DRAFT INTERNATIONAL STANDARD

ISO/DIS 9982

ISO/TC **41**/SC **1**

Secretariat: **AFNOR**

Voting begins on:
2021-02-15

Voting terminates on:
2021-05-10

Belt drives — Pulleys and V-ribbed belts for industrial applications — PH, PJ, PK, PL and PM profiles: dimensions

Transmissions par courroies — Poulies et courroies striées pour des applications industrielles — Dimensions — Profils PH, PJ, PK, PL et PM

ICS: 21.220.10

This document is circulated as received from the committee secretariat.

Reference number
ISO/DIS 9982:2021(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This third edition cancels and replaces the second edition (ISO 9982:1998), which has been technically revised. The main changes compared to the previous edition are as follows:

— adding of ISO 1081 in the normative references;

— updating of the normative reference listing;

— clarification made where the standard is not for elastic belts;

— revision of 5.3.6 to reference ISO 254 for pulley roughness;

— removing of the current roughness values;

— specification of the maximum pulley groove radius (Table 2);

— specification of the minimum pulley groove radius of PH and PJ profiles (Table 2);

— specification of the maximum belt groove bottom radius of PH and PJ profiles (Table 8);

— specification of the measuring pulleys and measuring forces of PK, PL and PM profiles (Table 9).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

A V-ribbed belt drive is composed of an endless belt with a longitudinally ribbed traction surface which engages and grips, by friction, pulley grooves of similar shape. The belt ribbed surface fits the pulley grooves to make nearly total contact.

Belt drives — Pulleys and V-ribbed belts for industrial applications — PH, PJ, PK, PL and PM profiles: dimensions

1 Scope

This document specifies the principal dimensional characteristics of V-ribbed pulley groove profiles, together with the corresponding endless V-ribbed belts, of PH, PJ, PK, PL and PM profiles which are used for general industrial applications except elastic belts.

The PK belt was originally established for automotive accessory drive applications and ISO 9981 deals specifically with that particular field.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Symbols

For the purpose of this document, the symbols given in Table 1 apply.

Table 1 — Symbols

Symbol	Designation	Unit
b	nominal width of the belt	mm
b_e	effective line differential	mm
d_B	checking ball or rod diameter	mm
d_e	effective diameter	mm
d_o	outer diameter	mm
d_p	pitch diameter	mm
E	centre distance between the pulleys	mm
E_{max}	maximum centre distance between the pulleys;	mm
E_{min}	minimum centre distance between the pulleys.	mm
ΔE	centre distance variation	mm
e	groove pitch	mm
F	measuring force per rib	N
f	distance between the outside of the rim and the axis of the first groove	mm
h	belt height	mm
K	diameter over balls or rods	mm

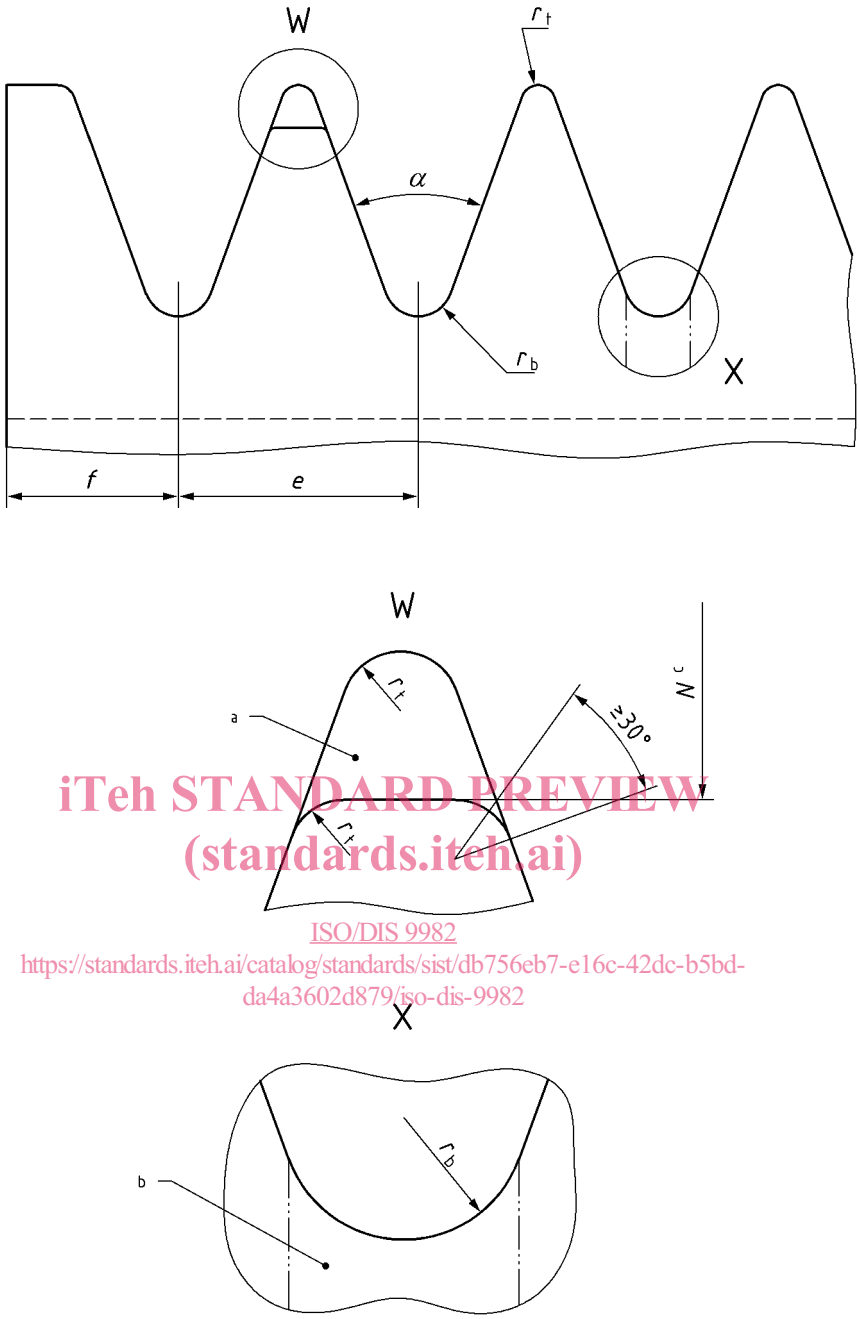
Table 1 *(continued)*

Symbol	Designation	Unit
L_e	effective length	mm
N	half the difference between the outer diameter and the diameter over balls or rods	mm
n	number of ribs	—
p_b	rib pitch	mm
r_b	groove bottom radius of pulleys or rib tip radius of belts	mm
r_t	groove transitional radius of pulleys or rib bottom radius of belts	mm
Ra	surface roughness	µm
U_e	pulley effective circumference	mm
x	half the difference between the effective diameter and the diameter over balls or rods	mm
α	groove or rib angle	°

5 Pulleys

5.1 Groove dimensions and tolerances

The groove dimensions of PH, PJ, PK, PL and PM belts are shown in Figure 1 and 2, and given in Table 2.



a The actual configuration of the tip profile can lie anywhere between the maximum and minimum indicated. Any configuration shall have a transitional radius r_t corresponding to a 30° minimum arc tangent to the groove sidewall.

b The configuration of the groove bottom below r_b is optional.

c See Figure 2.

NOTE View W represents the pulley tip profile and view X represents the pulley groove bottom.

Figure 1 — Cross-section of pulley grooves