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Acoustics — Measurement at the operator's position of airborne noise emitted by brush saws

*Acoustique — Mesurage au niveau de l'oreille de l'opérateur du bruit émis par les
débroussailleuses*

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7917 was prepared jointly by Technical Committees ISO/TC 43, *Acoustics* and ISO/TC 23, *Tractors and machinery for agriculture and forestry*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Acoustics — Measurement at the operator's position of airborne noise emitted by brush saws

1 Scope and field of application

This International Standard specifies a method for measuring the A-weighted and octave-band sound pressure levels, at the operator's position, of noise emitted by portable, hand-held brush saws for use primarily in forestry which are powered by internal combustion engines.

The operating conditions during measurement simulate normal operating conditions in the forest.

NOTE — This International Standard is based on the general guidelines of ISO 6081¹⁾; however, to simulate a normal operating situation of a brush saw, an absorbing ground is specified instead of a reflecting plane.

2 References

ISO 266, *Acoustics — Preferred frequencies for measurements*.

ISO 8893, *Forestry machinery — Portable brush saws — Engine performance and fuel consumption*.²⁾

IEC Publication 225, *Octave, half-octave and third-octave band filters intended for the analysis of sounds and vibrations*.

IEC Publication 651, *Sound level meters*.

3 Measured quantities

3.1 The values measured shall be A-weighted sound pressure levels, in decibels, determined with the frequency-weighting characteristic A and the time-weighting characteristic S as defined in IEC Publication 651.

3.2 Spectral analysis is optional. When required, octave-band sound pressure levels, in decibels, shall be measured in the eight bands having centre frequencies from 63 to 8 000 Hz.

4 Acoustic environment

4.1 Open space

The test site shall be an open space having a radius of at least 10 m which shall be completely free from obstructions which might influence the measurement. However, large reflecting surfaces, such as a fence or a wall, shall not be closer than a radius of 20 m. No person, including the observer, shall approach closer than 2 m to the operator. The operator's clothing shall not be of particularly absorbing or reflecting material. The ground at the centre of the test site shall have good sound-absorbent properties and may comprise forest ground, grass or an equivalent surface. It should be approximately flat. The ground may be covered in snow, but not ice.

4.2 Enclosed space

Measurements may also be carried out in a large building, provided that it can be proved that they are in accordance, to within ± 1 dB, with the levels measured under the conditions given in 4.1 for one-third octave bands of noise in the frequency range from 50 to 10 000 Hz.

4.3 Background noise

At the microphone position, the background noise (including wind noise) measured as the A-weighted sound pressure level and in each octave band, as appropriate, shall be at least 10 dB below the sound pressure levels measured during the test.

4.4 Ambient conditions

Environmental conditions (humidity, temperature, vibration, stray fields, etc.) shall be within the limits specified by the manufacturers of the measuring equipment and of the brush saw under test.

1) ISO 6081, *Acoustics — Noise emitted by machinery and equipment — Guidelines for the preparation of test codes of engineering grade requiring noise measurements at the operator's position*.

2) At present at the stage of draft.