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Belt drives — V-ribbed belts for the automotive industry — Fatigue test

Transmissions par courroies — Courroies striées pour la construction automobile — Essai de fatigue

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Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Symbols **1**
5 Principle **2**
6 Apparatus **7**
7 Test room conditions **9**
8 Test method **10**
8.1 Test conditions 10
8.1.1 Test with fixed belt tensioning force 10
8.1.2 Test with constant belt tensioning force 10
8.2 Procedure 11
8.2.1 Preparation 11
8.2.2 Test 11
8.2.3 Retensioning 12
9 Test report **12**
Bibliography **14**

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Foreword

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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 11749:2014), which has been technically revised.

The main changes are as follows:

— addition of Table 1 with symbols;

— addition of the test condition with constant belt tensioning force in 8.1.2 and 8.2.1.3;

— change in pulley surface roughness R_a to < 3,2 µm;

— revision of test pulley dimensions (Table 2).

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Belt drives — V-ribbed belts for the automotive industry — Fatigue test

1 Scope

This document specifies a dynamic test method for the quality control of V-ribbed belts (PK profile) which are used predominantly for accessory drive applications in the automotive industry.

The dimensional characteristics of the belts and of corresponding pulleys are the subject of ISO 9981.

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 terminology databases for use in standardization at the following addresses:

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

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

4 Symbols

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

Table 1 — Symbols

Symbols	Designation	Unit
b_e	effective line differential	mm
d_B	checking ball or rod diameter	mm
d_e	effective diameter	mm
d_{e1}	effective diameter of driving and driven pulleys	mm
d_{e2}	effective diameter of idler pulley	mm
d_p	pitch diameter	mm
d_{r3}	outside diameter of reverse bending idler pulley	mm
e	groove pitch	mm
f	lateral distance	mm
F	belt tensioning force	N
g	additional slip	%
i_f	rotational frequency ratio at measurement of the additional slip	—
i_o	rotational frequency ratio at the initial	—
k	standard value to calculate belt tensioning force	N/kW
K	diameter over balls or rods	mm
M	torque load	Nm

[a] Rotations per minute.

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