

ISO 9518:2018 (E)

Forestry machinery — Portable chain-saws — Kickback test

Contents

	Foreword
1	Scope
2	Normative references
3	Terms and definitions
4	Test method
4.1	Principles
4.2	Chain-saw configuration
4.2.1	General
4.2.2	Chain-saw families
4.2.3	Requirements for testing bars and saw-chains
4.3	Equipment and materials to determine CKA
4.4	Preparation
4.4.1	General
4.4.2	Physical measurements of chain-saw
4.4.3	Dimensional measurements
4.4.4	Chain-saw and saw-chain preparation
4.4.5	Kickback machine preparation
4.4.6	Chain-saw installation and alignment
4.4.7	Balance saw/clamp/cradle assembly
4.4.8	Horizontal friction measurements
4.4.8.1	General
4.4.8.2	Carriage bearing alignment
4.4.8.3	Horizontal friction test
4.4.8.3.1	General
4.4.8.3.2	Horizontal friction test method A
4.4.8.3.3	Horizontal friction test method B
4.4.9	Rotary friction measurements
4.4.9.1	General
4.4.9.2	Rotary bearing alignment
4.4.9.3	Rotary friction test
4.4.9.3.1	General
4.4.9.3.2	Rotary friction test method A
4.4.9.3.3	Rotary friction test method B
4.4.10	Horizontal & rotary restraining systems alignment
4.4.11	Impact velocity adjustment
4.5	Test requirements and procedures
4.5.1	Test requirements
4.5.2	Kickback testing procedure
4.5.3	Kickback energy determination
4.5.4	Termination of test sequence
4.5.5	Chain brake energy determination
4.5.6	Chain brake actuation angle measurement
4.5.7	Chain brake stopping time measurement
4.6	Kickback angle computation
4.6.1	General
4.6.2	Input data
4.6.3	Computation and results
5	Test report
Annex A	(normative) Computer program flowchart

Annex B (normative) Procedure for hardness testing of Medium Density Fibreboard (MDF)

Annex C (informative) Test record

Annex D (informative) Chain-saw centre of gravity and inertia measurement

- D.1 Introduction
- D.2 Inertia measurement with a torsion pendulum
 - D.2.1 Inertia computation
 - D.2.2 Determination of the pendulum calibration constant c
 - D.2.3 Determination of the inertia of the pendulum, I_{pen}
 - D.2.4 Example for the determination of c and I_{pen}
 - D.2.4.1 General
 - D.2.4.2 Calibration discs
 - D.2.4.3 Pendulum cycle times
 - D.2.4.4 Pendulum calibration constant c and inertia I_{pen}
- D.3 Inertia measurement of a chain-saw
 - D.3.1 Centre of gravity
 - D.3.2 Taking measurements
 - D.3.3 Calculation of the chain-saw inertia

Annex E (informative) Computer program checkout models

Page count: 53