INTERNATIONAL STANDARD

**ISO
1940-2**

Mechanical vibration — Balance quality requirements of rigid rotors —

Part 2:
Balance errors

*Vibrations mécaniques — Exigences en matière de qualité
dans l'équilibrage des rotors rigides —*

Partie 2: Défauts d'équilibrage

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.

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.

International Standard ISO 1940-2 was prepared by Technical Committee ISO/TC 108, *Mechanical vibration and shock*, Subcommittee SC 1, *Balancing, including balancing machines.*

ISO 1940 consists of the following parts, under the general title *Mechanical vibration — Balance quality requirements of rigid rotors*:

— *Part 1: Determination of permissible residual unbalance*

— *Part 2: Balance errors*

Annexes A to C of this part of ISO 1940 are for information only.

Introduction

The balance quality of a rigid rotor is assessed during the balancing operation in accordance with ISO 1940-1 by the measurement of residual unbalance. This measurement may contain errors which originate from a number of sources. It is therefore necessary to consider the errors involved. Where experience has shown that these are significant they should be taken into account when defining the balance quality of the rotor. ISO 1940-1 does not deal with balance errors in detail, and especially not with the assessment of balance errors, therefore this part of ISO 1940 gives examples of typical errors that can occur and provides recommended procedures for determining them. In addition generalized methods for evaluating the residual unbalance in the presence of balance errors are described.

Mechanical vibration — Balance quality requirements of rigid rotors —

Part 2:
Balance errors

1   Scope

This part of ISO 1940 covers the following:

—   identification of errors in the balancing process of rigid rotors;

—   assessment of errors;

—   guidelines for taking errors into account;

—   the evaluation of residual unbalance in any two correction planes.

2   Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 1940. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 1940 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1925:1990, *Mechanical vibration — Balancing — Vocabulary.*

ISO 1925:1990/Amd.1:1995, *Amendment 1 to ISO 1925:1990.*

ISO 1940-1:1986, *Mechanical vibration — Balance quality requirements of rigid rotors — Part 1: Determination of permissible residual unbalance.*

ISO 2953:1985, *Balancing machines — Description and evaluation.*