

INTERNATIONAL STANDARD

**ISO
5294**

Second edition
1989-07-15

Synchronous belt drives — Pulleys

Transmissions synchrones par courroies — Poulies



Reference number
ISO 5294 : 1989 (E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5294 was prepared by Technical Committee ISO/TC 41, *Pulleys and belts (including veebelts)*.

The second edition cancels and replaces the first edition (ISO 5294 : 1979), of which it constitutes a technical revision.

Annex A of this International Standard is for information only.

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Case postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Synchronous belt drives — Pulleys

1 Scope

This International Standard specifies the principal characteristics of synchronous pulleys for use in synchronous endless belt drives¹⁾ for mechanical power transmission and where positive indexing or synchronization may be required.

The principal characteristics include

- a) tooth dimensions and tolerances;
- b) pulley dimensions and tolerances;
- c) quality specification.

As far as dimensions are concerned, the pulleys specified in this International Standard, for pitch code MXL, may be used interchangeably with the belts specified in ISO 5296-1 and ISO 5296-2.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was

valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 254 : 1981, *Quality, finish and balance of transmission pulleys.*

3 Tooth dimensions

3.1 Involute teeth

3.1.1 The involute tooth profile results in different dimensions for each pulley diameter. Therefore, to specify the involute tooth dimensions would require a very voluminous table. For this reason, as well as because of the difficulty in specifying the curved side of an involute tooth, dimensions are specified for the generating tool rack required to produce the involute tooth.

3.1.2 Dimensions and tolerances for the generating tool rack for synchronous pulleys with involute teeth are given in table 1 and figure 1.

1) These drives have been known under various names in the past, for example: timing belt drives, positive belt drives, gear belt drives.