

SAMPLING METHOD MB7

SAMPLING OF PREMIXED ASPHALT

1. SCOPE

This method covers the procedures to be followed when a sample of hot already-mix has to be taken for the following purposes (see note 6.1):

For manufacturing briquettes for the checking of Marshall stability, flow, air voids and bulk density (see note 6.2) and for monitoring the grading and/or binder content of the mix.

The sample can be taken at any of four **different stages**, namely :

During discharge from the mixer or from the mix is discharged into the paver; from the hopper of the paver once the mix has been discharged into it from the truck;

Immediately after it has been spread by the paver, before compaction (see note 6.2).

2. APPARATUS

2.1 Sample for making briquettes

2.1.1 A spade with built-up sides (shovel).

2.1.2 A suitable insulated sample container.

2.1.3 A suitable riffler with pans

2.1.4 A thermometer, 0-200 °C.

2.1.5 Cleaning material such as toluene, brushes, cloths, etc.

2.2 Sample for determining the grading and/or binder content

2.2.1 A spade with built-up sides (shovel).

2.2.2 A suitable sample container.

2.2.3 A riffler with pans.

2.2.4 A metal plate 300 mm square and 1 mm to 3 mm thick (for sampling behind the paver).

2.2.5 Cleaning material such as toluene, brushes, cloths, etc.

3. SAMPLE SIZE

3.1 For making briquettes

About 3 kg per briquette.

3.2 For monitoring the grading and/or binder content

The following sample sizes serve as a guideline for various maximum sizes serve:

Maximum size of aggregate (mm)	Maximum mass of compound sample (kg)
26,50	10
19,00	8
13,20	6
9,50	4
6,70	2

4. METHOD

2.1 During unloading of the mixer or from the storage container

When unloading takes place into the back of a truck, push the spade deep into the pile on the back of the truck and throw the spadeful of the mix into a riffling pan. Take at least six spadefuls in this way from all around the pile during discharge. Use the riffler to obtain a representative sample of the desired size from all the material sampled with the spade. (See notes 6.2 and 6.3). Place the sample in a suitable, marked sample container (a heat-insulated container when briquettes are to be made) and dispatch it immediately to the laboratory.

4.2 From a truck before the mix is unloaded into a paver

Starting at the top, push the spade deep into the load and take at least six spadefuls in this way at various points, throwing each spadeful into a riffling pan. Use a riffler to obtain a representative

sample of the desired size from all the material sampled with the spade. (See notes 6.2 and 6.3) . Place the sample in a suitable, marked sample container (a heat-insulated container when briquettes are to be made) and dispatch it immediately to the laboratory.

4.2 **From the hopper of the paver**

While the paver is busy laying the mix and the hopper is full, material can be sampled from the hopper using a spade.

Push the spade deep into the mix and throw the material so obtained into a riffing pan. At least six spadefuls, three from each slide of the hopper, must be sampled in this way. Use a riffler to obtain a representative sample of the desired size from all the material sampled with the spade. (See notes 6.2 and 6.3)

Place the sample in a suitable, marked sample container (heat insulated when briquettes are to be made) and dispatch it immediately to the laboratory.

4.3 **Immediately after the mix has been laid by the paver**

Place the 300 mm square metal plate in position in the path of the paver before laying begins. Mark the position of the plate and allow paving to be laid over the plate. Remove the plate and the material on it. Place all the material in the sample container and dispatch it immediately to the laboratory. (See notes 6.2 to 6.6.) The material may not be suitable for making briquettes because of its having cooled down.

5 **REPORTING**

The material sent to the laboratory must be accompanied by a covering letter containing full details of the sample. The most important details are the sample was taken, where the material represented by the sample was laid, date and time of manufacture and sampling, thickness of the layer, and temperature of the mix when the sample was taken.

6 **NOTES**

6.1 The method does not include the taking of samples from asphalt mixes after compaction – this is dealt with in detail in Method MC2.

6.2 When a sample is being taken for making briquettes for flow and stability tests, it is important that it should not be reheated in the laboratory. In such a case the sampler will have to decide, depending on the circumstances at what stage he will take the sample so that it does not arrive cold at the laboratory. In cold weather it may be advisable to take these samples at the mixing plant before the mix is transported to the paver.

6.3 Riffing of material intended for the making of briquettes should be done as quickly as possible and with as little heat loss as possible.

6.4 The plate method can be regarded as the most reliable method when the aim is to sample the finished product. The position of the plate can be determined in advance in a random manner. This, together with the fact that the whole sample is taken on the plate, makes it a very reliable method for controlling binder content and grading, but should be used with care for controlling stability and flow.

6.5 When a 300mm square plate is used and the specified layer thickness is 30 to 35mm, about 6 to 7 kg of the mix can be obtained.

6.6 The mix can be prevented from adhering to the plate by wiping the plate first with a cloth dampened with diesel oil. The diesel oil film must, however, be as thin as possible. Briquettes cannot be made from this material because of pollution and cooling down.