



**SLOVENSKI STANDARD**  
**oSIST prEN 12543-5:2024**

**01-september-2024**

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**Neporušitvene preiskave - Značilnosti goriščne površine v industrijskih rentgenskih sistemih za Neporušitveno preskušanje - 5. del: Meritve efektivne velikosti goriščne površine za mini in mikro goriščne rentgenske aparate**

Non-destructive testing - Characteristics of focal spots in industrial X-ray systems for use in non-destructive testing - Part 5: Measurement of the effective focal spot size of mini and micro focus X-ray tubes

Zerstörungsfreie Prüfung - Charakterisierung von Brennflecken in Industrie-Röntgenanlagen für die zerstörungsfreie Prüfung - Teil 5: Messung der effektiven Brennfleckgröße von Mini- und Mikrofokus-Röntgenröhren

Essais non destructifs - Caractéristiques des foyers émissifs des tubes radiogènes industriels utilisés dans les essais non destructifs - Partie 5 : Mesurage de la taille des foyers émissifs effectifs de tubes radiogènes à minifoyer ou à microfoyer

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**Ta slovenski standard je istoveten z: prEN 12543-5**

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**ICS:**

19.100          Neporušitveno preskušanje          Non-destructive testing

**oSIST prEN 12543-5:2024**

**en**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 12543-5**

June 2024

ICS 19.100

Will supersede EN 12543-5:1999

English Version

**Non-destructive testing - Characteristics of focal spots in industrial X-ray systems for use in non-destructive testing  
- Part 5: Measurement of the effective focal spot size of mini and micro focus X-ray tubes**

Essais non destructifs - Caractéristiques des foyers émissifs des tubes radiogènes industriels utilisés dans les essais non destructifs - Partie 5 : Mesure de la dimension du foyer émissif de tubes radiogènes à mini et micro foyer

Zerstörungsfreie Prüfung - Charakterisierung von Brennflecken in Industrie-Röntgenanlagen für die zerstörungsfreie Prüfung - Teil 5: Messung der effektiven Brennfleckgröße von Mini- und Mikrofokus-Röntgenröhren

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 138.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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<b>Contents</b>	<b>Page</b>
<b>European foreword</b> .....	<b>3</b>
<b>Introduction</b> .....	<b>4</b>
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>5</b>
<b>3 Terms and definitions</b> .....	<b>5</b>
<b>4 Test method</b> .....	<b>6</b>
<b>4.1 Principle and equipment</b> .....	<b>6</b>
<b>4.2 Selections of distances and exposure time</b> .....	<b>8</b>
<b>5 Measurement and determination of the focal spot size</b> .....	<b>9</b>
<b>5.1 Measurement</b> .....	<b>9</b>
<b>5.2 Determination</b> .....	<b>11</b>
<b>6 Documentation</b> .....	<b>11</b>
<b>Annex A (normative) Preferred values for the classification of X-ray <math>\mu</math>-tube focal spot sizes</b> .....	<b>13</b>
<b>Bibliography</b> .....	<b>15</b>

  
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 Document Preview

[oSIST prEN 12543-5:2024](https://standards.iteh.ai/catalog/standards/sist/291a8fd0-15a9-4e7d-83a2-ad5faeabba8e/osist-pren-12543-5-2024)

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## European foreword

This document (prEN 12543-5:2024) has been prepared by Technical Committee CEN/TC 138 “Non-destructive testing”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 12543-5:1999.

This document includes the following significant technical changes with respect to EN 12543-5:1999:

- Clause 2, normative references, updated;
- terms and definitions updated and supplemented;
- for test method, also the application of digital detector array devices and consequent requirements are considered, see Clause 4.

EN 12543-5 is a part of series of standards; the other parts are the following:

- EN 12543-2, *Non-destructive testing — Characteristics of focal spots in industrial X-ray systems for use in non-destructive testing — Part 2: Pinhole camera radiographic method*
- EN 12543-4, *Non-destructive testing — Characteristics of focal spots in industrial X-ray systems for use in non-destructive testing — Part 4: Edge method*
- EN 12543-6, *Non-destructive testing — Characteristics of focal spots in industrial X-ray systems for use in non-destructive testing — Part 6: Measurement of the effective focal spot size of micro focus X-ray tubes below 5  $\mu\text{m}$*

The following parts have become invalid:

- EN 12543-1, *Non-destructive testing — Characteristics of focal spots in industrial X-ray systems for use in non-destructive testing — Part 1: Scanning method*
- EN 12543-3, *Non-destructive testing — Characteristics of focal spots in industrial X-ray systems for use in non-destructive testing — Part 3: Slit camera radiographic method*

**prEN 12543-5:2024 (E)****Introduction**

In order to cover the large range of effective focal spot sizes, four different methods are described in EN 12543-2, EN 12543-4, EN 12543-5 and EN 12543-6.

The pinhole method of EN 12543-2 is intended for effective focal spot sizes above 100  $\mu\text{m}$ .

The penetrometer method of EN 12543-4 is intended for field applications when users must observe the effective focal spot on a regular basis and the pinhole method is non-practical.

The edge measurement method of EN 12543-5 is intended for measurement of effective focal spot sizes between 5  $\mu\text{m}$  and 300  $\mu\text{m}$  and mainly for the use with  $\mu$ -Focus tubes.

The line pair measurement method of EN 12543-6 is intended for effective focal spot sizes smaller than 5  $\mu\text{m}$ .

The reconstruction method of EN 12543-7 is intended for effective spot sizes  $< 100 \mu\text{m}$  as alternative to the pin hole method of EN 12543-2.

In the overlapping ranges the different methods give similar values which allow using the dedicated method also a little bit outside the above specified ranges.

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