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Synchronous belts — Calculation of power rating and drive centre distance

Courroies synchrones — Calcul de la puissance transmissible et de l'entraxe

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Foreword

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

This fourth edition cancels and replaces the third edition (ISO 5295:2017), of which it constitutes a minor revision.

The changes are as follows:

— the scope been revised to clarify the applicability of the document.

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.

Synchronous belts — Calculation of power rating and drive centre distance

1 Scope

This document establishes formulae for the calculation of power rating and centre distance of standard synchronous belts on two pulley drives.

It is applicable to trapezoidal belts only. It does not apply to curvilinear synchronous belts.

The numerical values of certain parameters used in the calculations depend upon the pitch and the construction of the belt and are specified by the belt manufacturer.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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/

3.1
power rating
power that a specified synchronous belt can transmit under specified geometrical and ambient conditions for a satisfactory period of time, provided that the drive has been installed and is maintained in a proper manner

Note 1 to entry: The power rating depends on the following:

— the pitch of the belt and pulley teeth;

— the belt width;

— the mass of a linear metre of belt;

— the allowable working tension in the belt;

— the angular velocity of the smaller pulley;

— the number of teeth of the smaller pulley;

— the number of teeth in mesh on the smaller pulley.