INTERNATIONAL STANDARD 1878

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Classification of instruments and devices for measurement and evaluation of the geometrical parameters of surface finish

Classification des appareils et dispositifs servant à mesurer et à évaluer les paramètres géométriques des états de surface

First edition — 1974-07-01

UDC 62-408 : 681.2.001.33

Ref. No. ISO 1878-1974 (E)

Descriptors : measuring instruments, surface condition, roughness, geometrical characteristics, classifying.

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 57 has reviewed ISO Recommendation R 1878 and found it suitable for transformation. International Standard ISO 1878 therefore replaces ISO Recommendation R 1878-1970.

ISO Recommendation R 1878 was approved by the Member Bodies of the following countries :

Australia	Hungary	Romania
Belgium	India	South Africa, Rep. of
Brazil	Israel	Spain
Czechoslovakia	Italy	Sweden
Canada	Netherlands	Switzerland
Chile	New Zealand	Thailand
Egypt, Arab Rep. of	Norway	United Kingdom
Germany	Poland	U.S.A.
Greece	Portugal	U.S.S.R.

The Member Bodies of the following countries expressed disapproval of the Recommendation on technical grounds :

France
Japan

The Member Bodies of the following countries disapproved the transformation of ISO/R 1878 into an International Standard :

France
United Kingdom

Printed in Switzerland

Classification of instruments and devices for measurement and evaluation of the geometrical parameters of surface finish

1 SCOPE AND FIELD OF APPLICATION

This International Standard

- establishes a classification scheme for the instruments and devices used for the measurement and evaluation of the geometrical parameters of surface finish (roughness, waviness, errors of form);
- specifies the composition and structure of International Standards relating to these instruments and devices.

2 CLASSIFICATION

2.1 The classification of these instruments and devices is based on the following considerations :

- the nature of the irregularities : roughness, waviness, errors of form;
- the method of measurement or evaluation : by the surface area or by the profile;
- the method of interpretation : geometrical or non-geometrical;
- the method of transformation of the information about the real profile : progressive or instantaneous;
- the method of investigation (method of interaction of the instrument with the surface) : contact or non-contact;
- the method of presenting the results.

2.2 The classification scheme for the instruments and devices used for the measurement and evaluation of the geometrical parameters of surface finish shall be as shown in the diagram.

NOTES

1 The characteristics of the instruments or devices may result from a combination of the various characteristics given in the classification scheme.

2 Instruments and devices not mentioned in the scheme may be included as considerations proceed.

3 The positions framed by broken lines indicate instruments and devices non-existent at present but which are possible (in principle) as future developments.

4 By "profile transformation" (positions 4.1 and 4.2 of the scheme) is meant the conversion of information about the surface profile from one form into another.

3 COMPOSITION AND STRUCTURE OF RELATED INTERNATIONAL STANDARDS

3.1 International Standards relating to the first five rows of the classification structure shall include definitions and terms common to the prescribed group of instruments and devices.

International Standards relating to the sixth row shall include three sections : terminology, basic parameters and standards of accuracy.

3.2 Each International Standard shall have references to the International Standards from which terms, standards of accuracy, definitions, etc. were taken.