



SLOVENSKI STANDARD SIST EN 2957:2020

01-januar-2020

Aeronavtika - Metoda priprave kovanih vzorcev

Aerospace series - Method of preparation of forged samples

Luft- und Raumfahrt - Verfahren zur Herstellung von Schmiedeproben

Série aérospatiale - Méthode pour la préparation d'échantillons forgés

Ta slovenski standard je istoveten z: EN 2957:2019

[SIST EN 2957:2020](https://standards.iteh.ai/catalog/standards/sist/dd7ae3ff-d11d-4dea-bda0-a015c8c1e1af/sist-en-2957-2020)

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ICS:

49.025.99 Drugi materiali Other materials

SIST EN 2957:2020

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 2957

September 2019

ICS 49.025.99

English Version

Aerospace series - Method of preparation of forged
samples

Série aérospatiale - Méthode pour la préparation
d'échantillons forgés

Luft- und Raumfahrt - Verfahren zur Herstellung von
Schmiedeproben

This European Standard was approved by CEN on 6 January 2019.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 2957:2019) 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 2020, and conflicting national standards shall be withdrawn at the latest by March 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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EN 2957:2019 (E)**1 Scope**

This document defines the requirements for the preparation of forged test samples.

Unless otherwise specified on the drawing, order, or inspection schedule, this document shall be applied when referenced in the relevant EN material standard or EN technical specification.

This document applies to round products of ≥ 20 mm diameters or other shapes of equivalent cross-section.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1**blank**

sample cut from forging stock

3.2**pancake**

sample obtained by upsetting a blank

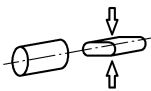
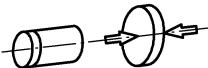
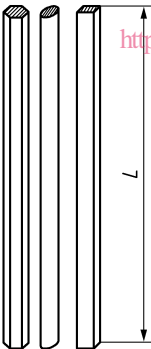
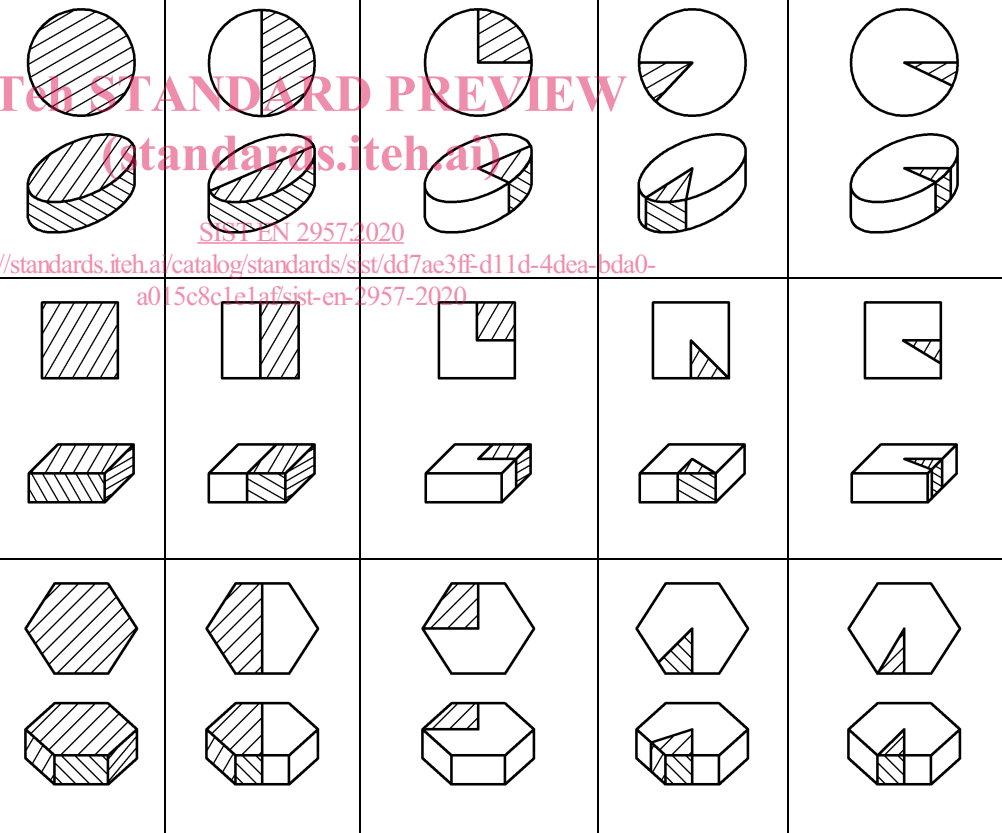
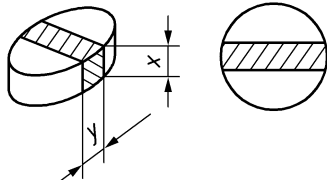
4 Method of blank removal

Unless otherwise specified in the relevant EN technical specification, the location of any blank shall be agreed between the purchaser and the manufacturer.

The form and dimensions of the blank are given in Table 1.

A volume of material of at least equal size as, and taken adjacent to the original blank, shall be available for possible testing.

Table 1

Forging stock dimension	$20 \leq \varnothing \leq 50$ mm $(400 \leq S \leq 2\,000 \text{ mm}^2)$	$50 < \varnothing \leq 100$ mm $(2\,000 < S \leq 8\,000 \text{ mm}^2)$	$100 < \varnothing \leq 150$ mm $(8\,000 < S \leq 18\,000 \text{ mm}^2)$	$150 < \varnothing \leq 200$ mm $(18\,000 < S \leq 31\,500 \text{ mm}^2)$	$200 < \varnothing \leq 250$ mm $(31\,500 < S \leq 49\,000 \text{ mm}^2)$	$\varnothing > 250$ mm $(S > 49\,000 \text{ mm}^2)$
Method of forging Upsetting between flat dies perpendicular to the axis of the blank 	Upsetting between flat dies parallel to the axis of the blank 					
Type of sample Piece of full bar $L \geq 100$ mm	Slice of 60 mm thick					
Centre angle of sample —	360°	180°	90°	45°	30°	
Scheme 	 <p> Remark: by agreement between the purchaser and the manufacturer other blank shapes and dimensions may be used: see the following scheme. </p> 					

EN 2957:2019 (E)**5 Forging conditions****5.1 Forging temperature**

When required the heating cycle of the blank shall be agreed between the purchaser and the manufacturer.

The blanks shall be maintained at the forging temperature for a minimum of half an hour before forging.

5.2 Forging method

The forging method shall be in accordance with the requirements of Table 1.

Unless otherwise specified by the order or the relevant material standard, the forging operation shall be completed in one heat.

The pancake thickness shall be one third of the original blank thickness.

6 Pancake use

The pancake may be used for:

6.1 Assessment for forgeability

The pancakes shall meet the requirements of the relevant EN material specification on material standard for forgings.

6.2 Assessment of structural characteristics

The pancakes structure shall meet the requirements of the material standard, order or inspection schedule.

6.3 Sampling of test pieces for mechanical tests

Test pieces shall be taken in accordance with the requirements of the material standard from the location indicated in Figure 1 or Figure 2 depending upon the diameter or cross section of the forging stock.