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Aerospace series - Paints and varnishes - Cold curing intermediate coat

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 4476

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English Version

Aerospace series - Paints and varnishes - Cold curing intermediate coat

Série aérospatiale - Peintures et vernis - Couche intermédiaire polymérisant à température ambiante

Luft- und Raumfahrt - Beschichtungsstoffe - Zwischenbeschichtung raumtemperaturhärtend

This European Standard was approved by CEN on 26 May 2019.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

This document (EN 4476:2019) 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of an identical text or by endorsement, at the latest by March 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

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

This document supersedes EN 4476:2011

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The intermediate coating to this document incorporated in a paint scheme between primer and topcoat finish will allow selective removal of top coat finish using a benzyl alcohol-based paint remover. An example for the composition of a benzyl alcohol based is given in Annex C. If not otherwise agreed between manufacturer and purchaser of intermediate coating benzyl alcohol mixtures diluted with approximate 60 % water can be used for testing.

The paint scheme, including this intermediate coating is intended for application to metallic and non-metallic surfaces to provide equivalent protection against corrosion, mechanical damage and resistance to aircraft fluids so that provided by a paint scheme consisting of primer and topcoat paint.

Primer and topcoat used in combination with intermediate coating to this standard has to be defined by customer. Pre-treatment of test specimens for primer paint application to be defined by customer.

Table 1 — Coatings 1)

Primer	
EN 2435-1 to EN 2435-5	Corrosion resistant chromated two component cold curing primer
EN 2436-1 to EN 2436-6	Corrosion resistant chromate free two component cold curing epoxy primer
EN 4687	Chromate free non corrosion inhibiting two components cold curing primer for military application
EN 4688	Corrosion inhibiting two components cold curing primer for military application
Top Coats	
EN 2434-1 to EN 2434-5	Two component cold curing polyurethane finish
EN 4689	Two components cold curing polyurethane finish - High flexibility and chemical agent resistance for military application

1) If not otherwise agreed between manufacturer and customer following primers and topcoats can be used for qualification of intermediate primer to this document.

1 Scope

This document specifies the requirements for an intermediate coat to be applied over a primer for aerospace applications and with a topcoat for aerospace applications on top.

The properties specified in this document are obtained on defined aluminium alloy test pieces prepared in accordance with EN 3837 and EN ISO 3270 and painted with primer listed in Table 1. Topcoat listed in Table 1 is to be applied on intermediate coat to this document. The ability of the material to be used for a specific application (e.g. alternative substrate, alternative primer, specific drying conditions, etc.) should be determined by supplementary tests to confirm that the requirements of this document are met.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2334, *Aerospace series — Chromic-sulphuric acid pickle of aluminium and aluminium alloys*

EN 2379, *Aerospace series — Fluids for assessment of non-metallic materials*

EN 2435 (all parts), *Aerospace series — Paints and varnishes — Corrosion resistant chromated two component cold curing primer*

EN 3837, *Aerospace series — Paints and varnishes — Nature and methods for surface preparation of test pieces in aluminium alloys* [2)]

EN 3840,*Aerospace series — Paints and varnishes — Technical specification*

EN 4160, *Aerospace series — Paints and varnishes — Determination of the effect of thermal exposure*

EN ISO 1513, *Paints and varnishes — Examination and preparation of test samples*

EN ISO 1518-1, *Paints and varnishes — Determination of scratch resistance — Part 1: Constant loading method*

EN ISO 1520, *Paints and varnishes — Cupping test*

EN ISO 2409, *Paints and varnishes — Cross-cut test*

EN ISO 2431, *Paints and varnishes — Determination of flow time by use of flow cups*

EN ISO 2811 (all parts), *Paints and varnishes — Determination of density*

EN ISO 2812-2*, Paints and varnishes — Determination of resistance to liquids — Part 2: Water immersion method*

2) Published as ASD-STAN Prestandard at the date of publication of this standard by AeroSpace and Defence industries Association of Europe - Standardization (ASD-STAN), http://www.asd-stan.org/

EN ISO 2884-1, *Paints and varnishes — Determination of viscosity using rotary viscometers — Part 1: Cone-and-plate viscometer operated at a high rate of shear*

EN ISO 3251, *Paints, varnishes and plastics — Determination of non-volatile-matter content*

EN ISO 3270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing*

EN ISO 3679, *Determination of flash point — Rapid equilibrium closed cup method*

EN ISO 9117-1, *Paints and varnishes — Drying tests — Part 1: Determination of through-dry state and through-dry time*

EN ISO 9117-3, *Paints and varnishes — Drying tests — Part 3: Surface-drying test using ballotini*

EN ISO 9514, *Paints and varnishes — Determination of the pot life of multicomponent coating systems — Preparation and conditioning of samples and guidelines for testing*

EN ISO 11890-1, *Paints and varnishes — Determination of volatile organic compound (VOC) content — Part 1: Difference method*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 3847, *Liquid flow measurement using end depth method in channels with a free overfall*

ISO 4618, *Paints and varnishes — Terms and definitions*

ISO 18481, *Liquid flow measurement using end depth method in channels with a free overfall*

SAE MA 4872 A, *Paint Stripping of Commercial Aircraft — Evaluation of Materials and Process*