SIST

SLOVENSKI STANDARD
SIST EN 2436-003:2009

01-junij-2009

Aeronavtika - Barve in laki - Dvokomponentni temeljni premaz, korozijsko obstojen, brez kroma, ki se suĝi pri sobni temperaturi - 003. del: Visoka odpornost proti koroziji in tekoļ inam

Aerospace series - Paints and varnishes - Corrosion resistant chromate-free two component cold curing primer - Part 003: High corrosion and fluid resistance

Luft- und Raumfahrt - Beschichtungsstoffe - Korrosionsbeständiger Zweikomponenten-Primer, kalthärtend chromatfrei - Teil 003: Hohe Beständigkeit gegen Korrosion und Flüssigkeiten

Série aérospatiale - Peintures et vernis - Peinture primaire anti-corrosion sans chromate à deux composants polymérisant à température ambiante - Partie 003 : Haute résistance à la corrosion et aux fluides

Ta slovenski standard je istoveten z: **EN 2436-003:2006**

ICS:

49.040	Prevleke in z njimi povezani postopki, ki se uporabljajo v letalski in vesoljski industriji	Coatings and related processes used in aerospace industry

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 2436-003

June 2006

ICS 49.040

English Version

Aerospace series - Paints and varnishes - Corrosion resistant chromate-free two component cold curing primer - Part 003: High corrosion and fluid resistance

Série aérospatiale - Peintures et vernis - Peinture primaire anti-corrosion sans chromate à deux composants polymérisant à température ambiante - Partie 003 : Haute résistance à la corrosion et aux fluides

Luft- und Raumfahrt - Anstrichstoffe - Korrosionsbeständiger Zweikomponenten-Grundanstrich, kalthärtend chromatfrei - Teil 003: Hohe Beständigkeit gegen Korrosion und Flüssigkeiten

This European Standard was approved by CEN on 9 March 2006.

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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 Central Secretariat has the same status as the official versions.

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Foreword

This European Standard (EN 2436-003:2006) has been prepared by the AeroSpace and Defense 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 December 2006, and conflicting national standards shall be withdrawn at the latest by December 2006.

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.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

0 Introduction

This standard is part of a series of EN non-metallic materials standards for aerospace applications.

The general organisation of this series is described in EN 4385.

This standard is a level 3 document as defined in EN 4385.

Definition of subcase numbering in Tables 2 to 5 is given in TR 7000-9.

1 Scope

This standard specifies the requirements for a two component, cold curing, chromate-free epoxy or polyurethane, high corrosion and fluid resistant primer which can be used with or without a finish for aerospace applications.

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

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 2334, *Aerospace series — Chromic-sulphuric acid pickle of aluminium and aluminium alloys*

EN 2379, *Aerospace series — Fluids for assessment of non-metallic materials*[1)]

EN 3837, *Aerospace series — Paints and varnishes — Nature and method for surface preparation of test pieces in aluminium alloys*[1)]

EN 2434-003, *Aerospace series — Paints and varnishes — Two component cold curing polyurethane finish — Part 003: Flexible and high fluid resistance for interior* [1)]

EN 3840, *Aerospace series — Paints and varnishes — Technical specification*[1)]

EN 4385, *Aerospace series — Non-metallic materials — General organisation of standardisation — Links between types of standards*[1)]

ISO 1513, Paints *and varnishes — Examination and preparation of samples for testing*

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

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

TR 7000-9, *Aerospace series — Non-metallic materials — Rules for the drafting and presentation of material standards — Part 9: Paints and varnishes*[2)]

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

2) Published as ASD Technical Report at the date of publication of the standard.

3 Definitions

Not applicable.

4 Classification

The primer is classified according to the nature of the most typical chemical reaction that occurs between the two components:

Type A: epoxy — (reaction between an epoxy resin and an activator with amino functional groups).

Type B: polyurethane — (reaction between an hydroxyl functional resin and a polyisocyanate activator).

5 Batch release and qualification testing

5.1 Batch release testing

For batch acceptance the tests marked with the symbol * in Tables 2 to 5 shall be performed.

5.2 Qualification tests

For product qualification, all tests mentioned in this standard, in Tables 1 to 5, shall be performed.

Table 1 — General requirements

1.001	Material description	Two component cold curing chromate-free primer with high corrosion and fluid resistance.
1.002	Formulation	Base — a base containing essentially chromate corrosion inhibitor associated, or not, with pigments and fillers dispersed in a mixture of resins and solvents. Activator — an activator solution Thinner — if required
1.003	Form and method of production	These components shall be mixed in simple whole number proportions, by volume or by weight, in accordance with the manufacturer's instructions.
1.004	Technical specification	EN 3840
1.009	Application and use	Dry film thickness of (20 ± 5) µm.
1.010	Storage	See EN 3840
1.011	Shelf life	See EN 3840
1.013	Processing conditions	ISO 3270 for 7 days before testing unless otherwise specified.
1.093	Quality assurance	See EN 3840
1.094	Designation	Chromate-free primer. EN 2436-003 Type A or Type B
1.095	Packaging	See EN 3840
1.096	Identification marking	See EN 3840
1.097	Flash point	See EN 3840
1.098	Health and safety	See EN 3840

Table 2 — Physical and chemical characteristics

2.014	Condition *	1	ISO 1513	
		6	As received in original container.	
		7	Shall be free from extraneous matter and show no skinning, gelling, hard settlement or other defect which will prevent satisfactory application to produce a defect free film.	
2.011	Application properties and finish *	1	None	
		3	EN 3837 — A_2	2024-T3 Clad
		4	EN 3837 Process A or B	EN 2334 Pickle or CAA
		5	Primer to this standard.	
		7	Paint film shall show an opaque even finish, free from runs, sags, wrinkling, pin holing or other defect.	
2.034	Sedimentation rating	1	EN 3840 Test 5	
		6	Base + activator + thinner	
		7	ml	V ≤ 30 after 4 h
2.012	Pot life *	1	EN 3840 Test 20 followed by Test 8[a] or Test 9[a]	
		6	Base + activator + thinner	
		7	s or Pa s	≤ 2 × initial value after 4 h
2.029	Viscosity *	1	EN 3840 Test 8[a] or Test 9[a]	
		6	Base + activator + thinner	
		7	s or Pa s	± 10 %[b c]
2.035	Fineness of grind *	1	EN 3840 Test 10	
		6	Base + activator	
		7	µm	≤ 30
2.027	Non volatile matter	1	EN 3840 Test 1	
		7	%	Base: ± 2 [b c] / Activator: ± 2 [b c]
2.027	Volatile organic compound (VOC) content	1	EN 3840 Test 49	
		6	Base + activator + thinner	
		7	g/l	≤ reference value[b c]
2.057	Density *	1	EN 3840 Test 3	
		6	Base	
		7	g/cm^3	± 2[b c e]

Table 2 — Physical and chemical characteristics *(concluded)*

2.057	Density hydrometer *	1	EN 3840		
			Test 4		
		6	Activator + thinner		
		7		Activator	Thinner
			g/cm^3	± 1[b c]	± 1[b c]
2.036	Flash point	1	EN 3840		
			Test 7		
		7	°C	Base	Activator	Thinner
				≥ reference value[c]	≥ reference value[c]	≥ reference value[c]
2.041	Surface dry time	1	EN 3840		
			Test 21		
		3	EN 3837 — A_2	2024-T3 Clad	
		4	EN 3837 Process A or B	EN 2334 Pickle or CAA	
		5	Primer to this standard.		
		6	ISO 3270		
		7	h	≤ 1[d]	
2.041	Drying time — Print free	1	EN 3840		
			Test 22		
		3	EN 3837 — A_2	2024-T3 Clad	
		4	EN 3837 Process A or B	EN 2334 Pickle or CAA	
		5	Primer to this standard.		
		6	ISO 3270		
		7	h	≤ 4 using a load of 1 000 g[d]	
2.041	Through dry time *	1	EN 3840		
			Test 23		
		3	EN 3837 — A_2	2024-T3 Clad	
		4	EN 3837 Process A or B	EN 2334 Pickle or CAA	
		5	Primer to this standard.		
		6	ISO 3270		
		7	h	≤ 16	
2.999	Notes	* See 5.1 [a] Test 8 shall be used for non-thixotropic paints and test 9 for thixotropic paints. [b] The deviation is that compared to the reference value. [c] The reference value is that established during qualification. [d] Unless otherwise specified. [e] Test could also be used for activator and thinner if required.			