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BSI Standards Publication

Forestry machines — Portable chainsaws — Test method for evaluating saw chain oil lubricity

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National foreword

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**Forestry machines — Portable chain-
saws — Test method for evaluating
saw chain oil lubricity**

*Machines forestières — Tronçonneuses portables — Méthode d'essai
pour l'évaluation de la lubrification à l'huile de la chaîne de la scie*





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Foreword

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The committee responsible for this document is ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 17, *Manually portable forest machinery*.

Forestry machines — Portable chain-saws — Test method for evaluating saw chain oil lubricity

1 Scope

This Technical Specification defines test procedures for classifying the lubrication ability of saw chain lubrication oils when using guide bar and saw chain.

These test procedures create a reproducible replication of the stress conditions experienced by the saw chain and guide bar during sawing. The test shows the capacity of the lubricant for reducing the wear between friction partners.

This enables the manufacturers of chain saws to include specifications for recommended saw chain lubrication oils in the owner's manual.

The test rig is based on a design produced by the Swedish test commission Svensk Maskinprovning (SMP). The test procedures also take into account the long-term practical experience of the Kuratorium für Waldarbeit und Forsttechnik e.V (KWF) in testing bio-degradable chain lubrication oils.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2049, *Petroleum products — Determination of colour (ASTM scale)*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

saw chain without teeth

saw chain where the cutting links are replaced by links without tooth or bumpers

3.2

loading wheel

rubber coated wheel that applies the contact force to the saw chain from below

Note 1 to entry: See [Figure 1](#).

4 Test rig

4.1 General

The test rig is designed so that the saw chain is driven by the rim sprocket. The saw chain speed is adjusted by controlling the output speed of the motor driving the sprocket. See [Figure 1](#).