

DIN 71460-1:2006-04 (E)

Road vehicles - Air filters for motor passenger compartments - Part 1: Test for particulate filtration

Contents

Page

Foreword	4
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions.....	5
4 Reference conditions and test substances	7
4.1 Reference condition	7
4.2 Test substances.....	7
5 Test apparatus	7
5.1 General set-up	7
5.2 Air supply.....	8
5.3 Test duct.....	8
5.4 Test dust feeder	8
5.5 Feeding the test dust	8
5.6 Sampling probes	8
5.7 Connecting lines.....	9
5.8 Particle counter	9
5.9 Uniformity of the spatial aerosol distribution for fractional efficiency measurement.....	10
5.10 Pressure tapping points.....	10
5.11 Pressure difference measuring device.....	10
5.12 Volume flow measuring device.....	10
5.13 Temperature measuring device	10
5.14 Humidity measuring device.....	10
5.15 Balances	10
6 System validation.....	11
7 Preparation of filter/filter element for the tests	11
8 Test method	11
8.1 Determination of the pressure difference/volume flow curve in the new condition	11
8.2 Determination of the fractional efficiency curve at nominal flow rate	12
8.3 Determining the dust holding capacity and fractional efficiency.....	12
9 Test report.....	13
Annex A (normative) Test apparatus and details	14
Annex B (normative) Table B.1 — Checklist for the test report.....	18
Annex C (normative) Test apparatus requirements, validation and routine operation	20
Annex D (informative) Explanatory notes — The main differences between this standard and ISO/TS 11155-1:2001	24
Bibliography	26

Figures

Figure A.1 — Example of a test system, schematic diagram.....	14
Figure A.2 — Test duct.....	15
Figure A.3 — Sampling probes, design examples	16
Figure A.4 — Schematic diagram of a particle size-selective dilution device (design example).....	17
Figure A.5 — Design example of a virtual impactor.....	17

Tables

Table B.1 — Checklist for the test report	18
Table C.1 — Measurement uncertainty of sensors.....	20
Table C.2 — Validation	20
Table C.3 — Routine operation.....	22