INTERNATIONAL STANDARD

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Textile machinery — Noise test code —

Part 1: Common requirements

Matériel pour l'industrie textile — Code d'essai acoustique —

Partie 1: Exigences communes

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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 9902 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 9902-1 was prepared by Technical Committee ISO/TC 72, *Textile machinery and machinery for dry-cleaning and industrial laundering*, Subcommittee SC 8, *Safety requirements for textile machinery*.

This first edition of ISO 9902-1, together with ISO 9902-2, ISO 9902-3, ISO 9902-4, ISO 9902-5, ISO 9902-6 and ISO 9902-7, cancels and replaces ISO 9902:1993, which has been technically revised.

ISO 9902 consists of the following parts, under the general title *Textile machinery — Noise test code*:

— *Part 1: Common requirements*

— *Part 2: Spinning preparatory and spinning machinery*

— *Part 3: Nonwoven machinery*

— *Part 4: Yarn processing, cordage and rope manufacturing machinery*

— *Part 5: Weaving and knitting preparatory machinery*

— *Part 6: Fabric manufacturing machinery*

— *Part 7: Dyeing and finishing machinery*

Annex A of this part of ISO 9902 is for information only.

Introduction

Basic noise emission quantities for textile machinery include emission sound pressure levels at work stations and the sound power level. The determination of these quantities (i.e. the test) is necessary for:

— manufacturers to be able to declare the noise emitted,

— machine users to be able to compare the noise emitted by machines in the group concerned,

— experimental verification of the noise control measures taken at the design stage, and

— estimation of noise immission (exposure) in the workplace or at the work station.

ISO 9902 constitutes a comprehensive noise test code for textile machinery. Its use will ensure the reproducibility of the determination of the noise emission quantities within specified limits determined by the grade of accuracy.

Textile machinery — Noise test code —

Part 1: Common requirements

1 Scope

This part of ISO 9902 gives requirements for carrying out, efficiently and under standardized conditions, the determination, declaration and verification of basic noise emission quantities common to the types of textile machinery dealt with in ISO 9902-2 to ISO 9902-7. It specifies noise measurement methods, as well as the mounting and operating conditions, to be used for this noise test code.

This part of ISO 9902 is applicable to all machinery, plant and equipment given according to ISO 11111, including equipment enabling the automated operation of machines and processes for single machines or complex installations, but excluding equipment for transportation between the machine interfaces.

NOTE 1 The measurement of the peak, C-weighted, instantaneous sound pressure value at workstations is not dealt with in this part of ISO 9902, since peak sound pressures sufficient to require such measurement are not to be expected from textile machines.

NOTE 2 For each textile machine, two parts of ISO 9902 will normally need to be used: this part and the relevant, specific part of ISO 9902.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 9902. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 9902 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3740:2000, *Acoustics — Determination of sound power levels of noise sources — Guidelines for the use of basic standards.*

ISO 3743-1:1994, *Acoustics — Determination of sound power levels of noise sources — Engineering methods for small, movable sources in reverberant fields — Part 1: Comparison method for hard-walled test rooms.*

ISO 3744:1994, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane.*

ISO 3746:1995, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane.*

ISO 3747:2000, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Comparison method* in situ*.*

ISO 4871:1996, *Acoustics — Declaration and verification of noise emission values of machinery and equipment.*

ISO 7574-1:1985, *Acoustics — Statistical methods for determining and verifying stated noise emission values of machinery and equipment — Part 1: General considerations and definitions.*

ISO 9614-1:1993, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 1: Measurement at discrete points.*

ISO 9614-2:1996, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 2: Measurement by scanning.*

ISO 9902 (parts 2 to 7), *Textile machinery — Noise test code.*

ISO 11111:1995, *Safety requirements for textile machinery.*

ISO 11200:1995, *Acoustics — Noise emitted by machinery and equipment — Guidelines for the use of basic standards for the determination of emission sound pressure levels at a work station and at other specified positions.*

ISO 11201:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane.*

ISO 11202:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Survey method* in situ.

ISO 11203:1995, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level.*

ISO 11204:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Method requiring environmental corrections.*

EN 292-2:1991/A.1:1995, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles and specifications.*

3 Terms and definitions

For the purposes of this part of ISO 9902, the terms and definitions given in ISO 4871 and the following apply.

3.1
A-weighted sound power level
L_{WA}
ten times the logarithm to the base 10 of the ratio of the A-weighted sound power radiated by the source under test to the reference sound power [W_0 = 1 pW (10^{-12} W)]

NOTE 1 Adapted from ISO 3740:2000.

NOTE 2 It is expressed in decibels.

NOTE 3 Time-averaged values of sound pressure levels are the basis for calculation of sound power levels. This is not the case for ISO 9614-1 and ISO 9614-2.

3.2
A-weighted emission sound pressure level
L_{pA}
ten times the logarithm to the base 10 of the ratio of the square of the A-weighted emission sound pressure to the square of the reference sound pressure [p_0 = 20 μPa (2×10^{-5} Pa)]

NOTE 1 Adapted from ISO 3740:2000.

NOTE 2 It is expressed in decibels.