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NSAI Standards

Irish Standard
I.S. EN 4650:2010

Aerospace series - Wire and cable marking process, UV Laser

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I.S. EN 4650:2010

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4650

April 2010

ICS 49.060

English Version

Aerospace series - Wire and cable marking process, UV Laser

Série aérospatiale - Procédé de marquage des fils et câbles par laser UV

Luft- und Raumfahrt - Leitungs- und Kabelkennzeichnungsverfahren durch UV Laser

This European Standard was approved by CEN on 6 February 2010.

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Foreword

This document (EN 4650:2010) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

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of an identical text or by endorsement, at the latest by October 2010, and conflicting national standards shall be withdrawn at the latest by October 2010.

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Introduction

Ultraviolet (UV) laser wire marking was developed in 1987 to provide a safe, permanent means of marking thin wall insulations; it is now the aerospace industry standard method for marking wire identification codes on to the surface of electrical wires and cables. It provides a simple, convenient, environmentally friendly, cost effective means of marking and identifying wires and jacketed cables. While a few larger airframe manufacturers have developed process standards and specifications for their own use during the introduction of this technology, there has been variability in the issues covered within these specifications and there has been no comprehensive standard process document developed for general use. The intended use of this document is to serve directly as a process standard for use by laser wire marking concerns. It can also serve as a model set of comprehensive requirements for use by organizations who intend to develop in-house laser marking process specifications or serve as a means for evaluating the adequacy and completeness of such specifications by procuring activities.

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1 Scope

This standard is applicable to the marking of aerospace vehicle electrical wires and cables using ultraviolet (UV) lasers. This standard specifies the process requirements for the implementation of UV laser marking of aerospace electrical wire and cable and fibre optic cable to achieve an acceptable quality mark using equipment designed for UV laser wire marking of identification codes on aircraft wire and cable subject to EN 3475-100, *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 100: General*. Wiring specified as UV laser markable and which has been marked in accordance with this standard will conform to the requirements of EN 3838.

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 3475-100, *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 100: General*

EN 3475-705, *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 705: Contrast measurement*

EN 3475-706, *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 706: Laser markability*

EN 3838, *Aerospace series — Requirements and tests on user-applied markings on aircraft electrical cables* [1)]

EN ISO 10012, *Measurement management systems — Requirements for measurement processes and measuring equipment (ISO 10012:2003)*

[1)] Published as ASD Prestandard at the date of publication of this standard.

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