IEC/TS 63086-2-5:2026-08 (E)

Household and similar electrical air cleaning appliances - Methods for measuring the performance - Part 2-5: Particular requirements for determination of the performance change by loading with particles

Contents

Page

FOREWORD 3
1 Scope 5
2 Normative references 5
3 Terms, definitions and abbreviated terms 5
3.1 Terms and definitions 5
3.2 Abbreviated terms 6
4 Test equipment and measurement instruments 6
4.1 Test aerosol generation 6
4.2 Loading aerosol generation 6
4.3 Instrumentation for CADR measurements 6
4.4 Balance for weighing 6
5 Determination of the cumulative clean mass 6
5.1 General 6
5.2 Choice of the loading aerosol 7
5.2.1 General 7
5.2.2 Salt 7
5.2.3 Dust 7
5.2.4 Cigarette smoke 7
5.2.5 Di-ethyl-hexyl-sebacate (DEHS) 7
5.2.6 Defined mixtures of loading aerosols 8
5.3 Measurement of the natural decay rate 8
5.4 Measurement of the initial total decay rate 8
5.5 Calculation of the initial CADR 8
5.6 First loading step 8
5.7 Measurement of the total decay rate after loading 9
5.8 Calculation of the CADR after loading 9
5.9 Calculation of the CCM 9
5.10 Calculation of the mass for the next loading step 10
5.11 Next loading step 11
6 Loading procedures 12
6.1 General 12
6.2 Loading of the air-cleaning module 12
6.2.1 Removal and weighing of the air-cleaning module 12
6.2.2 Installation of the air-cleaning module in the loading duct 12
6.2.3 Loading of the air-cleaning module with a loading aerosol 12
6.2.4 Re-weighing and re-installation of the air-cleaning module 12

6.3 Loading of the DUT 12
6.3.1 Weighing of the air-cleaning module or DUT 12
6.3.2 Loading of the DUT 13
6.3.3 Reweighing of the air-cleaning module or whole DUT 13

Annex A (normative) Alternative definition of the CCM 14
Annex B (informative) Estimation of the service interval time of the air-cleaning module 15
Annex C (normative) Alternative fine particle size range 17
C.1 General 17
C.2 Optical particle counter 17
C.3 Measurement of the total decay rate after loading 17
C.4 Background particle number concentration 17
Annex D (informative) Schematic flow chart of the determination of the cumulative clean mass 18
Annex E (informative) Test report information 19
E.1 General 19
E.2 Loading of the air-cleaning module 19
E.3 Results 19
Annex F (normative) Loading duct for particle exposure of the air-cleaning module 20
Bibliography 21

Figure 1 – Example for the measurement of the initial CADR 8
Figure 2 – Example for estimating the CCM by linear interpolation 9
Figure 3 – Example where m_{max} is reached 10
Figure 4 – Example for the calculation of the mass for the next loading step 11
Figure 5 – Examples where the mass for the next loading step is replaced by m_{max} 11
Figure D.1 – Flow chart of the determination of the CCM 18
Figure F.1 – Schematic of the loading duct 20