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Design considerations

Classification

The types and grades of mastic asphalt shall be specified according to the asphalt cement incorporated, according to Table 1: BS EN 13108-6.

Type B : bitumen
Type T50 : 50% refined Lake Asphalt, 50% bitumen by mass.

The designer should select the tables appropriate for this specified design criteria.

Grades and thicknesses

i.	Type B Grade S	For roads, footways, roof top car parks and similar applications.
ii.	Type B Grade S	
iii.	Type T50 Grade H	For bus stops, loading bays and areas subject to very high stresses.
iv.	Polymer Modified	High performance grades of paving incorporating polymer modified binders are available from MAC manufacturers and are designed to meet the demands of modern construction.

Table 1

Recommended grades and thicknesses of mastic asphalt for paving applications

Grade	Application	Thickness range	Nominal size coarse aggregate	Coarse agg. content, % by mass of total mix
S	Footways	20-30mm	3mm	25 ± 5
S	Roof top car parks	25-35mm	6 or 10mm	30 ± 5
S	Roads & carriageways	30-50mm	6 or 10mm	40 ± 10
H	Heavily stressed areas	40-50mm	10mm	45 ± 10

Note: Some indentations should be expected from long-standing point loads and deformation may result from situations of very high stress.

Hardness number

When tested in accordance with BS 5284, the hardness number of the mastic asphalt at the time of manufacture and prior to the addition of any coarse aggregate shall be:

Grade S - 30 to 60 @ 25 degrees Centigrade
Grade H - 15 to 25 @ 25 degrees Centigrade

