

Aerospace series - Metallic materials - Heat treatment facilities - General requirements

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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ICS 25.200, 49.025.05, 49.025.15

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English Version

Aerospace series - Metallic materials - Heat treatment facilities - General requirements

Série aérospatiale - Matériaux métalliques - Installations de
traitement thermique - Exigences générales

Luft- und Raumfahrt - Metallische Werkstoffe -
Wärmebehandlungsanlagen - Allgemeine Anforderungen

This European Standard was approved by CEN on 15 July 2011.

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 CEN-CENELEC Management Centre or to any CEN member.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 4268:2012) 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of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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1 Scope

This European Standard covers the general requirements for heat treatment facilities processing semi-finished products and parts in metallic aerospace materials.

It defines the terms used herein and describes the test procedures and requirements for mandatory tests of heat treatment facilities. It also serves as an aid in the surveillance and approval of heat treatment facilities.

This standard applies to all types of heat treatment facilities, including those using direct or indirect heat transfer and liquid or gaseous heating media, with or without circulation, and to vacuum furnaces.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60584-2, *Thermocouples — Part 2: Tolerances* ¹⁾

3 General

The heat treatment of metallic materials produces specific material properties only if performed within relatively narrow temperature ranges, the respective tolerances of which are specified in the applicable standards. A heat treatment facility can therefore be used for a heat-treating operation only provided its temperature variations over space and time remain within the specified temperature tolerance.

Proper temperature distribution in the heat treatment facility depends on e.g. the type of furnace or bath, the heating medium, the control instruments with their feedback and run-up circuitry, and the rigging and positioning of control sensors.

A suitable recording instrument is needed to properly monitor and document the heat treatment.

4 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

4.1
temperature uniformity
measure of the temperature variation at various points in the effective working volume after thermal equilibrium has been reached

4.2
effective working volume
for the purposes of the present standard, the effective working volume is the working zone of the heat treatment facility in which temperatures run within the specified maximum temperature variation and which is available for the intended heat treatment

¹⁾ Published by International Commission Electrotechnique Internationale <http://www.iec.ch/> (CENELEC EN 60584-2).