International Standard 5008

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Agricultural wheeled tractors and field machinery — Measurement of whole-body vibration of the operator

Tracteurs et matériels agricoles à roues — Mesurage des vibrations transmises globalement au conducteur

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

International Standard ISO 5008 was developed by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, and was circulated to the member bodies in November 1976.

It has been approved by the member bodies of the following countries :

Australia	Hungary	Romania
Austria	India	South Africa, Rep. of
Brazil	Iran	Spain
Bulgaria	Italy	Sweden
Canada	Korea, Dem. P. Rep. of	Switzerland
Chile	Korea, Rep. of	Turkey
Czechoslovakia	Mexico	United Kingdom
Denmark	New Zealand	Yugoslavia
Finland	Poland	
Germany, F. R.	Portugal	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Belgium
France
USSR

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Agricultural wheeled tractors and field machinery — Measurement of whole-body vibration of the operator

0 INTRODUCTION

The specification of instruments, measurement site characteristics and frequency analysis of weighting allows the measurements to be made and reported with an acceptable precision.

The vibration is evaluated in accordance with ISO 2631. The procedure includes means of weighting the vibration level at different frequencies to take account of agreed approximations to the frequency sensitivity of the human operator.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies methods for measuring and reporting the whole-body vibration to which the operator of an agricultural wheeled tractor or other field machine is exposed.

The operating conditions of the machine and the ordinates of optional artificial test tracks are also included.

This International Standard applies when measurements are made under field conditions or where artificial surfaces are used for the comparison of different models of particular machines.

It is recognized that there may be designs of tractor for which this International Standard is not appropriate, for example stilt-tractors, tricycle tractors, hillside tractors or vineyard tractors etc.

NOTE — The standard does not include assessment of vibration reaching the operator other than through his seat or foot platform; for example, that sensed by the feet through the controls or by the hands through the steering wheel is not considered. ISO/TR 5007 specifies measurement of transmitted vibration and seat dimensions for operator's seats for agricultural tractors.

2 REFERENCES

ISO 2041, *Vibration and shock — Vocabulary.*

ISO 2631, *Guide for the evaluation of human exposure to whole-body vibration.*

ISO/TR 5007, *Agricultural wheeled tractors — Operator seat — Measurement of transmitted vibration and seat dimensions.*

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

3 DEFINITION

For the purposes of this International Standard, the following definition shall supplement those of ISO 2041 :

3.1 weighted vibration : The measured vibration acceleration modified by the frequency-weighting defined below.

4 VIBRATION MEASUREMENT AXES

The vibration shall be measured along three mutually perpendicular axes passing through a point on the interface between the operator and his seat. These axes are vertical, longitudinal and lateral (a_z, a_x and a_y) with respect to the tractor.

These axes correspond in their orientation with the similar axes (a_z, a_x, and a_y) for the operator, when the operator is at his work-place, and are defined in detail in ISO 2631.