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ISO RECOMMENDATION

R 1878

CLASSIFICATION OF INSTRUMENTS AND DEVICES FOR MEASUREMENT AND EVALUATION OF THE GEOMETRICAL PARAMETERS OF SURFACE FINISH

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1878, *Classification of instruments and devices for measurement and evaluation of the geometrical parameters of surface finish,* was drawn up by Technical Committee ISO/TC 57, *Surface finish,* the Secretariat of which is held by the Komitet Standartov, Mer i Izmeritel'nyh Priborov pri Sovete Ministrov S.S.S.R. (GOST).

Work on this question led to the adoption of Draft ISO Recommendation No. 1878, which was circulated to all the ISO Member Bodies for enquiry in November 1969. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

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

The following Member Bodies opposed the approval of the Draft :

France
Japan

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

ISO Recommendation | R 1878 | November 1970

CLASSIFICATION OF INSTRUMENTS AND DEVICES FOR MEASUREMENT AND EVALUATION OF THE GEOMETRICAL PARAMETERS OF SURFACE FINISH

1. SCOPE

This ISO Recommendation

- 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 ISO Recommendations 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 should be as shown in the diagram on page 4.

NOTES

1. The characteristics of the instruments or devices may result from a combination of the various characteristics given in the classification scheme.
2. This classification scheme includes only instruments and devices mentioned in the Programme of Future Work adopted at the 3rd Plenary Meeting of Technical Committee ISO/TC 57. Instruments and devices not mentioned in the Programme of Future Work may also be included in the scheme 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.
5. Questions relating to instruments and devices used for the measurement of errors of form of a surface (position 2.4 of the scheme) come within the scope of Technical Committee ISO/TC 3.

3. COMPOSITION AND STRUCTURE OF RELATED ISO RECOMMENDATIONS

3.1 ISO Recommendations relating to the first five rows of the classification structure should include definitions and terms common to the prescribed group of instruments and devices.

ISO Recommendations relating to the sixth row should include three sections : terminology, basic parameters and standards of accuracy.

3.2 Each ISO Recommendation should have references to the ISO Recommendations from which terms, standards of accuracy, definitions, etc. were taken.