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BS ISO 5294:2012



BSI Standards Publication

Synchronous belt drives — Pulleys

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A list of organizations represented on this committee can be obtained on request to its secretary.

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Synchronous belt drives — Pulleys

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5294 was prepared by Technical Committee ISO/TC 41, *Pulleys and belts (including veebelts)*, Subcommittee SC 4, *Synchronous belt drives*.

This third edition cancels and replaces the second edition (ISO 5294:1989), which has been technically revised.

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Synchronous belt drives — Pulleys

1 Scope

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

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

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 are used interchangeably with the belts specified in ISO 5296.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 254, *Belt drives — Pulleys — Quality, finish and balance*

ISO 1101, *Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

ISO 5296, *Synchronous belt drives — Belts with pitch codes MXL, XXL, XL, L, H, XH and XXH — Metric and inch dimensions*

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.