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**Steel wire ropes — Determination of  
the transverse rigidity of steel wire  
ropes under no axial load condition**

*Câbles en acier — Détermination de la rigidité transversale des câbles  
en acier sans charge axiale*

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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.

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. [www.iso.org/directives](http://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. [www.iso.org/patents](http://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.

The committee responsible for this document is ISO/TC 105, *Steel wire ropes*.

This corrected version of ISO 16839:2013 incorporates the modification of Formula (1) in 7.2.

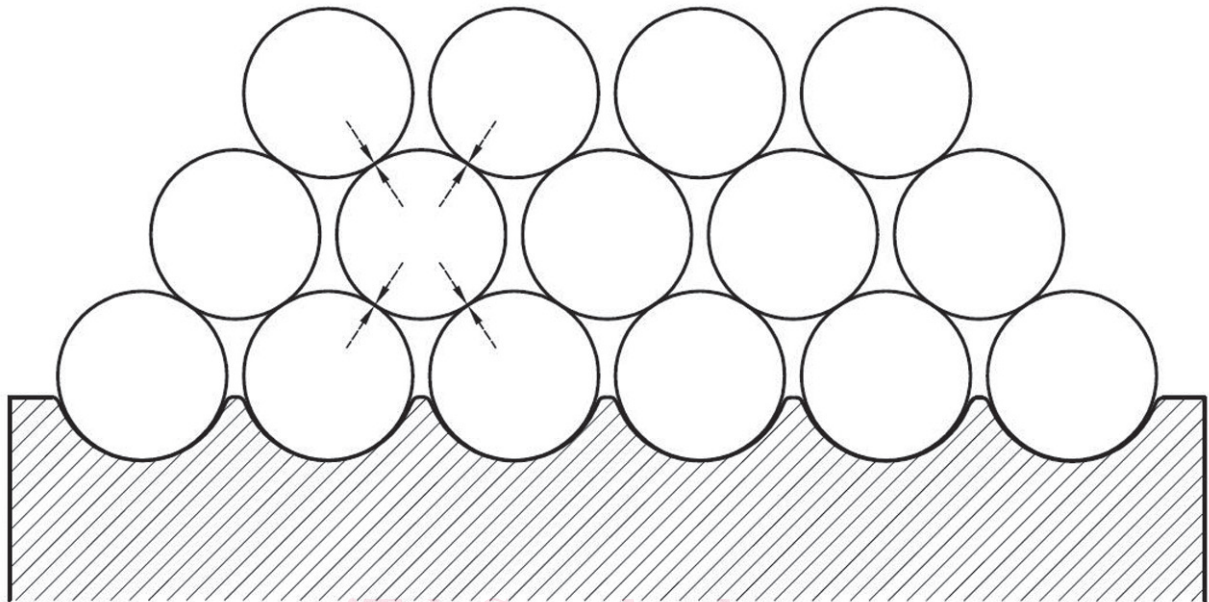
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## Introduction

In a multilayer spooling, wire ropes are subjected to lateral pressure as shown in [Figure 1](#).



**Figure 1 — Schematic presentation of the pyramidal form of layers in a multilayer spooling**

The cross-section shows the pyramidal form of layers (parallel sections) with the contact points of the rope to its surrounding turns. The lateral pressure is induced to the rope at four contact points. These working and stress conditions can be simulated with the test set-up shown in this International Standard.

ISO 16839:2013

This International Standard is intended to provide manufacturers, suppliers and independent testing bodies with a uniform testing method for determining the resistance against lateral deformation of steel wire rope without axial load.

Lateral deformation values depend on the condition of the rope, and it is thus necessary to know the actual condition under which the deformation is to be, or has been, determined.

The three usual conditions are

- initial (as manufactured),
- partially bedded, or
- final bedded.

