INTERNATIONAL STANDARD

ISO 13050

Third edition
2022-03

Synchronous belt drives — Metric pitch, curvilinear profile systems G, H, R and S, belts and pulleys

Transmissions synchrones — Pas métrique, systèmes à denture curviligne G, H, R et S, courroies et poulies

Reference number
ISO 13050:2022(E)

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Published in Switzerland

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document 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 13050:2014), which has been technically revised.

The main changes are as follows:

— in Formulae (1) and (2), "A_o" has been added before the first square bracket;

— the formulae in the document have been renumbered and symbols are now used;

— the nomenclature has been changed in Tables 1 and 14, and Figures 1 and 11;

— belt width measurement methods were improved in 8.1.2, 9.1.2, 10.1.2, 11.1.2;

— total measuring forces are now for reference only in 8.1.3.2, 9.1.3.2, 10.1.3.2, 11.1.3.2;

— belt length measurement procedures were enhanced in 8.1.3.3, 9.1.3.3, 10.1.3.3, 11.1.3.3;

— the taper specification in Annex C was removed.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Synchronous belt drives — Metric pitch, curvilinear profile systems G, H, R and S, belts and pulleys

1 Scope

This document specifies the principal characteristics of metric pitch curvilinear synchronous endless belts and pulleys in G, H, R, and S profile systems for use in synchronous belt drives (also known in the past as timing belt drives, positive belt drives, gear belt drives) for mechanical power transmission and where positive indexing or synchronization can be required.

The principal belt and pulley characteristics include the following:

a) nominal belt tooth dimensions;

b) belt tooth pitch spacing;

c) belt length and width dimensions and tolerances;

d) belt length measurement specifications;

e) pulley groove dimensions and tolerances;

f) pulley diameter and width dimensions and tolerances;

g) pulley quality specification.

2 Normative reference

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 5288, *Synchronous belt drives — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5288 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Symbols

For the purpose of this document, the symbols given in ISO 5288 and the following apply,

Symbol	Definition	Symbol	Definition
a	Pitch line differential	h_r	Reference rack tooth height

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