

ISO 8178-3:2019 (E)

Reciprocating internal combustion engines — Exhaust emission measurement — Part 3: Test procedures for measurement of exhaust gas smoke emissions from compression ignition engines using a filter type smoke meter

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Smoke measurement by a filter-type smoke meter (FSN)
4.1	Application
4.2	Principle
4.3	Measurement with a filter-type smoke meter
4.3.1	Installation of a filter-type smoke meter
4.3.2	Engine operating conditions
4.3.3	Sensitivity to fuel oil
4.3.4	Measurement procedure
4.4	General requirements
4.5	Gas temperature and pressure
5	Test report
Annex A	(normative) Emission test report — Smoke test data
Annex B	(informative) Overview particulate and soot measurement methods
Annex C	(informative) Correlation formulae
C.1	General
C.2	AVL Correlation formulae for the calculation of black carbon mass concentration
C.2.1	General
C.2.2	Unheated conditions, FSN ≤ 8
C.2.3	Unheated conditions, FSN > 8
C.2.4	Heated conditions, FSN $\leq 8,08$
C.2.5	Heated conditions, FSN $> 8,08$
C.3	Correlation formula for the calculation of soot concentration as carbon wet
C.4	Correlation formulae of other manufacturers
Annex D	(informative) Comparison of black carbon mass concentration results obtained by different measurement instruments

Page count: 11