Irish Standard
I.S. EN 16812:2016

Textiles and textile products - Electrically conductive textiles - Determination of the linear electrical resistance of conductive tracks

I.S. EN 16812:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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This document is based on:	*Published:*
EN 16812:2016	2016-04-27

This document was published under the authority of the NSAI and comes into effect on:	ICS number:
2016-05-15	59.080.01
	NOTE: If blank see CEN/CENELEC cover page

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National Foreword

I.S. EN 16812:2016 is the adopted Irish version of the European Document EN 16812:2016, Textiles and textile products - Electrically conductive textiles - Determination of the linear electrical resistance of conductive tracks

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16812

April 2016

ICS 59.080.01

English Version

Textiles and textile products - Electrically conductive textiles - Determination of the linear electrical resistance of conductive tracks

Textiles et produits textiles - Textiles électriquement conducteurs - Détermination de la résistance électrique linéaire des pistes conductrices

Textilien und textile Erzeugnisse - Elektrisch leitfähige Textilien - Bestimmung des linearen elektrischen Widerstands von Leiterbahnen

This European Standard was approved by CEN on 13 February 2016.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 16812:2016) has been prepared by Technical Committee CEN/TC 248 “Textiles and textile products”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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1 Scope

This European Standard describes a test method for the determination of the linear electric resistance of conductive tracks for textile structures or intended for application in/ to textiles, e.g. yarns, printed or coated tracks, ropes, ribbons and webbing.

This European Standard is designed for materials showing ohmic behaviour.

This European Standard is designed for conductive tracks where electrical contact between the measurement electrodes and the conductive track is possible.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12127, *Textiles — Fabrics — Determination of mass per unit area using small samples*

EN ISO 139, *Textiles — Standard atmospheres for conditioning and testing (ISO 139)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
textile-based electrically conductive track
electrically conductive part of the textile having a length to width ratio of minimum 10 to 1

Note 1 to entry: Examples for textile based electrically conductive tracks and how to determine their length (L) and width (w) are given in Figure 1

3.2
Ohmic behaviour
conductor's behaviour following Ohm's law

Note 1 to entry: Ohms law is a fundamental law of electricity, stating that the voltage at the terminals of an ideal resistor is proportional to the current in the resistor (voltage U across the terminals equals resistance R times current I) [www.electropedia.org IEV ref 131–15–08].

Note 2 to entry: In this standard 'U' is used for the measured voltage, according to the IEC electropedia (www.electropedia.org).

3.3
linear electrical resistance R_L
electrical resistance per unit length of a track, as determined in this standard (expressed in ohm/m)

3.4
wire
lead or measurement point used in the four point Kelvin method

3.5
electrode
contact between the measurement wire and the sample