

Proficiency Testing Scheme

Airborne Asbestos with fase contrast microscopy (PCM) technique

1 PURPOSE OF THE PROFICIENCY TESTING

This scheme allows laboratories to demonstrate their competence to determine the concentration of airborne asbestos (total fibers) with the PCM technique.

Microanalitica organizes Proficiency Testing in accordance with the International Standard ISO/IEC 17043.

2 DESCRIPTION OF THE PROFICIENCY TESTING

The scheme " Airborne asbestos with PCM technique" is offered annually to laboratories.

The set of test samples consists of cellulosic filters with a diameter of 25 mm with a porosity of 0.8 μm from a simultaneous sampling of air contaminated with asbestos fibers.

The homogeneity test is carried out according to the procedures illustrated in ISO 13528: 2015 point 6.1.

Each laboratory receives a filter from the filter set whose homogeneity has been verified.

The laboratory, for the analysis, can use the method normally used in its laboratory with the PCM technique.

The result must be expressed in total fibers/ mm^2 .

3 FINAL REPORT OF THE PROFICIENCY TESTING EVALUATION

To assign the value of airborne asbestos expressed in total fibers/ mm^2 , Microanalitica Srl follows the instructions illustrated in point 5.3.1.2 of the ISO 13528: 2015 standard where the robust average value of the results of the x_{pt} participants is taken into account.

In the absence in ISO 13528: 2015 of a performance evaluation method for tests with asymmetrical trend of distribution of values, Microanalitica Srl adopts its own evaluation of the performance of laboratories adapted to the Poisson distribution.

This performance evaluation has been defined with the symbol z_p .

The z_p score number can be both positive and negative, a negative z_p indicates that the participant's result is lower than the assigned value; conversely, a positive z_p indicates that the result is greater than the assigned value.

Interpretation of the z_p score:

$|z_p| \leq 2,0$ indicates "satisfactory" performance and does not generate any signal

$2,0 < |z_p| \leq 3,0$ indicates "questionable" performance (warning sign - W)

$|z_p| > 3,0$ indicates "unsatisfactory" performance (allarm signal - A)

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4 CONFIDENTIALITY

In order to ensure the confidentiality of the results, the laboratory that participates in Proficiency Testing will be assigned of a number that uniquely identifies it in the PT Final Report.

The identification number is communicated to the email address indicated on Proficiency Testing application form.

Microanalitica Srl guarantees the confidentiality of all the informations acquired by the participants.