ISO 29462:2013-03 (E)

Field testing of general ventilation filtration devices and systems for in si tu removal efficiency by particle size and resistance to airflow

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms, definitions, and abbreviations 1
3.1 Terms and definitions 1
3.2 Abbreviations 3

4 Test equipment and setup 3
4.1 Particle counter 3
4.2 Diluter 3
4.3 Pump 4
4.4 Sampling system 4
4.5 Air velocity measurement instrument 6
4.6 Relative humidity measurement instrument 6
4.7 Temperature measurement instrument 6
4.8 Resistance to airflow measurement instrument 6
4.9 Test equipment maintenance and calibration 7

5 Site evaluation 7
5.1 General 7
5.2 Filter installation pre-testing inspection 7
5.3 Approval for testing 7

6 Test procedure 8
6.1 Air velocity 8
6.2 Relative humidity 8
6.3 Temperature 8
6.4 Resistance to airflow 9
6.5 Removal efficiency 9
6.6 Sampling probes 12

7 Expression of results 14
7.1 General information 14
7.2 Data collection 15

8 Errors and data analyses 16
8.1 General 16
8.2 Relative humidity 16
8.3 Air temperature 16
8.4 Aerosol composition 16
8.5 Uniformity of aerosol concentration 17
8.6 Coincidence errors -- Particle counter 17
8.7 Particle losses 17

9 Calculation of results 17
9.1 Calculation of removal efficiency 17

9.2 Calculation of uncertainty 20
9.3 Coefficient of variation (CV) 20

10 Optional enhanced test system 21
10.1 Application of enhanced test 21
10.2 Principle of the enhanced test system 22
10.3 Determination of the corrected particle size 23
10.4 Presentation of results 24

Annex A (informative) Filter installation pre-testing inspection form 25

Annex B (informative) Approval for testing form 28

Annex C (informative) Example of how to complete testing 30

Bibliography 46