

INTERNATIONAL STANDARD

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Synchronous belt drives — Belts —

Part 1:

Pitch codes MXL, XL, L, H, XH and XXH — Metric
and inch dimensions

Transmissions synchrones par courroies — Courroies —

*Partie 1: Symboles de pas MXL, XL, L, H, XH et XXH — Dimensions métriques et
en inches*



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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5296-1 was prepared by Technical Committee ISO/TC 41, *Pulleys and belts (including veebelts)*.

The first edition of ISO 5296-1 cancels and replaces the first edition of ISO 5296 : 1978, as well as its Addenda 1 and 2 of 1982, of which it constitutes a technical revision.

ISO 5296 consists of the following parts, under the general title *Synchronous belt drives — Belts*:

- *Part 1: Pitch codes MXL, XL, L, H, XH and XXH — Metric and inch dimensions*
- *Part 2: Pitch codes MXL and XXL — Metric dimensions*

Annex A of this part of ISO 5296 is for information only.

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Synchronous belt drives — Belts —

Part 1:

Pitch codes MXL, XL, L, H, XH and XXH — Metric and inch dimensions

1 Scope

This part of ISO 5296 specifies the principal characteristics of synchronous endless belts for use in synchronous belt drives¹⁾ for mechanical power transmission and where positive indexing or synchronization may be required.

The principal characteristics include

- nominal tooth dimensions;
- length and width dimensions;
- tolerances on these dimensions;
- length-measurement specifications.

This part of ISO 5296 applies to synchronous belt drives with pitch codes MXL, XL, L, H, XH and XXH and to metric and inch dimensions.

2 Pitch codes

The pitch codes and the corresponding belt pitches are given in table 1.

Table 1 — Pitch codes

Pitch code	Belt pitch ^{*)}	
	mm	in
MXL	2,032	0,080
XL	5,080	0,200
L	9,525	0,375
H	12,700	0,500
XH	22,225	0,875
XXH	31,750	1,250

^{*)} Carried to third decimal place because belt pitch is a defined value.

3 Dimensions and tolerances

3.1 Tooth dimensions

The nominal belt tooth dimensions are the same for one-sided and double-sided belts; they are given in table 2 and are shown in figures 1a), 1b) and 1c).

Two types of double-sided synchronous belts are standardized. type A [see figure 1b)] has symmetrical teeth and type B [see figure 1c)] has staggered teeth.

Table 2 — Nominal tooth dimensions

Pitch code	2β degrees	S		h_t		r_r		r_a	
		mm	in	mm	in	mm	in	mm	in
MXL	40	1,14	0,045	0,51	0,02	0,13	0,005	0,13	0,005
XL	50	2,57	0,101	1,27	0,05	0,38	0,015	0,38	0,015
L	40	4,65	0,183	1,91	0,075	0,51	0,02	0,51	0,02
H	40	6,12	0,241	2,29	0,09	1,02	0,04	1,02	0,04
XH	40	12,57	0,495	6,35	0,25	1,57	0,062	1,19	0,047
XXH	40	19,05	0,75	9,53	0,375	2,29	0,09	1,52	0,06

1) Synchronous belt drives have been known by various titles in the past: for example, timing belt drives, positive belt drives, USA type drives.

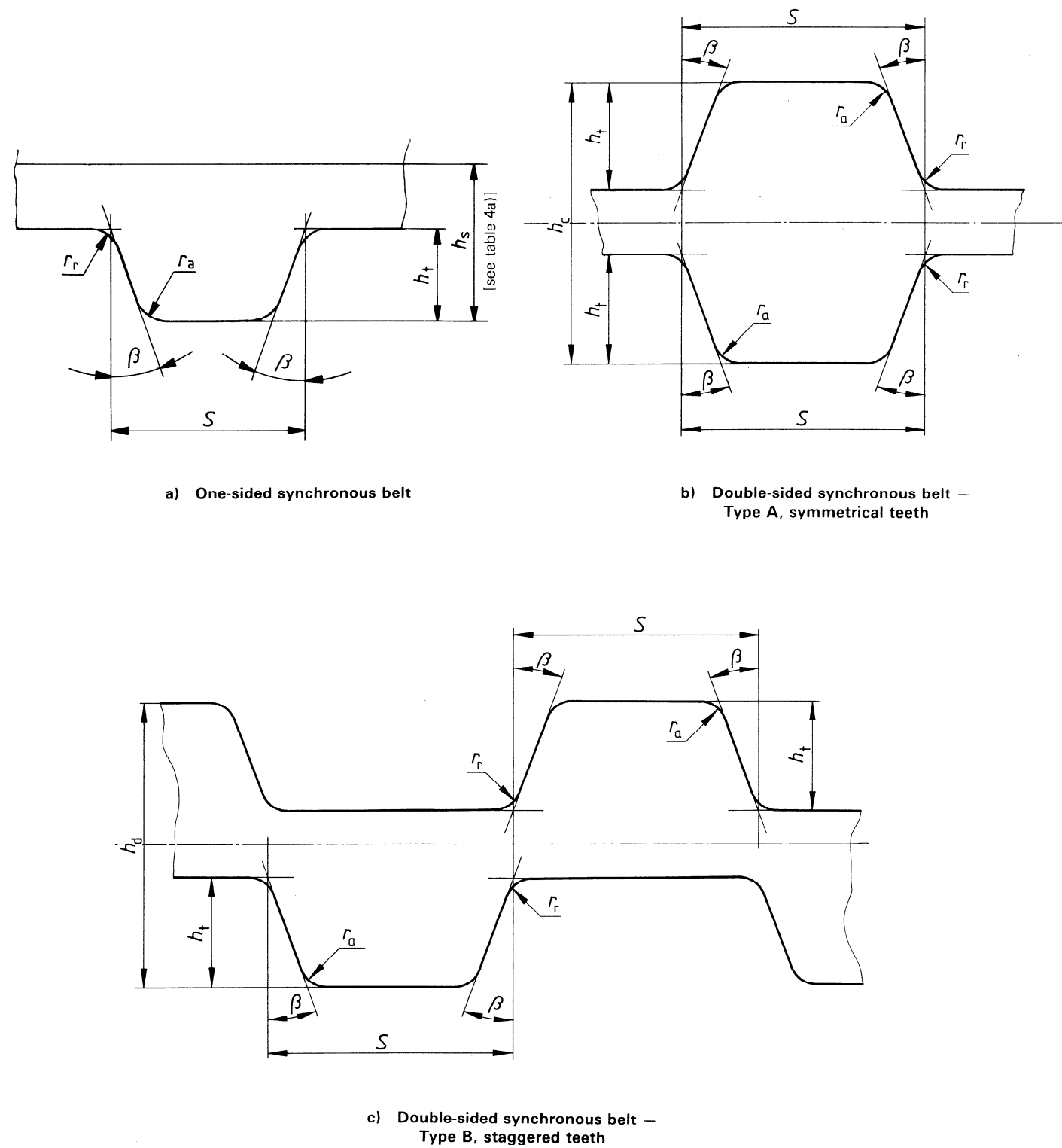


Figure 1 — Tooth profile