National Standards Authority of Ireland

IRISH STANDARD

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National Standards
Authority of Ireland
Dublin 9
Ireland

Tel: (01) 807 3800
Tel: (01) 807 3838

AEROSPACE SERIES - INSERTS, SCREW THREAD, HELICAL COIL, SELF-LOCKING - TECHNICAL SPECIFICATION

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Descriptors: Aircraft industry, screw thread, self-locking screw thread, definition, quality assurance, acceptance testing, specification, characteristic

English version

Aerospace series
Inserts, screw thread, helical coil, self-locking
Technical specification

Série aérospatiale
Filets rapportés à freinage interne
Spécification technique

Luft- und Raumfahrt
Draht-Gewindeeinsätze, selbstsichernd
Technische Lieferbedingungen

This European Standard was approved by CEN on 199x-xx-xx. 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.

The European Standards exist 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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: Rue de Stassart, 36, B - 1050 Bruxelles

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Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries 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 AECMA, 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 March 1999, and conflicting national standards shall be withdrawn at the latest by March 1999.

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

Contents list

1 Scope

This standard specifies the characteristics, qualification and acceptance requirements for self-locking helical coil screw thread inserts in NI-PH2801 or FE-PA3004, with or without surface coating.

It is applicable whenever referenced.

2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

ISO 2859-1	Sampling procedures for inspection by attributes - Part 1: Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection
ISO 3353	Aerospace - Rolled threads for bolts - Lead and runout requirements
ISO 3534-1977	Statistics - Vocabulary and symbols
ISO 4288	Rules and procedures for the measurement of surface roughness using stylus instruments
ISO 5855-2	Aerospace - MJ threads - Part 2: Limit dimensions for bolts and nuts
EN 2398	Heat resisting steel FE-PA92-HT - $R_m \geq 900$ MPa - Bars for machined bolts - D $\leq$ 25 mm - Aerospace series [1)]
EN 2404	Heat resisting nickel base alloy NI-P100-HT - Solution treated and precipitation treated - Bars - Aerospace series [1)]
EN 2945	Aerospace series - Inserts, screw thread, helical coil, self-locking - Assembly procedure [2)]
EN 3042	Aerospace Series - Quality assurance - EN aerospace products - Qualification procedure
EN 3044	Aerospace series - Installation holes and procedures for inserts, screw thread, helical coil, self-locking - Design standard [2)]

1) Published as AECMA Standard at the date of publication of this standard
2) Published as AECMA Prestandard at the date of publication of this standard

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 Batch

Quantity of finished thread inserts, of the same type and same diameter, produced from a material obtained from the same melt, manufactured in the course of the same production cycle, following the same manufacturing route and having undergone all the relevant heat treatments and surface treatments

3.2 Surface discontinuities

3.2.1 Crack: rupture in the material which may extend in any direction and which may be intercrystalline or transcrystalline in character

3.2.2 Seam: open surface defect

3.2.3 Lap: surface defect caused by folding over metal fins or sharp corners and then compressing them into the surface

3.2.4 Inclusions: non-metallic particles originating from the material manufacturing process. These particles may be isolated or arranged in strings.

3.3 Test temperature

Ambient temperature, unless otherwise specified

3.4 Simple random sampling

The taking of *n* items from a population of *N* items in such a way that all possible combinations of *n* items have the same probability of being chosen [3)]

3.5 Critical defect

A defect that, according to judgement and experience, is likely to result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the considered product, or that is likely to prevent performance of the function of a major end item [3)]

3.6 Major defect

A defect other than critical, that is likely to result in a failure or to reduce materially the usability of the considered product for its intended purpose [3)]

3.7 Minor defect

A defect that is not likely to reduce materially the usability of the considered product for its intended purpose, or that is a departure from established specification having little bearing on the effective use or operation of this product [3)]

3.8 Sampling plan

A plan according to which one or more samples are taken in order to obtain information and possibly to reach a decision [3)]

3.9 Limiting quality

In a sampling plan, the quality level which corresponds to the specified 10 % probability of acceptance