

**Aerospace series - Metallic materials - Test methods -  
Constant amplitude fatigue testing**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 6072:2010 sisaldab Euroopa standardi EN 6072:2010 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 30.09.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 23.06.2010.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 6072:2010 consists of the English text of the European standard EN 6072:2010.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 30.09.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 23.06.2010.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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ICS 49.025.05

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ICS 49.025.05

English Version

## Aerospace series - Metallic materials - Test methods - Constant amplitude fatigue testing

Série aérospatiale - Matériaux métalliques - Méthodes d'essai - Essai de fatigue à amplitude constante

Luft- und Raumfahrt - Metallische Werkstoffe - Prüfverfahren - Ermüdungstest mit konstanter Amplitude

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## Foreword

This document (EN 6072:2010) 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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

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## 1 Scope

This European Standard defines a method to determine constant amplitude fatigue data of metallic materials and the S-N curve (or Wöhler curve).

## 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.

ISO 286-1, *ISO system of limits and fits — Part 1: Bases of tolerances, deviations and fits*

ISO 965-1, *ISO general-purpose metric screw threads — Tolerances — Part 1: Principles and basic data*

ISO 1101, *Geometrical Product Specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

ASTM E 466, *Standard practice for conducting force controlled constant amplitude axial fatigue tests of metallic materials*<sup>1)</sup>

ASTM E 1823, *Standard terminology relating to fatigue and fracture testing*<sup>1)</sup>

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ASTM E 1823 and the following apply.

### 3.1 Direction of test samples

#### 3.1.2

##### **cylindrical specimens**

the direction of the sample is identified by the following symbols:

- L : Long (grain flow direction);
- LT : Long Transverse;
- ST : Short Transverse.

The directions of semi-finished products of rectangular cross section for rolled or extruded products and forgings are identified on Figure 1.

The directions of semi-finished products of circular cross section for rolled products and forged rings are identified on Figure 2.

#### 3.1.2

##### **flat specimens**

designation for direction of these specimens is identical to ASTM designation:

Two letters separated by a dash:

- First letter : direction of load
- Second letter : direction of crack propagation

The directions of semi-finished products of rectangular cross section for rolled or extruded products and hand forgings are identified on Figure 3.

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<sup>1)</sup> Published by: American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103, USA.