

---

---

**Information technology — Destruction  
of data carriers —**

**Part 2:  
Requirements for equipment for  
destruction of data carriers**

**iTeh STANDARD PREVIEW**  
*Technologies de l'information — Destruction de véhicules de  
données —*  
**(standards.iteh.ai)**

*Partie 2: Exigences aux machines de destruction de véhicules de  
données*

ISO/IEC 21964-2:2018

<https://standards.iteh.ai/catalog/standards/sist/39bed62c-54ed-4b38-8cb0-8f44fe0df795/iso-iec-21964-2-2018>



**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[ISO/IEC 21964-2:2018](https://standards.iteh.ai/catalog/standards/sist/39bed62c-54ed-4b38-8cb0-8f44fe0df795/iso-iec-21964-2-2018)  
<https://standards.iteh.ai/catalog/standards/sist/39bed62c-54ed-4b38-8cb0-8f44fe0df795/iso-iec-21964-2-2018>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
Foreword .....	iv
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Requirements</b> .....	<b>1</b>
4.1 Degree of destruction .....	1
4.2 Materials referred to in security levels .....	1
4.3 Limits for particle sizes .....	2
4.4 Feed and collection apparatus .....	5
4.5 Checking that destruction is complete .....	6
<b>5 Testing</b> .....	<b>6</b>
5.1 Ambient conditions .....	6
5.2 Test material .....	6
5.3 Testing the rated throughput .....	6
5.4 Testing the degree of destruction .....	7
5.4.1 Purpose of the test .....	7
5.4.2 Feeding in the test material .....	7
5.4.3 Sample quantity .....	7
5.4.4 Sampling from destroyed test material .....	7
5.4.5 Analysis .....	7
5.4.6 Evaluation .....	8
<b>6 Test report</b> .....	<b>8</b>
<b>7 Test certificate</b> .....	<b>8</b>

ISO/IEC 21964-2:2018

<https://standards.iteh.ai/catalog/standards/sist/39bed62c-54ed-4b38-8cb0-8f44fe0df795/iso-iec-21964-2-2018>

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html). (standards.iteh.ai)

This document was prepared by DIN, German Institute for Standardization (as national standard DIN 66399-2) and drafted in accordance with its editorial rules. It was assigned to Joint Technical Committee ISO/IEC JTC 1, *Information technology*, and adopted under the "fast-track procedure".

A list of all parts in the ISO/IEC 21964 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Information technology — Destruction of data carriers —

## Part 2: Requirements for equipment for destruction of data carriers

### 1 Scope

This standard applies to machines for the destruction of data carriers. This standard specifies the requirements for machines in order to ensure the safe destruction of data carriers.

### 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.

DIN 19054, *Transparent microfiche, size A6 — General requirements, microfilming methods, headers and title areas in technical documents and catalogues*

ISO/IEC 21964-1, *Information Technology — Destruction of data carriers — Part 1: Principles and definitions*

ISO 216, *Writing paper and certain classes of printed matter — Trimmed sizes — A and B series, and indication of machine direction*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions in ISO/IEC 21964-1 apply

### 4 Requirements

#### 4.1 Degree of destruction

Machines and equipment that comply with this standard shall meet at least the requirements in [Tables 1](#) to [6](#) as regards the degree of destruction.

#### 4.2 Materials referred to in security levels

**P** – information in original size (paper, film, printing plates etc.)

**F** – information in miniaturized form (microfilm/microfiche etc.)

**O** – information on optical data carriers (CD/DVD etc.)

**T** – information on magnetic data carriers (floppy discs, ID cards, magnetic tape cassettes etc.)

**H** – information on hard drives with magnetic data carriers (hard drives)

**E** – information on electronic data carriers (memory sticks, chip cards, solid-state drives, mobile communication equipment etc.)

### 4.3 Limits for particle sizes

The machines and equipment for destroying data carriers are classified according to the degree of destruction, taking the type of data carrier into consideration. The following table shows the limit values of each security level as regards the condition, shape and size after destruction.

The security level shall be tested and demonstrated in the form of a test certificate, declaration of conformity, certificate, expertise or other assessment. This can be carried out by the manufacturer or other competent bodies. The certificate shall be suitably enclosed with the user documentation for the machine.

For all data carriers, the additionally specified methods for the highest security levels shall also cover the requirements for the lower security levels.

Users should check the particle size during the operating life of the machine or equipment, because wear or damage to the shredding tools can reduce security.

**Table 1 — Information in the original size**

Information in the original size e.g. paper, film, printing plates		
Security level	Condition, shape and size after destruction	Tolerance
P-1	Particle size $\leq 2\,000\text{ mm}^2$ or Strip width $\leq 12,0\text{ mm}$ Unlimited strip length	10 % of the material may exceed the specified particle size, but shall not be more than $3\,800\text{ mm}^2$ in size.
P-2	Particle size $\leq 800\text{ mm}^2$ or Strip width $\leq 6,0\text{ mm}$ Unlimited strip length	10 % of the material may exceed the specified particle size, but shall not be more than $2\,000\text{ mm}^2$ in size.
P-3	Particle size $\leq 320\text{ mm}^2$ or Strip width $\leq 2\text{ mm}$ Unlimited strip length	10 % of the material may exceed the specified particle size, but shall not be more than $800\text{ mm}^2$ in size.
P-4	Particle size $\leq 160\text{ mm}^2$ and for regular particles: Strip width $\leq 6\text{ mm}$	10 % of the material may exceed the specified particle size, but shall not be more than $480\text{ mm}^2$ in size.
P-5	Particle size $\leq 30\text{ mm}^2$ and for regular particles: Strip width $\leq 2\text{ mm}$	10 % of the material may exceed the specified particle size, but shall not be more than $90\text{ mm}^2$ in size.
P-6	Particle size $\leq 10\text{ mm}^2$ and for regular particles: Strip width $\leq 1\text{ mm}$	10 % of the material may exceed the specified particle size, but shall not be more than $30\text{ mm}^2$ in size.
P-7	Particle size $\leq 5\text{ mm}^2$ and for regular particles: Strip width $\leq 1\text{ mm}$ or Dissolved with particle size $\leq 5\text{ mm}^2$ or Shredded ash with particle size $\leq 5\text{ mm}^2$	The particle size shall not be exceeded.

Table 2 — Information in miniaturized form

Information in miniaturized form e.g.: microfilm		
Security level	Condition, shape and size after destruction	Tolerance
F-1	Particle size $\leq 160 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $480 \text{ mm}^2$ in size.
F-2	Particle size $\leq 30 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $90 \text{ mm}^2$ in size.
F-3	Particle size $\leq 10 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $30 \text{ mm}^2$ in size.
F-4	Particle size $\leq 2,5 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $7,5 \text{ mm}^2$ in size.
F-5	Particle size $\leq 1,0 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $3,0 \text{ mm}^2$ in size.
F-6	Particle size $\leq 0,5 \text{ mm}^2$ or Shredded ash $\leq 0,5 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $1,5 \text{ mm}^2$ in size.
F-7	Particle size $\leq 0,2 \text{ mm}^2$ or Shredded ash $\leq 0,2 \text{ mm}^2$ or Dissolved	The particle size shall not be exceeded.

Table 3 — Information on optical data carriers

Information on optical data carriers e.g.: CD/DVD		
Security level	Condition, shape and size after destruction	Tolerance
O-1	Particle size $\leq 2\,000 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $3\,800 \text{ mm}^2$ in size.
O-2	Particle size $\leq 800 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $2\,000 \text{ mm}^2$ in size.
O-3	Particle size $\leq 160 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $480 \text{ mm}^2$ in size.
O-4	Particle size $\leq 30 \text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $90 \text{ mm}^2$ in size.

**Table 3 (continued)**

<b>Information on optical data carriers</b> e.g.: CD/DVD		
<b>O-5</b>	Particle size ≤ 10 mm <sup>2</sup>	10 % of the material may exceed the specified particle size, but shall not be more than 30 mm <sup>2</sup> in size.
<b>O-6</b>	Particle size ≤ 5 mm <sup>2</sup> or Shredded ash ≤ 5 mm <sup>2</sup> or Melted compound	10 % of the material may exceed the specified particle size, but shall not be more than 15 mm <sup>2</sup> in size.
<b>O-7</b>	Particle size ≤ 0,2 mm <sup>2</sup> or Shredded ash ≤ 0,2 mm <sup>2</sup> or Melted compound	10 % of the material may exceed the specified particle size, but shall not be more than 0,6 mm <sup>2</sup> in size.

**Table 4 — Information on magnetic data carriers**

<b>Information on magnetic data carriers</b> e.g.: floppy discs, ID cards, magnetic tape cassettes		
<b>Security level</b>	<b>Condition, shape and size after destruction</b>	<b>Tolerance</b>
<b>T-1</b>	Medium physically unusable	
<b>T-2</b>	Medium broken into several parts and Particle size ≤ 2 000 mm <sup>2</sup>	10 % of the material may exceed the specified particle size, but shall not be more than 3 800 mm <sup>2</sup> in size.
<b>T-3</b>	Particle size ≤ 320 mm <sup>2</sup>	10 % of the material may exceed the specified particle size, but shall not be more than 800 mm <sup>2</sup> in size.
<b>T-4</b>	Particle size ≤ 160 mm <sup>2</sup>	10 % of the material may exceed the specified particle size, but shall not be more than 480 mm <sup>2</sup> in size.
<b>T-5</b>	Particle size ≤ 30 mm <sup>2</sup>	10 % of the material may exceed the specified particle size, but shall not be more than 90 mm <sup>2</sup> in size.
<b>T-6</b>	Particle size ≤ 10 mm <sup>2</sup>	10 % of the material may exceed the specified particle size, but shall not be more than 30 mm <sup>2</sup> in size.
<b>T-7</b>	Particle size ≤ 2,5 mm <sup>2</sup> or Shredded ash ≤ 2,5 mm <sup>2</sup> or Melted compound	10 % of the material may exceed the specified particle size, but shall not be more than 7,5 mm <sup>2</sup> in size.

**Table 5 — Information on hard drives with magnetic data carriers**

<b>Information on hard drives with magnetic data carriers</b>		
<b>Security level</b>	<b>Condition, shape and size after destruction</b>	<b>Tolerance</b>
<b>H-1</b>	Hard drive physically/electronically unusable	
<b>H-2</b>	Data carrier damaged	
<b>H-3</b>	Data carrier deformed	



Table 5 (continued)

Information on hard drives with magnetic data carriers		
H-4	Data carrier broken into several pieces and deformed and Particle size $\leq 2\,000\text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $3\,800\text{ mm}^2$ in size.
H-5	Data carrier broken into several pieces and deformed and Particle size $\leq 320\text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $800\text{ mm}^2$ in size.
H-6	Data carrier broken into several pieces and deformed and Particle size $\leq 10\text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $30\text{ mm}^2$ in size.
H-7	Data carrier broken into several pieces and deformed and Particle size $\leq 5\text{ mm}^2$ or Heated above Curie temperature	10 % of the material may exceed the specified particle size, but shall not be more than $15\text{ mm}^2$ in size.

Table 6 — Information on electronic data carriers

Information on electronic data carriers (solid-state drives) e.g.: memory sticks, chip cards, solid-state drives (SSD), mobile communication equipment		
Security level	Condition, shape and size after destruction	Tolerance
E-1	Medium physically/electronically unusable	
E-2	Medium broken into pieces	
E-3	Medium broken into pieces and Particle size $\leq 160\text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $480\text{ mm}^2$ in size.
E-4	Data carrier (chip) broken into pieces and Particle size $\leq 30\text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $90\text{ mm}^2$ in size.
E-5	Data carrier (chip) broken into several pieces and Particle size $\leq 10\text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $30\text{ mm}^2$ in size.
E-6	Data carrier (chip) broken into several pieces and Particle size $\leq 1\text{ mm}^2$ or Shredded ash $\leq 1\text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $3\text{ mm}^2$ in size.
E-7	Data carrier (chip) broken into several pieces and Particle size $\leq 0,5\text{ mm}^2$ or Shredded ash $\leq 0,5\text{ mm}^2$	10 % of the material may exceed the specified particle size, but shall not be more than $1,5\text{ mm}^2$ in size.

#### 4.4 Feed and collection apparatus

There shall be an apparatus that allows data carriers that have to be destroyed to be manually or mechanically fed in such a way that they are completely gripped and fed to the destruction mechanism.