

Description

SWEDISH CONCRETE & GROUTING EQUIPMENT

S-814 25 ÄLVKARLEBY, SWEDEN

DETERMINATION OF THE FILTRATION STABILITY

According to European standard prEN 14497

1. SCOPE AND APPLICATIONS

At the entrances of cracks and changes of crack widths, arches and agglomerates are formed which obstruct further penetration of the grout. This standard describes a procedure to measure the ability of the grout to withstand these formations.

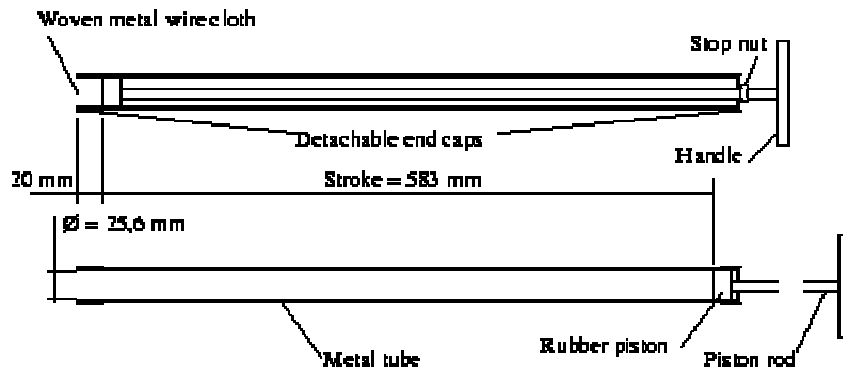
This method can be used both in the laboratory and on site and it can be used to check the efficiency of the mixing and to compare the ability of different mixing equipments.

The method can also be used to determine the pot life of the grout.

2. REFERENCES

3. EQUIPMENT

Suction device according to figure 1.



Woven metal wire cloths with mesh apertures of 125, 100, 75 and 45 μ m.

Graduated beaker with an internal diameter of 105 \pm 5 mm and a height of at least 140 mm.

Thermometer with the accuracy of \pm 0,5 $^{\circ}$ C.

Stop-watch with the accuracy of \pm 1 s.

Mixing equipment.

Measuring cylinder, 500 ml.

Figure 1. Suction device for evaluation of filtration stability

4. PROCEDURE

The environmental temperature and the temperature of the grout should be 21 ± 2 °C, unless otherwise stated. The temperatures are measured.

The woven metal wire cloth in question (125, 100, 75 or 45 μ m) is fixed to the suction device.

The grout is poured into the vessel to the 1,0 l graduation 5 \pm 1 min after finishing of the mixing unless otherwise stated. The suction device is immersed into the grout in such a way that the bottom of the suction device is situated on the half height of the grout column. The handle of the suction device is immediately drawn up. This shall be done with a constant speed and the whole procedure shall take 5 \pm 2 s. The suction device is kept immersed in the same position for 20 \pm 5 s further. Then the suction device is taken up from the vessel and the content in the suction device is pumped into the measuring vessel.

The procedure starts with the 125 μ m metal wire cloth and if the suction device is totally filled (300 ml) the procedure is repeated for the other three wire cloths, otherwise it is only repeated for the next smaller wire cloth. The repetition shall be made within 3 min.

If a certain mesh aperture can be expected to be correct for the measuring in question, measuring can be made directly with that mesh aperture.

5. RESULTS

The volumes sucked into the device are measured in ml with the accuracy of \pm 5 ml.

6. REPORT

The report must at least contain the following information:

The name and composition of the grout.

The date of the test.

A description of the mixing equipment.

The age of the grout after mixing, minutes rounded to nearest integer.

The environmental temperature and the temperature of the grout, °C rounded to the nearest 0,1 °C.

The mesh size and the sucked up grout, ml rounded to the nearest 5 ml.