

# Design of area to be asphalted

## General

The design of roofs and areas to be covered by mastic asphalt waterproofing and paving should conform to the following recommendations:

1. BS 6229 Code of Practice for flat roofs with continuously supported coverings
2. BS 8110 Code of Practice for design and construction
3. The Building Regulations where applicable
- c. The type and extent of anticipated traffic
- d. The means by which the Building Regulations are to be met, particularly the maximum thermal transmittance values of the Building Regulations
- e. How condensation problems are to be avoided
- f. Detail considerations
- g. Drainage of asphalt surfaces
- h. What falls and/or cross falls are required to achieve the minimum permissible fall

## Selection Parameters

Consideration should be given at an early stage to the following:

- a. The type of deck construction to be employed
- b. How anticipated movement is to be accommodated and the location of movement joints
- i. How skirting heights and minimum threshold heights are to be incorporated
- j. The correct location of damp-proof courses relative to the mastic asphalt waterproofing
- k. Sufficient working space for the application of materials
- l. Any other relevant information

# Design of the base

## Structural base

Decks can be either in situ concrete, in situ concrete with sand/cement screed, lytag grade 20 concrete or precast concrete with structural topping. In situ concrete for roof decks shall be specified and produced in accordance with BS EN 206:2015 and installed in accordance with BS 13670:2009 and the National Structural Concrete Specification.

Decks to receive mastic asphalt must be true, plane and even, free from ridges, hollows and indentations, and should provide a fall of 1 in 60 to ensure good drainage to outlets. The most suitable surface is provided by a skip float or power float finish. To reduce the risk of coarse aggregate settlement it is important to provide sufficient thermal mass directly below mastic asphalt allowing for rapid heat dissipation during laying. It therefore follows that “insulating” screeds should be avoided.

Temporary drainage holes should be provided through the structural base to allow downward drying of residual construction moisture or entrapped rainwater.

Decks to receive mastic asphalt must be capable of supporting all static and imposed loads without undue deflection. The weights given in **Table 1** may be used as a guide for assessing the load imposed by the specification.

**Table 1**

**Approximate weights of mastic asphalt paving systems**

Component	Thickness (mm)	Nom. Weight (kg/m <sup>2</sup> )
Waterproofing	10	24
Waterproofing	20	49
Paving	25	61
Paving	30	73
Paving	40	98
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Lytag Sand Concrete	75	133
Lytag Sand Concrete	100	177