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## **Stationary source emissions — Determination of PM<sub>10</sub>/PM<sub>2,5</sub> mass concentration in flue gas — Measurement at low concentrations by use of impactors**

*Émissions de sources fixes — Détermination de la concentration en  
masse de PM<sub>10</sub>/PM<sub>2,5</sub> dans les effluents gazeux — Mesurage à des  
faibles concentrations au moyen d'impacteurs*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 23210 was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 1, *Stationary source emissions*.

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## Introduction

In order to quantify the amount of PM<sub>10</sub> and PM<sub>2,5</sub> particles in stationary source emissions or to identify the contribution sources of PM<sub>10</sub> and PM<sub>2,5</sub> in ambient air, it is necessary to measure fine particulate matter in the flue gas of industrial sources.

This International Standard describes a measurement method for the determination of mass concentrations of PM<sub>10</sub> and PM<sub>2,5</sub> emissions, which realizes the same separation curves as those specified in ISO 7708:1995 for PM<sub>10</sub> and PM<sub>2,5</sub> in ambient air. The method is based on the principle of impaction. During sampling, the particle fraction is divided into three groups with aerodynamic diameters greater than 10 µm, between 10 µm and 2,5 µm and smaller than 2,5 µm.

The measurement method allows the simultaneous determination of concentrations of PM<sub>10</sub> and PM<sub>2,5</sub> emissions. The method is designed for stack measurements at stationary emission sources.

The contribution of stationary source emissions to PM<sub>10</sub> and PM<sub>2,5</sub> concentrations in ambient air can be classified as primary and secondary. Those emissions that exist as particulate matter within the stack gas and that are emitted directly to air can be considered "primary". Secondary particulate consists of those emissions that form in ambient air due to atmospheric chemical reactions. The measurement technique in this International Standard does not measure the contribution of stack emissions to the formation of secondary particulate matter in ambient air.

This International Standard includes normative references to ISO 12141:2002. The corresponding requirements in ISO 12141:2002 are identical to those in European Standards EN 13284-1:2001 and EN 15259:2007.