

**Aerospace series - Test method for metallic materials -
Ultrasonic inspection of bars, plates, forging stock and
forgings - Part 2: Performance of test**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 4050-2:2012 sisaldab Euroopa standardi EN 4050-2:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 4050-2:2012 consists of the English text of the European standard EN 4050-2:2012.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.09.2012.	Date of Availability of the European standard is 26.09.2012.
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ICS 49.025.05, 49.025.15

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English Version

**Aerospace series - Test method for metallic materials -
Ultrasonic inspection of bars, plates, forging stock and forgings -
Part 2: Performance of test**

Série aérospatiale - Méthode d'essai applicable aux
matériaux métalliques - L'inspection par ultrasons des
barres, des assiettes, des stocks de forgeage et de pièces
forgées - Partie 2: Réalisation de l'essai

Luft- und Raumfahrt - Prüfverfahren für metallische
Werkstoffe - Ultraschallprüfung von Stangen, Platten,
Schmiedevormaterial und Schmiedestücken - Teil 2:
Durchführung der Prüfung

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.

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Contents

	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 General.....	4
3.1 Implementation	4
3.2 Test procedures	4
3.3 Calibration of the flaw detector time base	4
3.4 Scanning speed and pitch	4
3.5 Scanning index	4
3.6 Wave modes	4
3.7 Sensitivity corrections	5
3.8 Flaw size and position recording	5
4 Performance characteristics of the inspection system	5
4.1 Requirements	5
4.2 Ultrasonic test set.....	5
5 Measurement of material characteristics	6
5.1 Attenuation	6
5.2 Structure noise (grass)	6
6 Flaw recognition level	6
7 Setting-up procedure	6
7.1 Choice of probe.....	6
7.2 Choice of inspection frequency	6
7.3 Choice of water gap (immersion technique).....	7
7.4 Type of coupling (contact technique).....	7
7.5 Basic reference sensitivity	7
8 Monitored systems	9
8.1 General.....	9
8.2 Description	9
8.3 Monitored area and threshold level	9
8.4 Dynamic response	9
9 Equipment requirements	9
9.1 Immersion technique facilities	9
9.2 Contact technique facilities	9
9.3 Probe/flaw detector combination	10
10 Periodic control checks	10

Foreword

This document (EN 4050-2:2012) 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 March 2012, and conflicting national standards shall be withdrawn at the latest by March 2012.

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1 Scope

This European Standard specifies the method of performing ultrasonic testing. The general requirements are given in EN 4050-1.

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.

EN 4050-1, *Aerospace series — Test method for metallic materials — Ultrasonic inspection of bars, plates, forging stock and forgings — Part 1: General requirements*

EN 4050-4, *Aerospace series — Test method for metallic materials — Ultrasonic inspection of bars, plates, forging stock and forgings — Part 4: Acceptance criteria*

3 General

3.1 Implementation

Implementation shall be as required by the relevant technique, inspection schedule or order.

3.2 Test procedures

The equipment to be used, its performance, the scanning plan and the acceptance standard shall be as defined in the relevant test procedure, inspection schedule or order for each item.

3.3 Calibration of the flaw detector time base

The time base shall be calibrated and care shall be taken to ensure that interface and target echoes can be readily identified.

3.4 Scanning speed and pitch

To ensure efficient inspection of the entire volume of the material, the scanning speed and pitch shall be established taking into account the test beam diameter, the acceptance standard and the pulse repetition frequency. Account shall also be taken of whether a manual or automatic system of flaw detection is used.

3.5 Scanning index

The scanning index shall be such that the reference reflector always produces at least two indications on two successive pulses. The two signals shall not be more than 6 dB lower than the maximum indication of the reference reflector measured in the static conditions.

3.6 Wave modes

There are different ultrasonic wave modes, namely:

- longitudinal;
- shear;