

ANNEX 5

Test method to determine the stability of grouting

1 Definition and applications

This test method is intended to determine the exudation and variation in volume (expansion or contraction) of the mix (grout or mortar) used as an injection product in ducts in which prestressing reinforcements are to be placed.

2 Equipment used

A cylindrical glass vessel measuring 10 cm high by 10 cm in diameter will be used. A mark will be made on this to indicate the filling height, a_1 (see Figure A.5.1).

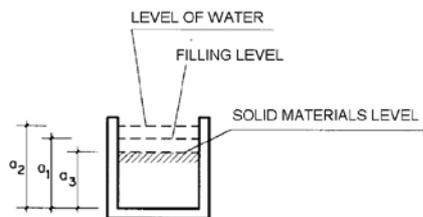


Figure A.5.1

3 Operating procedure

The required amount of the grout mix will be poured into the test vessel until this is level with the mark made on the vessel, a_1 . Once filled to the required level, the vessel will be sealed to prevent evaporation and will be left for the time required to allow the settling of the mix to stabilise. The water level, a_2 , and the level of solid materials, a_3 , will then be measured.

These measurements must also be made at an intermediate stage to determine the possible exudation of the mix 3 hours after its preparation, as laid down in Article 35.4.

4 Obtention and accuracy of the results

The values of the exudation, EX , and the variation in volume, ΔV , will be calculated using the following expressions:

$$EX = \frac{a_2 - a_3}{a_1} 100$$

$$\Delta V = \frac{a_3 - a_1}{a_1} 100$$

The results obtained will be expressed as a percentage of the initial volume of the mix.

As regards the variation in volume, if $\Delta V < 0$, this means that contraction has occurred. On the other hand, if $\Delta V > 0$, this means that expansion has occurred.