

INTERNATIONAL
STANDARD

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**Guidance on the selection of roller chain
drives**

Méthode de sélection des transmissions par chaîne à rouleaux



Reference number
ISO 10823:1996(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 voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

Annex A of this International Standard is for information only.

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Guidance on the selection of roller chain drives

1 Scope

This International Standard gives guidance on the selection of chain drives, composed of a roller chain and sprockets conforming to ISO 606, for industrial applications.

The selection procedures and the chain ratings described in this International Standard provide for roller chain drives operating under specified conditions, as defined in 9.1, 9.2, 10.1 and 10.2, with a life expectancy of approximately 15 000 h.

Due to the wide variations in loading characteristics, environmental conditions and achieved maintenance, the supplier of the chains and sprockets should be consulted to ensure that the performance of the product will meet the requirements specified by the user and by this International Standard.

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 606:1994, *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.

Table 1 — Symbols and units

Symbol	Designation	Unit
a	Maximum centre distance	mm
a_0	Approximate centre distance	mm
f_1	Application factor to allow for the operating conditions (see table 2)	—
f_2	Factor for number of teeth on drive sprocket (see figure 3)	—
f_3	Factor for calculation of the number of links with different numbers of teeth (see table 5)	—
f_4	Factor for the calculation of the centre distance with different numbers of teeth (see table 6)	—
i	Drive ratio	—
M	Torque	N·m
n_1	Input speed	r/min
n_2	Output speed	r/min
p	Chain pitch	mm
P	Input power	kW
P_c	Corrected power	kW
v	Chain speed	m/s
X	Number of links in chain	—
X_0	Calculated number of links in chain	—
z_1	Number of teeth on drive sprocket	—
z_2	Number of teeth on driven sprocket	—