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Guidelines for the selection of roller chain drives

Méthode de sélection des transmissions par chaîne à rouleaux



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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 10823 was prepared by Technical Committee ISO/TC 100, *Chains and chain wheels for power transmission and conveyors*.

This second edition cancels and replaces the first edition (ISO 10823:1996), which has been technically revised.

Guidelines for the selection of roller chain drives

1 Scope

This International Standard gives guidelines for the selection of chain drives, composed of a roller chain and sprockets conformant with ISO 606, for industrial applications.

The selection procedures and the chain ratings it describes provide for roller chain drives operating under specified conditions, as defined in 9.1, 9.2 and in Clause 10, with a life expectancy of approximately 15 000 h.

Owing to the wide variations in loading characteristics, environmental conditions and achieved maintenance, it is desirable that the supplier of the chains and sprockets be consulted to ensure that the performance of the product meets the requirements specified both by the user and by this International Standard.

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 606, *Short-pitch transmission precision roller chains and chain wheels*

3 Symbols

The symbols and units used in this International Standard are given in Table 1.

4 Basic equations

4.1 Input power

The power to be transmitted is the input P , in kilowatts, to the drive sprocket. If input torque is the known requirement, then P can be derived from the following equation:

$$P = \frac{M \times n_1}{9\,550} \quad (1)$$

4.2 Corrected power

To allow for the characteristics of the drive system and the type of load to be transmitted, the input power, P , is multiplied by factors to obtain the corrected power, P_c .

$$P_c = P \times f_1 \times f_2 \quad (2)$$