

## SAMPLING METHOD MB4

### SAMPLING OF BITUMINOUS BINDERS

#### 1. SCOPE

This method describes the procedure to be followed when sampling bituminous binders from drums or tankers. Bituminous binders include:

Bitumen  
Tar  
Cut-back bitumen  
Emulsions  
Priming material

#### 2. APPARATUS

- 2.1 Gas or flame for heating the drum
- 2.2 Sample container (5 L capacity). (Glass or plastic containers are preferred for emulsions.)
- 2.3 Sampling tube or thief sample.
- 2.4 Cleaning material.

#### 3. SAMPLE SIZE

The sample size will depend on the purpose and type of material, as well as on the volume and method of storage. Normally the sample will be about 4 L.

#### 4. METHOD

- 4.1 Sampling of all bituminous may be done using the same basic principles. However, there are a few differences which should be taken into account. (See note 6.1 –6.5 )

#### 4.2 Sampling of bituminous binder in drums

- 4.2.1 If the drum has to be heated, e.g in the case of tar or bitumen, this must be done slowly and uniformly after the plug has been removed to allow the gases to escape. Avoid overheating any area of the drum. (See note 6.4.)
- 4.2.2 Close the drum tightly and roll it from side to side and invert it until the contents are thoroughly mixed
- 4.2.3 Remove the plug from the drum and take a sample using the

sampling tube. Let the tube down slowly into the drum so that the level of the binder in the tube stays the same as the level of the binder in the drum. Close the tube, remove it and once the binder adhering to the outside of the tube has run off, transfer it to a sample container.

- 4.2.4 At least 4 L of binder must be taken for each individual sample. The quantity taken from each drum will therefore depend on the number of drums to be represented by one sample. (See notes.)

#### 4.3 Sampling of bituminous binders in tankers and distributors

##### 4.3.1 Using a samplig valve

If the tanker or distributor is provided with a sampling valve, it is very easy to take a sample. Circulate the contents of the tanker or distributor to mix it thoroughly. Draw at least 20 L of binder from the valve or clean it. Then draw at least 4 L of material into the clean sample container and seal it immediately. (See notes)

In this way samples are taken at least three levels in the tank and combined to form a total sample of a least 4 L.

- 4.4 If necessary, divide the samples as discussed in Chapter 7 paragraph 1.2. Mark the sample clearly and indelibly immediately after sealing. (See paragraph 4 of Chapter 7)

#### 4 REPORTING

Compose a report in the form of a letter stating the sampling method used, the purpose of and all other essential data. (See paragraph 4 of Chapter 7)

#### 5 NOTES

- 6.1 Emulsion are chemically very reactive and special precautions must be taken to

- prevent contamination. Therefore only take samples in clean new sample containers made of glass or plastic.
- 6.2 The characteristics of emulsions change very quickly. Test on emulsions must therefore be completed within seven days. There for always dispatch samples immediately.
- 6.3 Cut-back bitumens and road tars contain a fair amount of volatile material. If the volatile portions evaporate, the characteristics of the material will change. Therefore take care to seal the container with the sample as soon as possible. Ensure that cover of the container is air-tight and that it cannot become dislodge during transit.
- 6.4 Penetration bitumens and some tars are usually too hard to sample when they are cold. They must be heated gradually while the binder is being stirred or circulated. The sample must be extracted slowly so that the hot binder does not splash. Use gloves and wear some protection on the arms when taking samples.
- 6.5 The sample container may not be cleaned with solvent. If the container becomes soiled on the outside, it should be wiped down with a clean cloth.
- 6.6 When binder distributors or tankers possess a circulation system the contents should be circulated before a sample is taken.