

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION R 241

SHANKS FOR TURNING AND PLANING TOOLS  
SECTIONS AND TOLERANCES

1<sup>st</sup> EDITION

December 1961

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## BRIEF HISTORY

The ISO Recommendation R 241, *Shanks for Turning and Planing Tools. Sections and Tolerances*, was drawn up by Technical Committee ISO/TC 29, *Small Tools*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1947, taking into account the studies which had been made by the former International Federation of the National Standardizing Associations (ISA), and led, in 1958, to the adoption of a Draft ISO Recommendation.

In September 1959, this Draft ISO Recommendation (No. 307) was submitted to all the ISO Member Bodies for enquiry. It was approved, subject to some editorial amendments, by the following Member Bodies:

|                |             |                |
|----------------|-------------|----------------|
| Austria        | Hungary     | Portugal       |
| Belgium        | India       | Romania        |
| Burma          | Italy       | Sweden         |
| Czechoslovakia | Mexico      | United Kingdom |
| France         | Netherlands | U.S.A.         |
| Germany        | Pakistan    | U.S.S.R.       |
| Greece         | Poland      |                |

One Member Body opposed the approval of the Draft: Switzerland.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in December 1961, to accept it as an ISO RECOMMENDATION.

**SHANKS FOR TURNING AND PLANING TOOLS**  
**SECTIONS AND TOLERANCES**

**INTRODUCTION**

**I. SCOPE**

This ISO Recommendation for sections and tolerances of shanks for turning and planing tools provides for three types of sections:

- 1. Round sections,
- 2. Square sections,
- 3. Rectangular sections with ratios of height to width of respectively:  
    approximately 1.25,  
    approximately 1.6 and  
    approximately 2,

and comprises two tables, giving respectively

- (1) the dimensions in millimetres. . . . . Table 1.1,
- (2) the corresponding dimensions in inches . . . . . Table 1.2.

**II. INTERCHANGEABILITY**

The dimensions given in each of the two tables, in millimetres and in inches, are sufficiently close to provide practical interchangeability between corresponding shanks in the two series, except in the case of shanks intended for mounting in tool-holders.

**III. TOLERANCES ON SHANKS INTENDED FOR MOUNTING IN A TOOL-HOLDER**

This ISO Recommendation does not specify the tolerances to be applied to shanks of tools intended for mounting in a tool-holder, as this question is to be the subject of future study.

Pending the outcome of this study, however, it is recommended that the magnitude of the deviation relative to the nominal size on the “NOT GO” side should not appreciably exceed that obtained with one of the following fit symbols:

- e11 – h12 or d12\* for square and rectangular sections,
- f7 – h9\* for round sections.

\* ISO System of Limits and Fits.