ISO 16170:2016-07 (E)

In situ test methods for high efficiency filter systems in industrial facilities

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 2

3 Terms and definitions 2

4 Principle of the method 4

5 Prerequisites 6
5.1 Filter initial characterization 6
5.2 Preparatory conditions 6
5.2.1 General 6
5.2.2 Choice of injection and sampling locations 7
5.2.3 Conditions for the ventilation systems on which the test is performed 7
5.2.4 Climatic conditions in the rooms where the injection/sampling is performed 7
5.2.5 Apparatus selection and preparation 8
5.2.6 Qualification of the test personnel 10
5.2.7 Health and safety 10
5.2.8 Test conditions 11

6 Test sequence 11
6.1 Evaluation of filtration system under test 11
6.2 Preparation of test equipment 12
6.3 Preparation of log sheets 12
6.4 Monitoring of climatic conditions 12
6.5 Aerosol generation setup 12
6.6 Sampling equipment setup 12
6.7 Monitoring of upstream challenge 12
6.8 Monitoring of downstream 13
6.9 Test performance 13
6.10 Calculations 13

7 Evaluation and report 14

Annex A (informative) Aerosol candidates for in situ testing 16

Annex B (normative) Integrity testing -- Typical methodology using dispersed oil test aerosols 17

Annex C (normative) Efficiency accountancy testing -- Uranine test method 26

Annex D (informative) Leakage test methods 33

Annex E (informative) Guideline for representative sampling 34

Bibliography 36