



SLOVENSKI STANDARD

SIST ISO 2790:2012

01-oktober-2012

Nadomešča:
SIST ISO 2790:1997

Jermenski pogoni - Klinasti jermeni za avtomobilsko industrijo in pripadajoče jermenice - Mere

Belt drives - V-belts for the automotive industry and corresponding pulleys - Dimensions

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Transmissions par courroies - Courroies trapézoïdales pour la construction automobile et poulies correspondantes - Dimensions

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Ta slovenski standard je istoveten z: ISO 2790:2004

ICS:

21.220.10	Jermenski pogoni in njihovi deli	Belt drives and their components
43.060.10	Blok motorja in notranji deli motorja	Engine block and internal components

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en

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INTERNATIONAL STANDARD

**ISO
2790**

Fourth edition
2004-09-15

Belt drives — V-belts for the automotive industry and corresponding pulleys — Dimensions

*Transmissions par courroies — Courroies trapézoïdales pour la
construction automobile et poulies correspondantes — Dimensions*

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Reference number
ISO 2790:2004(E)

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ISO 2790:2004(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.

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 2790 was prepared by Technical Committee ISO/TC 41, *Pulleys and belts (including veebelts)*, Subcommittee SC 1, *Friction*.

This fourth edition cancels and replaces the third edition (ISO 2790:1989), subclauses 4.1, 4.2 and 5.1, Tables 1, 2, 4 and 5, of which have been technically revised and a new Figure 5 added.

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Belt drives — V-belts for the automotive industry and corresponding pulleys — Dimensions

1 Scope

This International Standard specifies the requirements for belts and pulleys for V-belt drives used for driving auxiliaries of internal combustion engines for the automotive industry.

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 1081, *Belt drives — V-belts and V-ribbed belts, and corresponding grooved pulleys — Vocabulary*

ISO 8370-1:1993, *Belt drives — Dynamic test to determine pitch zone location — Part 1: V-belts*

ISO 9608, *V-belts — Uniformity of belts — Test method for determination of centre distance variation*

3 Terms, definitions and symbols

For the purposes of this document, the terms, definitions and symbols relating to drives using V-belts (i.e. belts and grooved pulleys) defined in ISO 1081 apply.

4 Belts

4.1 General

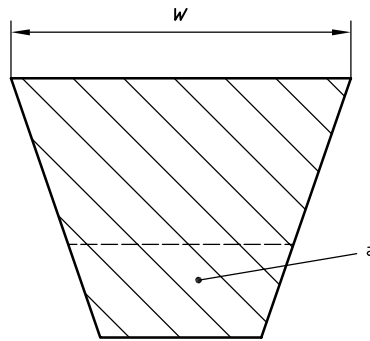
A belt is defined by its cross-section (groove profile AV 10 to AV 17) and by its effective length, in millimetres, measured under specified conditions.

4.2 Cross-section and pitch zone

A cross-section of a belt is defined by the nominal top width, w (see Figure 1 and Table 1).

The position of the belt pitch zone in the pulley groove is defined by the effective line differential, b_e (see Figure 4 and Table 1).

The nominal belt included angle is 40° unless agreed otherwise between customer and belt manufacturer.



^a Notched (optional).

Figure 1 — Profile of the belt

Table 1 — Dimensions of belt cross-sections

Dimensions in millimetres

Parameter	Symbol	AV 10		AV 13		AV 17	
		Wrapped belt	Raw-edged belt	Wrapped belt	Raw-edged belt	Wrapped belt	Raw-edged belt
Nominal top width	w	10	10	13	13	17	17
Effective line differential	b_e	^a	^a	^a	^a	^a	^a

^a Values of b_e for the different types of belt are not standardized. They can be determined in accordance with ISO 8370-1:1993, 7.2.

4.3 Measurement of the effective length of a belt and its ride-out

Set the belt up on two identical pulleys, having the dimensions shown in Table 2 and mounted on a horizontal bench, and apply to the sliding pulley the measurement tension F (see Figure 2).

Rotate the belt at least twice to seat it properly.

The effective length of the belt, L_e , is given by the equation:

$$L_e = E_{\max} + E_{\min} + C_e$$

where

E_{\max} is the measured maximum centre distance of the pulleys;

E_{\min} is the measured minimum centre distance of the pulleys;

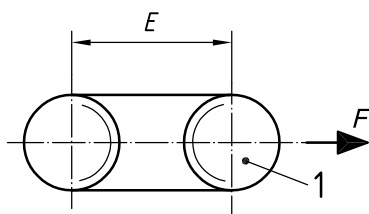
C_e is the effective circumference of one pulley:

$$C_e = \pi d_e = 300 \text{ mm}$$

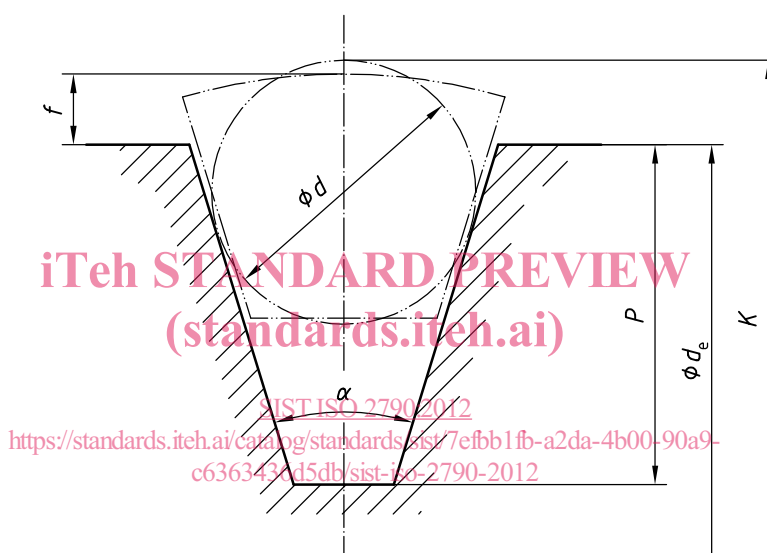
The ride-out, f , of the belt (see Figure 3) shall be such that:

$$0 < f < 2,4 \text{ mm}$$

for each type of belt.

**Key**

1 sliding pulley

Figure 2 — Measuring device**Figure 3 — Groove for measuring V-belts****Table 2 — Dimensions of checking pulley and measuring force**

Parameter	Symbol	Unit	Groove profiles		
			AV 10	AV 13	AV 17
Groove angle	α	degrees	$36^\circ \pm 0^\circ 10'$	$36^\circ \pm 0^\circ 10'$	$34^\circ \pm 0^\circ 10'$
Effective diameter	d_e	mm	95,49	95,49	95,49
Outside diameter	d_o	mm	$95,5 \pm 0,2$	$95,5 \pm 0,2$	$95,5 \pm 0,2$
Diameter of balls or rods for checking the pulley grooves	d	mm	$7,95_{-0,025}^0$	$11,124_{-0,025}^0$	$14,288_{-0,025}^0$
Distance from external tangent planes to ball or rods	K	mm	$99,31 \pm 0,05$	$103,53 \pm 0,05$	$103,71 \pm 0,05$
Minimum depth of groove	P	mm	11	13,75	16
Tension ^a	F	N	267	267	356

^a The tension on each strand of the belt shall be equal to one half of the values shown.