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Irish Standard
I.S. EN 10245-3:2011

Steel wire and wire products - Organic coatings on steel wire - Part 3: PE coated wire

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EUROPEAN STANDARD

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Stahldraht und Drahterzeugnisse - Organische Beschichtungen auf Stahldraht - Teil 3: PE-beschichteter Draht

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Foreword

This document (EN 10245-3:2011) has been prepared by Technical Committee ECISS/TC 106 “Wire rod and wires”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

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.

This document supersedes EN 10245-3:2001.

This standard is made up of the following parts:

— *Part 1: General Rules*;

— *Part 2: PVC finished wire*;

— *Part 3: PE coated wire*;

— *Part 4: Polyester coated wire*;

— *Part 5: Polyamide coated wire*.

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

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Introduction

This European Standard for organic coatings for steel wire covers the requirements of a general nature and applies also to coatings for which no specific requirements have been established in the subsequent parts of this standard.

The subsequent parts of this standard deal more specifically with clearly defined coatings or groups of coatings. These coatings may have their own particular methods of application and their individual requirements which are specified in these parts of this standard, in other standards or in manufacturers data sheets.

Because the standard specifies requirements and tests not only for the coating but also for the coating material, it has proved not practical to put all the requirements in one clause and all the tests in another one. Following structure has been chosen in order to limit complexity and to facilitate the use.

In writing this series of standards consideration has been given to the nomenclature and transformation of organic coating materials as applied to steel wire products. These organic coating materials may, on application to wire and by their integration into the finished wire product, change their characteristics and properties.

This standard specifies characteristics and tests not only for the organic coating but also for the coating materials both before and after their application to steel wire and wire products. In addition it specifies the requirements for performance levels and testing methods on organic coating material which have become an integral and permanent part of the finished wire product. Therefore it has proven not to be practical to put all requirements in one clause and all the tests in another one.

To aid continuity and in order to limit complexity, the following structure has been chosen for this standard:

— **Clause 4** deals with the characteristics and testing methods of organic coating material as supplied by the manufacturer for the purposes of its application to the wire product.

  Tests described in this section are intended to be carried out by the organic coating material manufacturer or the applicator **before** the coating operation.

— **Clause 5** relates to the characteristics and testing methods for the "organic coating" when the organic coating material has been applied to and has become an integral part of the finished wire. Consequently tests are intended to be in the main carried out by the coating "applicators".

— **Clause 6** defines the performance requirements and testing methods on the "organic coating" of the finished wire product, and where this is not possible, tests will be carried out on "coated" panels.

1 Scope

Complementary to EN 10245-1, this European Standard specifies the characteristics and requirements for steel wire and wire products coated with polyethylene (PE).

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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 10021, *General technical delivery conditions for steel products*

EN 10204, *Metallic products — Types of inspection documents*

EN 10245-1:2008, *Steel wire and wire products — Organic coatings on steel wire — Part 1: General rules*

EN ISO 1133:2005, *Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics (ISO 1133:2005)*

EN ISO 3668, *Paints and varnishes — Visual comparison of the colour of paints (ISO 3668:1998)*

EN ISO 4892-1, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance (ISO 4892-1:1999)*

EN ISO 4892-2, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps (ISO 4892-2:2006)*

EN ISO 4892-3, *Plastics — Methods of exposure to laboratory light sources — Part 3: Fluorescent UV lamps (ISO 4892-3:2006)*

ISO 813, *Rubber, vulcanized or thermoplastic — Determination of adhesion to a rigid substrate — 90 degree peel method*

ISO 4582, *Plastics — Determination of changes in colour and variations in properties after exposure to daylight under glass, natural weathering or laboratory light sources*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 10245-1:2008 and the following apply.

3.1
PE coating
coating on steel wire or wire products made from organic coating material comprising a polymer base compound made up of at least 85 % ethylene (Ethene) which constitutes essentially the only monomer

4 Types of PE coating materials

Polyethylene coatings are classified into three types according to their density.

— Type 1 : low density (0,910 g/cm^3 to 0,925 g/cm^3)

— Type 2 : medium density (0,926 g/cm^3 to 0,940 g/cm^3)

— Type 3 : high density (0,941 g/cm^3 to 0,965 g/cm^3)

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