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Acoustics — Recommended practice for the design of low-noise workplaces containing machinery —

Part 3: Sound propagation and noise prediction in workrooms

Acoustique — Pratique recommandée pour la conception de locaux de travail à bruit réduit contenant des machines —

Partie 3: Propagation du son et prévision du bruit dans les locaux de travail

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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.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 11690-3, which is a Technical Report of type 3, was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

ISO 11690 consists of the following parts, under the general title *Acoustics* — *Recommended practice for the design of low-noise workplaces containing machinery*.

- *Part 1: Noise control strategies*
- *Part 2: Noise control measures*
- *Part 3: Sound propagation and noise prediction in workrooms*

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Introduction

This Technical Report is intended for use by all parties involved in noise reduction in workplaces and design of low-noise workplaces. The objective is:

- to make them aware of what is the current technical consensus regarding sound propagation and noise prediction in workrooms,
- to aid the interaction between them within a common technical framework,
- to promote the understanding of the desired noise control requirements.

This Technical Report provides the connection between the emission of sound sources e.g. machines and the sound pressure level at workstations caused by their operation in a workroom. Therefore, it allows an interchange of information between machine suppliers, who are responsible for noise emission values, and machine users, who require low noise immission values.

A further target is the assessment of the acoustical performance of a workroom.

These tasks are connected by the determination of the sound propagation descriptors of a workroom.

A methodology for noise prediction in workrooms is presented and a structure is given for the classification of prediction methods according to the level of detail of input parameters.