SLOVENSKI STANDARD
SIST EN 2103-2:2001

01-januar-2001

Aerospace series - Steel, nickel base and cobalt base alloy remelting stock and castings - Technical specification - Part 2: Remelting stock

Aerospace series - Steel, nickel base and cobalt base alloy remelting stock and castings - Technical specification - Part 2: Remelting stock

Luft- und Raumfahrt - Vormaterial und Gußstücke aus Stahl, Nickel- und Kobaltlegierungen - Technische Lieferbedingungen - Teil 2: Vormaterial

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Série aérospatiale - Produits pour refusion et pieces moulées en acier et alliages base nickel et base cobalt - Spécification technique - Partie 2: Produits pour refusion

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ICS:

49.025.10	Jekla	Steels
49.025.99	Drugi materiali	Other materials

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EUROPEAN STANDARD
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EN 2103

Part 2

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Key words : Aircraft industry, castings, steels, nickel alloys, cobalt alloys, manufacturing, melting, defects, mechanical tests, marking

English version

Aerospace series
Steel, nickel base and cobalt base alloy remelting stock and castings
- Technical specification -
Part 2 - Remelting stock

Série aérospatiale
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et pièces moulées en acier
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CEN

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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 successively received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN.

According to the Common CEN/CENELEC Rules, the following countries are bound to implement this European Standard : Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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1 Scope and field of application

This standard specifies the particular requirements for remelting stock intended to be used for the manufacture of steel, nickel base or cobalt base alloy castings.

This standard shall be used in conjunction with EN 2103-1.

2 References

EN 2002-1 Aerospace series - Test methods for metallic materials - Part 1 - Tensile testing at ambient temperature [1)]

EN 2002-2 Aerospace series - Test methods for metallic materials - Part 2 - Tensile testing at elevated temperature [1)]

EN 2002-5 Aerospace series - Test methods for metallic materials - Part 5 - Uninterrupted creep and rupture testing [2)]

EN 2103-1 Aerospace series - Steel, nickel base and cobalt base alloy remelting stock and castings - Technical specification - Part 1 - General requirements.

3 Manufacture

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Remelting stock shall be manufactured from a melt consisting of :

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1) pure materials and added elements, or

2) pure materials, added elements plus a defined and constant percentage of approved scrap, or

3) pure materials, added elements and approved scrap. Their proportion per melt is at the option of the manufacturer.

Unless otherwise specified on the order or manufacturing schedule, the manufacturing method 3) shall be applied.

4 Dimensions and tolerances

The form, mass, dimensions and tolerances of remelting stock shall be defined by agreement between the manufacturer and purchaser.

The frequency of examination adopted by the manufacturer shall be sufficient to permit him to certify compliance with the requirements.

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1) Published as AECMA pre-standard at the date of publication of this standard.

2) In preparation at the date of publication of this standard.

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5 Internal defects

Remelting stock shall not contain defects prejudicial to its intended use.

Unless otherwise agreed between the manufacturer and the purchaser and stated on the order or in the inspection schedule, test methods and acceptance criteria shall be at the option of the manufacturer.

The frequency of examination adopted by the manufacturer shall be sufficient to permit him to certify compliance with the requirements.

6 External defects

Remelting stock shall be visually examined and shall be free from corrosion, scale, slag, grease or any other foreign matter including paint, other than that approved for marking.

The frequency of examination adopted by the manufacturer shall be sufficient to permit him to certify compliance with the requirements.

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7 Chemical composition

See EN 2103-1.

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8 Number of test samples

Sufficient test samples shall be provided and prepared from each batch in accordance with the requirements of EN 2103-1 for the tests required by the material standard or inspection schedule.

9 Mechanical testing

Tensile test, creep rupture test, creep test required by the material standard shall be made at a frequency of one test per batch.

Tensile testing at ambient temperature shall be carried out in accordance with EN 2002-1.

Tensile testing at elevated temperature shall be carried out in accordance with EN 2002-2.

Creep and creep rupture testing shall be carried out in accordance with EN 2002-5.

Test results shall comply with the requirements of the material standard.

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10 Special tests

See EN 2103-1. For example : dross test, fracture test.

11 Marking

11.1 Unless otherwise specified on the order, all products shall bear the following identification marking :

- material standard number,
- melt number,
- identification of the manufacturer and plant,
- such other marking as will ensure full identification.

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11.2 Unless otherwise specified on the order, the method of marking shall be at the option of the manufacturer provided it is not prejudicial to the alloy's quality and the marking is permanent.

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11.3 The frequency of examination adopted by the manufacturer shall be sufficient to permit him to certify compliance with the requirements.

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Table — Summary of requirements for remelting stock

Requirement	Clause	Product	Inspection/Testing		
			Method	Standard	Frequency
Dimensions	4	All	—	—	See § 4
Internal defects	5	All	See § 5	—	See § 5
External defects	6	All	Visual	—	See § 6
Chemical composition	7	All	—	—	1 per batch
Tensile properties at ambient temperature	9	When required	Ambient temperature tensile test	EN 2002-1	1 per batch
Tensile properties at elevated temperature	9	When required	Elevated temperature tensile test	EN 2002-2	1 per batch
Creep and creep rupture properties	9	When required	Creep test	EN 2002-5	1 per batch
Special tests	10	When required	—	—	See § 10
Marking	11	All	Visual	—	See § 11

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