



**National Standards Authority of Ireland**

**IRISH STANDARD**

**I.S. EN 10342:2005**

ICS 29.030  
77.140.50

**MAGNETIC MATERIALS - CLASSIFICATION  
OF SURFACE INSULATIONS OF ELECTRICAL  
STEEL SHEET, STRIP AND LAMINATIONS**

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*This Irish Standard was  
published under the  
authority of the National  
Standards Authority of  
Ireland and comes into  
effect on:  
August 5, 2005*

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EUROPEAN STANDARD

**EN 10342**

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2005

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ICS 29.030; 77.140.50

English version

## Magnetic materials - Classification of surface insulations of electrical steel sheet, strip and laminations

Matériaux magnétiques - Classification des isolations de surface des tôles, bandes et lamelles magnétiques en acier

Magnetische Werkstoffe - Einteilung der Isolationen auf Elektroblech und -band und daraus gefertigten Stanzteilen

This European Standard was approved by CEN on 12 May 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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<b>Contents</b>		<b>Page</b>
<b>Foreword</b> .....		<b>3</b>
<b>1 Scope</b> .....		<b>4</b>
<b>2 Normative references</b> .....		<b>4</b>
<b>3 Terms and definitions</b> .....		<b>4</b>
<b>4 Classification of surface insulations of electrical steel, strip and laminations</b> .....		<b>5</b>
<b>Bibliography</b> .....		<b>7</b>

## **Foreword**

This document (EN 10342:2005) has been prepared by Technical Committee ECISS/TC 24 “Electrical steel sheet and strip qualities - Qualities, dimensions, tolerances and specific tests”, the secretariat of which is held by DIN.

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 December 2005, and conflicting national standards shall be withdrawn at the latest by December 2005.

This document is technically equivalent to IEC 60404-1-1.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## EN 10342:2005 (E)

### 1 Scope

This document establishes a classification of surface insulations for electrical steel sheet, strip and laminations according to their general composition, relative insulating ability and function.

These surface insulations are either oxide layers or applied coatings.

The purpose of this classification is to create a nomenclature for the various types of surface insulations and to assist users of surface insulations by providing general information about the chemical nature and use of the surface insulations.

It is not the intent of this classification to specify insulation requirements in terms of specific values of surface insulation resistance. Such requirements are to be agreed between the purchaser and the steel producer, where applicable.

The classification is to be used in conjunction with the various specifications for cold rolled electrical steels (see the European Standards listed in Clause 2).

### 2 Normative references

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

EN 10106, *Cold rolled non-oriented electrical steel sheet and strip delivered in the fully processed state*

EN 10107, *Grain-oriented electrical steel sheet and strip delivered in the fully processed state*

EN 10126, *Cold rolled electrical non-alloyed steel sheet and strip delivered in the semi-processed state*

EN 10165, *Cold rolled electrical alloyed steel sheet and strip delivered in the semi-processed state*

EN 10265, *Magnetic materials – Specification for steel sheet and strip with specified mechanical properties and magnetic permeability*

EN 10282:2001, *Magnetic materials – Method of test for the determination of surface insulation resistance of electrical sheet and strip*

EN 10303, *Thin magnetic steel sheet and strip for use at medium frequencies*

IEC 60050-221:1990, *International Electrotechnical Vocabulary — Chapter 221: Magnetic materials and components*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-221:1990 and in EN 10106, EN 10107, EN 10126, EN 10165, EN 10265, EN 10282:2001 and EN 10303 apply.

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