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INTERNATIONAL STANDARD

ISO 4183

Second edition
1989-11-15

Belt drives — Classical and narrow V-belts — Grooved pulleys (system based on datum width)

Transmissions par courroies — Courroies trapézoïdales classiques et étroites — Poulies à gorges (système basé sur la largeur de référence)

Reference number
ISO 4183 : 1989 (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 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 4183 was prepared by Technical Committee ISO/TC 41, *Pulleys and belts (including veebelts).*

This second edition cancels and replaces the first edition (ISO 4183 : 1980), of which it constitutes a technical revision.

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Belt drives — Classical and narrow V-belts — Grooved pulleys (system based on datum width)

1 Scope

This International Standard specifies the principal dimensions of grooved pulleys for classical V-belts (sections Y, Z, A, B, C, D and E) and narrow V-belts (sections SPZ, SPA, SPB and SPC) specified in the terminology system based on datum width.

It is important that narrow belts are not used with pulleys uniquely designed for classical belts.

2 Preliminary notes

2.1 The datum width is regarded as the basic dimension of standardization for the groove and for the corresponding classical and narrow V-belts considered as a whole.

2.2 Knowledge of the datum line position and of the datum width is essential in defining the groove profile, the datum diameter of the pulley and the location of the belt in the pulley groove.

3 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were 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 editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3 : 1973, *Preferred numbers — Series of preferred numbers.*

ISO 254 : 1981, *Quality, finish and balance of transmission pulleys.*

ISO 255 : —[1], *Grooved pulleys for V-belts — Description in the system based on datum width — Geometrical inspection of grooves.*

ISO 1081 : 1980, *Terms and definitions relating to drives using V-belts and grooved pulleys.*

ISO 1101 : 1983, *Technical drawings — Geometrical toleranc-ing — Tolerancing of form, orientation, location and run-out — Generalities, definitions, symbols, indications on drawings.*

4 Datum widths of profiles

The datum widths, w_d, of the profiles are specified in table 1.

Table 1

Groove profiles		w_d
Classical V-belts	Narrow V-belts	mm
Y		5,3
Z	SPZ	8,5
A	SPA	11
B	SPB	14
C	SPC	19
D		27
E		32

5 Groove angles

The groove angle α (see figure 1) shall be one of the following angles :

32°, 34°, 36°, 38°

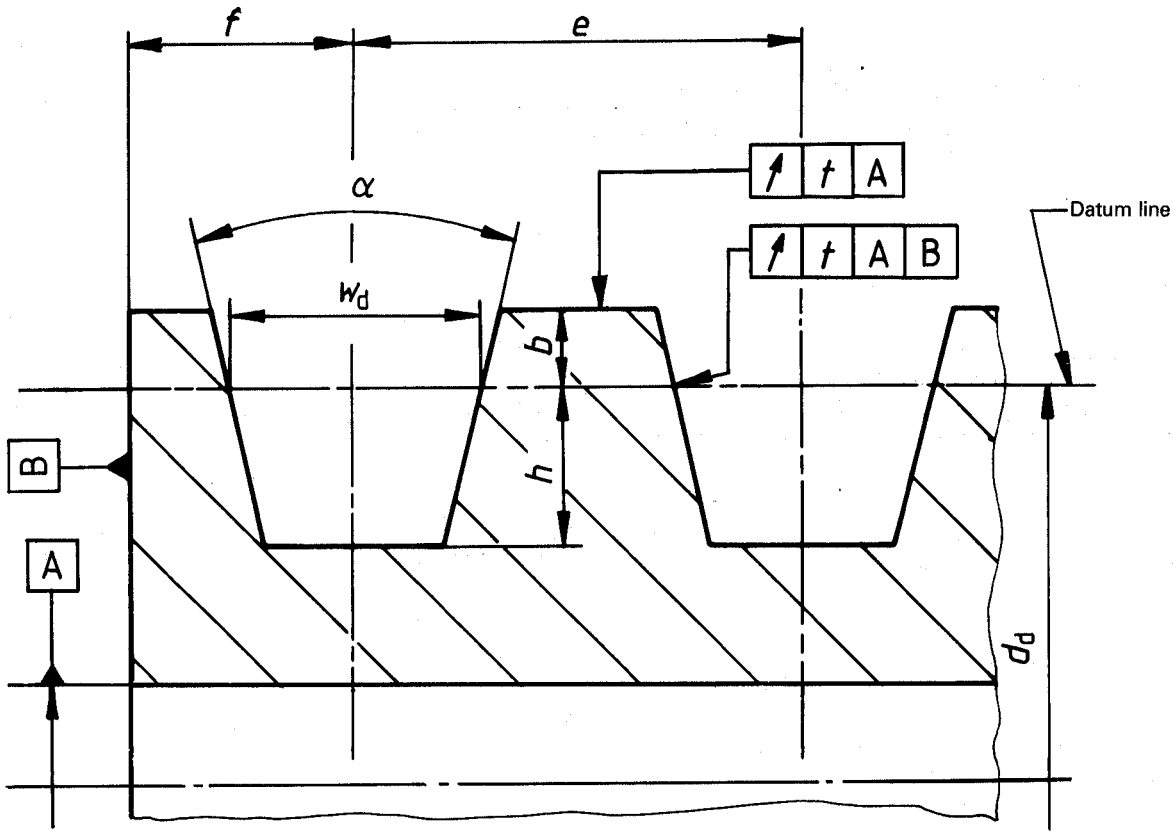
The tolerance on the groove angle shall be ± 0,5°.

The relationship of groove angle, α, to datum diameter, d_d, is given in table 4.

1) To be published. (Revision of ISO 255 : 1981.)

6 Dimensions of the groove profiles

The dimensions of groove profiles are shown on figure 1 and specified in table 2.



NOTES

1 The axial and radial circular run-out tolerances are shown in accordance with ISO 1101.

2 For the values of t, see table 3.

Figure 1

Table 2

Dimensions in millimetres

Groove profiles		w_d	b	h	e[1]	Tolerance on e[2]	Sum of deviations of e[3]	f[4]
Classical V-belts	Narrow V-belts		min.	min.				min.
Y		5,3	1,6	4,7	8	± 0,3	± 0,6	6
Z	SPZ	8,5	2	7 9	12	± 0,3	± 0,6	7
A	SPA	11	2,75	8,7 11	15	± 0,3	± 0,6	9
B	SPB	14	3,5	10,8 14	19	± 0,4	± 0,8	11,5
C	SPC	19	4,8	14,3 19	25,5	± 0,5	± 1	16
D		27	8,1	19,9	37	± 0,6	± 1,2	23
E		32	9,6	23,4	44,5	± 0,7	± 1,4	28

1) The use of higher values for dimension e can be justified in certain special cases, for instance in the case of pressed sheet pulleys. Whenever certain types of pulleys include values of dimension e not in conformity with this International Standard, their use with a standardized pulley may require caution.

2) The tolerances apply to the distance between the axes of two consecutive grooves.

3) The sum of all deviations from the nominal value e for all grooves in any one pulley shall not exceed the value stated in the table.

4) Variations in the value f should be taken into consideration in the alignment of the pulleys.