- Where the concrete surface contains fine cracks

Where surface contamination is evident, reference should be made to the mastic asphalt manufacturer for guidance.

Preparation of sloping & vertical surfaces to provide a key

Please refer to Roofing Section.

Movement joints

Allowance should be made for movement joints in mastic asphalt flooring where such joints are incorporated in the base on which the asphalt is applied.

Where floors will be cleaned by washing down, or are in wet process areas, expansion joints should not be located at low points of falls or near to gullies or channels.

If a proprietary movement joint system is used it is essential to ensure that it is capable of accepting the expected type of traffic and degree of movement, that the materials of which it is made are compatible with mastic asphalt and that a secure and watertight joint can be made between the movement joint and the combined mastic asphalt waterproofing and flooring.

Where joints in the concrete base or screed are liable to move, they should be carried through the base and/or screed and the mastic asphalt to the floor surface by means of a proprietary movement joint profile. These vary in depth and thickness. Movement joint profiles should also be used between mastic asphalt and other types of flooring, and centrally over supporting beams and walls to suspended structural floors.

Tolerances on finished flooring

General

Floor level is defined as the mean height of the floor surface measured in relation to the height of a fixed datum. Some variation in level can be allowed without detriment to the satisfactory use of the floor.

Surface regularity or flatness is a measure of the waviness of the surface of the floor. For convenience in checking, tolerances on surface regularity are normally expressed in terms of the permissible departure from the underside of a 3m straightedge laid in contact with the floor.



Departure from datum

The designer should specify the maximum allowed departure of the finished flooring surface from datum, taking into account the area of the floor and its intended use. For large areas a tolerance of +/- 15mm from datum is usually satisfactory.

Surface irregularity

For normal commercial floors, the maximum departure of the surface from a 3m straightedge should be 5mm. A departure of 10mm may be acceptable for floors where the surface regularity is not critical. In special circumstances (such as television studio floors) a closer tolerance, e.g. a maximum departure of 3mm under a 3m straightedge may be necessary (see [Table 4](#)).

The specification of close tolerances can incur increased costs.

The classification of surface regularity for mastic asphalt flooring and underlays is given in [Table 4](#). Details of the method of checking surface regularity are given in BS8204-5:2004+A1:2011.

There should be no noticeable change in level across any joints in the mastic asphalt flooring.