INTERNATIONAL STANDARD 296

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Machine tools — Self-holding tapers for tool shanks

Machines-outils — Cônes pour emmanchements d'outils à faible conicité

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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 39 has reviewed ISO Recommendation R 296 and found it suitable for transformation. International Standard ISO 296 therefore replaces ISO Recommendation R 296-1963.

ISO Recommendation R 296 was approved by the Member Bodies of the following countries :

Argentina	Hungary	Portugal
Belgium	India	Romania
Chile	Israel	Spain
Colombia	Italy	Sweden
Czechoslovakia	Japan	Switzerland
Denmark	Netherlands	United Kingdom
France	New Zealand	U.S.A.
Germany	Poland	U.S.S.R.

The Member Bodies of the following countries have subsequently approved this Recommendation :

Philippines
South Africa, Rep. of

The Member Body of the following country expressed disapproval of the Recommendation on technical grounds :

Australia

No Member Body disapproved the transformation of ISO/R 296.

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Machine tools — Self-holding tapers for tool shanks

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the dimensions of tapers for tool shanks with a small taper of about 4 to 5 %, classified, according to their use, into the three following categories :

1) tapers for general use,

2) smaller tapers,

3) larger tapers.

For the first category, tapers recommended by ISO are Nos. 1 to 6 Morse tapers. Their standard sizes in millimetres are given in table 2, and the corresponding sizes in inches are given in table 3.

For smaller and larger tapers, those recommended by ISO are, on the one hand, Nos. 4 and 6 metric 5 % tapers and No. 0 Morse taper, and on the other hand, Nos. 80 to 200 metric 5 % tapers. Their sizes, in millimetres only, are given in table 2. However, it was agreed to include in parallel, in the category of small tapers, Nos. 1 to 3 Brown & Sharpe tapers. Their sizes, in inches only, are given in table 3.

Consequently, as shown in table 1, self-holding tapers dealt with in this International Standard include :

1) for general use, only Nos. 1 to 6 Morse tapers;

2) for sizes below No. 1 Morse taper, two solutions : either Nos. 4 and 6 metric tapers and No. 0 Morse taper (without corresponding tapers in the inch table 3) or, alternatively, Nos. 1 to 3 Brown & Sharpe tapers (without corresponding tapers in the metric table 2);

3) for sizes above No. 6 Morse taper, only Nos. 80 to 200 metric tapers (without corresponding tapers in the inch table 3).

TABLE 1

Designation	Sizes in millimetres	Sizes in inches
Small tapers	Nos. 4 and 6 metric and No. 0 Morse	Nos. 1 to 3 Brown & Sharpe
Tapers for general use	Nos. 1 to 6 Morse[1)]	
Large tapers	Nos. 80 to 200 metric	

1) Except for threads, Nos. 1 to 6 Morse tapers, manufactured either to metric values or to inch values, are strictly interchangeable, though not absolutely identical.

Lastly, this International Standard provides, for those elements which are threaded, two entirely distinct types of product according to the type of thread, **M** or **UNC**.

In order to distinguish between these two types, it is important that the element itself be marked with the corresponding thread symbol.