(PREVIEW)

Indian Standard

METHODS FOR MEASUREMENT OF AIR POLLUTION

PART XV MASS CONCENTRATION OF PARTICULATE MATTER IN THE ATMOSPHERE

0. FOREWORD

0.1 This Indian Standard (Part XV) was adopted by the Indian Standards Institution on 26 September 1974, after the draft finalized by the Air Pollution Sectional Committee had been approved by the Chemical Division Council.

0.2 This method is based on ASTM D 1899-68 'Method of test for mass concentration of particulate matter in the atmosphere', issued by the American Society for Testing and Materials, Philadelphia (USA).

0.3 In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960*.

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1. SCOPE

1.1 This standard (Part XV) covers method for the continuous recording of the mass concentration of particulate matter of known characteristics in the atmosphere in the size range of about 0.05 to 40 µm in diameter. Measurement is based on the light-scattering property of microscopic size solid or liquid particles dispersed in a gaseous medium. The method is specifically used in special situations, such as performance evaluation or atmospheric sampling in special cases. It is used for determination of acid mist or fly ash.

1.2 The maximum range of concentration measured by means of this method is equivalent to 1 to 100 000 µg of particulate matter per cubic mono of air. Calibration within closer concentration limits will permit full-scale readings covering more narrow concentration ranges, thereby increasing the sensitivity of the test over the specific range being measured. The full range of concentration measurable by this method is equivalent to an estimated atmospheric visibility range from 1 500 km to 15 m.

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*Rules for rounding off numerical values *(revised)*.

1.3 The mass concentration is strictly proportional to the scattered light intensity only when the particle size, shape, etc, remain constant (*see* Note under **10.3).** For information relative to meteorological and topographical factors affecting the application of this method, reference shall be made to IS : 5182 (Part XIV)*.