

Transformed

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

**ISO RECOMMENDATION
R 229**

MACHINE TOOL SPEEDS AND FEEDS

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 229, *Machine Tool Speeds and Feeds*, was drawn up by Technical Committee ISO/TC 39, *Machine Tools*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1950, 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 January 1959, this Draft ISO Recommendation (No. 271) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to editorial amendments, by the following Member Bodies:

Belgium	Germany	Romania
Burma	Hungary	Sweden
Czechoslovakia	Italy	Switzerland
Denmark	Pakistan	United Kingdom
Finland	Poland	U.S.S.R.
France	Republic of South Africa	

Two Member Bodies opposed the approval of the Draft:

Netherlands	U.S.A.
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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.

MACHINE TOOL SPEEDS AND FEEDS

1. SCOPE

This ISO Recommendation, dealing with machine tool speeds and feeds, applies to machine tools working by removal of metal and driven directly by an electrical motor, except in those cases where its application is obviously impracticable on technical grounds (e.g. machines with continuous speed variations, feeds for thread forming, etc.).

This ISO Recommendation is composed of two distinct parts, of which one concerns the speeds (number of revolutions or strokes per minute), and the other the feeds (in millimetres or in inches, per minute or per revolution, or per stroke).

2. GENERALITIES

- 2.1 The *basic values* of the speeds, as well as those of the feeds, are taken from the R 20 series of preferred numbers.*
- 2.2 The permissible limits for the *actual values* have been determined not from the basic values, but from the corresponding theoretical values of the geometric series with ratio $\sqrt[20]{10}$.** Compared with these theoretical values, the limits of tolerance are:

Percentage limits of tolerances

Speeds	Feeds			
number of revolutions or strokes per minute	millimetres per minute	inches per minute	millimetres per revolution or per stroke	inches per revolution or per stroke
— 2 per cent + 6 per cent	— 2 per cent + 6 per cent	— 3 per cent + 5 per cent	— 2 per cent + 3 per cent	— 3 per cent + 2 per cent

- 2.3 The adoption of percentage limits, slightly different according as the feed is expressed either in millimetres or in inches, is justified by the necessity to make the prescribed limits coincide, whatever the unit of measurement used. (So as to achieve this condition in a more precise way, the limits in inches have been directly converted from the limits in millimetres.)

* See column (3) in Table 1 of ISO Recommendation R 3 — *Preferred Numbers. Series of Preferred Numbers.*

** See column (7) in Table 1 of ISO Recommendation R 3.