
**Textile conveyor belts — Determination
of the net length of an endless (spliced)
conveyor belt**

*Courroies transporteuses à carcasse textile — Méthode de mesurage
de la longueur nette d'une courroie transporteuse sans fin (jonctionnée)*

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Published in Switzerland

Contents		Page
Foreword		iv
1	Scope	1
2	Apparatus	1
3	Procedure	1
4	Calculation and expression of results	2
5	Test report	2
Bibliography		3

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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.

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 16851 was prepared by Technical Committee TC 41, *Pulleys and belts (including veebelts)*, Subcommittee SC 3, *Conveyor belts*.

This second edition cancels and replaces the first edition (ISO 16851:2004), which has been technically revised.

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Textile conveyor belts — Determination of the net length of an endless (spliced) conveyor belt

1 Scope

This International Standard specifies a method for determining the net length of an endless (spliced) conveyor belt.

It applies to all types of construction of conveyor belting with the exception of belts containing steel cord reinforcement. It is not suitable or valid for light conveyor belts described in ISO 21183-1^[3].

2 Apparatus

2.1 Steel tape measure, graduated in millimetres.

For measurement to be accurate, it is essential that the tape be calibrated or subject to inspection.

3 Procedure

Lay out the endless conveyor belt so that it is flat and free from tension.

Using the flat part of the belt only, as indicated in Figure 1, place a mark on one edge of the inside surface at the point at which measurements are to begin (i.e. point A).

Mark point B further along the flat part of the belt as follows:

- a) for belts up to 30 m in circumferential length, the individual measurements shall be between one quarter and one third of the nominal circumferential length, except the final individual measurement, which may be less than one quarter of the nominal circumferential length;
- b) for belts greater than 30 m in circumferential length, the individual measurements shall be between 7,5 m long and not more than one third of the nominal circumferential length, except the final individual measurement, which may be less than 7,5 m long.

Measure and record the distance AB, between points A and B.

Rotate the belt and make consecutive measurements along the inside surface of the flat part of the belt only. Designate the individual measurements as AB, BC, CD, etc., continuing until the last measurement XA can be taken.

In the event of a dispute, measurements should be taken at one of the standard atmospheres given in ISO 18573^[2], as agreed between the supplier and customer.

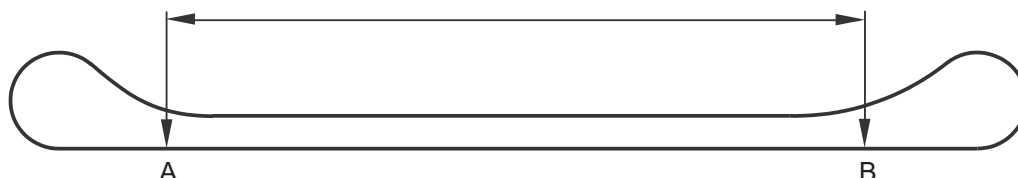


Figure 1 — Measurement of the length of an endless conveyor belt

4 Calculation and expression of results

Calculate the net endless length, l_e , of the conveyor belt as follows:

$$l_e = [\overline{AB} + \overline{BC} + \overline{CD} \dots + \overline{XA}] - \pi d$$

where d is the thickness of the belt.

By taking measurements on the flat part of the belt only, the length along the neutral axis is obtained. To allow for the compression of the inside surface, it is necessary to deduct the amount πd in order to obtain the true inside length.

Express the results in millimetres.

NOTE Tolerances on lengths of endless conveyor belts are given in ISO 14890^[1].

5 Test report

The test report shall include the following:

- a) reference to this International Standard, i.e. ISO 16851;
- b) identification of the belt tested;
- c) net length of the conveyor belt, in millimetres;
- d) date on which the belt is measured.

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Bibliography

- [1] ISO 14890, *Conveyor belts — Specification for rubber- or plastics-covered conveyor belts of textile construction for general use*
- [2] ISO 18573, *Conveyor belts — Test atmospheres and conditioning periods*
- [3] ISO 21183-1, *Light conveyor belts — Part 1: Principal characteristics and applications*

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ICS 53.040.20

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