



**SLOVENSKI STANDARD**  
**SIST EN 4057-401:2009**

**01-junij-2009**

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**Aeronavtika - Kabelske spojke za vezalno pasovje - Preskusne metode - 401. del:  
Natezna trdnost zanke**

Aerospace series - Cable ties for harnesses - Test methods - Part 401: Loop tensile strength

Luft- und Raumfahrt - Befestigungsbänder für Leitungsbündel - Prüfverfahren - Teil 401:  
Abbindefestigkeit

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Série aérospatiale - Frettes de câblage pour harnais - Méthodes d'essais - Partie 401 :  
Résistance à la rupture de la boucle

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**Ta slovenski standard je istoveten z: EN 4057-401:2006**

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**ICS:**

49.060

Številni sistemi za povezavo kablov in sistemov za letalstvo

Aerospace electric

equipment and systems

**SIST EN 4057-401:2009**

**en,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 4057-401**

December 2006

ICS 49.060

English Version

## Aerospace series - Cable ties for harnesses - Test methods - Part 401: Loop tensile strength

Série aérospatiale - Frettes de câblage pour harnais -  
Méthodes d'essais - Partie 401 : Résistance à la rupture de  
la boucle

Luft- und Raumfahrt - Befestigungsbänder für  
Leitungsbündel - Prüfverfahren - Teil 401: Abbindefestigkeit

This European Standard was approved by CEN on 28 October 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

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## Foreword

This document (EN 4057-401:2006) 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 June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

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.

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**EN 4057-401:2006 (E)****1 Scope**

This standard specifies the procedure to determine the force to failure of cable ties for harnesses for aerospace applications.

It shall be used together with EN 4057-100.

**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.

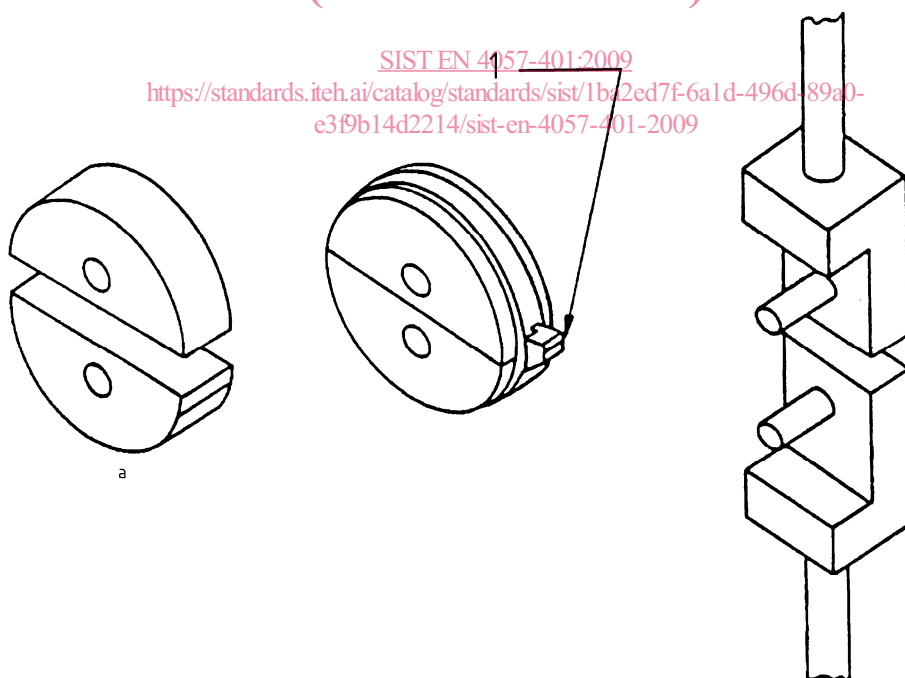
EN 4057-100, *Aerospace series — Cable ties for harnesses — Test methods — Part 100: General*

**3 Apparatus**

A tensile tester that will separate at a constant rate of  $(25 \pm 2,5)$  mm/min and apply sufficient force to break the strap or release the locking device. A suitable tensile test fixture, which incorporates a split mandrel, is shown in Figure 1.

The split mandrel diameter shall be  $(10 \pm 0,5)$  mm for cable ties  $\leq 127$  mm and  $(38 \pm 0,5)$  mm for cable ties  $> 127$  mm as well as of a width greater than the maximum width of the cable tie.

The mandrels shall be made of steel and be smooth and free from burrs.

**Key**

1 Head on mandrel split line  
Tail removed

a Detail of mandrel

**Figure 1 — Tensile strength test fixture**

#### 4 Procedure

The specimen shall be applied to the mandrel using the qualified application tool at the tension setting as specified in the product standard.

The specimens shall be applied to the mandrel with the head positioned on the mandrel split line. The tensile test shall be carried out by separating the jaws of the tensile tester at a constant rate of  $(25 \pm 2,5)$  mm/min. Sufficient force has to be applied to break the cable tie or release the locking device.

The minimum force to failure shall be recorded.

#### 5 Requirements

The minimum force to failure shall meet the requirements specified in the product standard.

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