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Design of floor to be asphalted

Selection parameters

Factors influencing the selection of grades of mastic asphalt flooring should be considered at an early stage in the design and should include the following:

a. The constructional form of the base on which the flooring is to be laid, e.g. ground supported slab, suspended floor, or screed
b. Any falls or drainage facilities required
c. The means of providing a transition from one level to another, particularly at thresholds
d. Features such as details of finishing against other materials or floor finishes laid to falls
e. The type and intensity of traffic anticipated
f. Details of any fixtures or fittings, particularly where these are fixed into the base and penetrate the asphalt
g. The use of any wheeled conveyances, e.g. fork-lift trucks, trolleys, their loading, rates of travel, type and width of tyre
h. The weights of standing loads, their bearing area and any point loading
i. The anticipated ambient temperature within the building
j. Maximum and minimum temperatures, and any other conditions likely to affect the performance of the flooring either during laying or in service
k. Any exposure of the mastic asphalt to acids, oils, greases or other substances and their concentration and temperature
l. Details of mastic asphalt flooring surface required, e.g. slip resistance or need for ease of cleaning
m. Details of floor finishes to be applied to a mastic asphalt underlay and the adhesive to be used
n. Any other relevant information

The effect of some of these factors are interrelated e.g. loads and temperatures. For specific conditions, advice should be sought from the mastic asphalt manufacturer.

A guide to the selection of the appropriate grade of flooring and recommended thicknesses is given in Table 2.

Design of the base

General

Surfaces to which mastic asphalt is to be applied should be installed or prepared so as to have a true and even surface substantially free from irregularities such as abrupt changes in levels, hollows, ridges, dips, concrete, mortar or plaster droppings. The building design should therefore, enable the mastic asphalt to be applied to a uniform thickness. Any irregularities in the horizontal substrate will be reflected in the final surface with the accompanying inconsistencies of thickness.

Concrete bases

Concrete bases to receive mastic asphalt flooring should be designed and constructed following the recommendations in BS8204-2:2003+A2;2011. The surface should be provided with a float finish and a surface regularity of SR2. Any falls required should be formed in the base.

Any damp-proof membrane and/or thermal insulation requirements should be placed below the concrete base slab.

If an SR1 finish to the mastic asphalt floor is required, an SR1 finish to the concrete base will be required (see Table 1 on the following page).

Adequate end and side restraint should be provided to pre-cast concrete beams and similar units in order to reduce structural movement to a minimum.