

# INTERNATIONAL STANDARD

# ISO 525

Third edition  
1999-10-01

---

---

## Bonded abrasive products — General requirements

*Produits abrasifs agglomérés — Exigences générales*

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

ISO 525:1999

<https://standards.iteh.ai/catalog/standards/sist/f045e9ad-9bb0-4c98-a0fb-b5da21a39668/iso-525-1999>



Reference number  
ISO 525:1999(E)

## Contents

1 Scope .....	1
2 Normative references .....	1
3 Symbols .....	3
4 Types — Designation of shapes and dimensions .....	4
5 Requirements .....	14
6 Designation .....	18
7 Marking .....	19

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

ISO 525:1999

<https://standards.iteh.ai/catalog/standards/sist/f045e9ad-9bb0-4c98-a0fb-b5da21a39668/iso-525-1999>

© ISO 1999

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization  
Case postale 56 • CH-1211 Genève 20 • Switzerland  
Internet iso@iso.ch

Printed in Switzerland

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 525 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 5, *Grinding wheels and abrasives*.

This third edition cancels and replaces the second edition (ISO 525:1986) which has been technically revised.

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

ISO 525:1999

<https://standards.iteh.ai/catalog/standards/sist/f045e9ad-9bb0-4c98-a0fb-b5da21a39668/iso-525-1999>

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

ISO 525:1999

<https://standards.iteh.ai/catalog/standards/sist/f045e9ad-9bb0-4c98-a0fb-b5da21a39668/iso-525-1999>

# Bonded abrasive products — General requirements

## 1 Scope

This International Standard covers bonded abrasive products in general (grinding wheels, segments, sticks and stones) excluding abrasive products with diamond or cubic boron nitride.

It gives:

- the designation;
- the main form and denomination of bonded abrasive products;
- the standard profile of straight wheels;
- the range of outside diameters;
- the range of thicknesses;
- the range of bore diameters;
- specifications;
- the marking.

This International Standard is general and is complemented by ISO 603-1 to ISO 603-16, ISO 6103 and ISO 13942.

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 603-1, *Bonded abrasive products — Dimensions — Part 1: Grinding wheels for external cylindrical grinding between centres.*

ISO 603-2, *Bonded abrasive products — Dimensions — Part 2: Grinding wheels for centreless external cylindrical grinding.*

ISO 603-3, *Bonded abrasive products — Dimensions — Part 3: Grinding wheels for internal cylindrical grinding.*

ISO 603-4, *Bonded abrasive products — Dimensions — Part 4: Grinding wheels for surface grinding/peripheral grinding.*

ISO 603-5, *Bonded abrasive products — Dimensions — Part 5: Grinding wheels for surface grinding/face grinding.*

ISO 603-6, *Bonded abrasive products — Dimensions — Part 6: Grinding wheels for tool and tool room grinding.*

ISO 603-7, *Bonded abrasive products — Dimensions — Part 7: Grinding wheels for manually guided grinding.*

ISO 603-8, *Bonded abrasive products — Dimensions — Part 8: Grinding wheels for deburring and fettling/snagging.*

ISO 603-9, *Bonded abrasive products — Dimensions — Part 9: Grinding wheels for high-pressure grinding.*

ISO 603-10, *Bonded abrasive products — Dimensions — Part 10: Stones for honing and superfinishings.*

ISO 603-11, *Bonded abrasive products — Dimensions — Part 11: Hand finishing sticks.*

ISO 603-12, *Bonded abrasive products — Dimensions — Part 12: Grinding wheels for deburring and fettling on straight grinder.*

ISO 603-13, *Bonded abrasive products — Dimensions — Part 13: Grinding wheels for deburring and fettling on a vertical grinder.*

ISO 603-14, *Bonded abrasive products — Dimensions — Part 14: Grinding wheels for deburring and fettling/snagging on an angle grinder.*

ISO 603-15, *Bonded abrasive products — Dimensions — Part 15: Grinding wheels for cutting-off on stationary and mobile cutting-off machines.*

ISO 603-16, *Bonded abrasive products — Dimensions — Part 16: Grinding wheels for cutting-off on hand held power tools.*

ISO 6103, *Bonded abrasive products — Permissible unbalances of grinding wheels as delivered — Testing.*

ISO 8486-1, *Bonded abrasives — Determination and designation of grain size distribution — Part 1: Macrogrits F4 to F220.*

ISO 8486-2, *Bonded abrasives — Determination and designation of grain size distribution — Part 2: Microgrits F230 to F1200.*

ISO 13942, *Bonded abrasive products — Limit deviations and run-out tolerances.*

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

ISO 525:1999  
<https://standards.iteh.ai/catalog/standards/sist/f045e9ad-9bb0-4c98-a0fb-b5da21a39668/iso-525-1999>

### 3 Symbols

See Table 1.

**Table 1 — Symbols and their meaning**

Symbol	Meaning
<i>A</i>	Smallest width of a trapezoidal segment
<i>B</i>	Width of a segment, stick or stone
<i>C</i>	Thickness of a segment, stick or stone
<i>D</i>	Outside diameter of abrasive products
<i>E</i>	Thickness at bore of cup, dish, recessed and relieved wheels
<i>F</i>	Depth of the 1st recess
<i>G</i>	Depth of the 2nd recess
<i>H</i>	Abrasive product bore diameter, thread diameter of wheels with threaded insert
<i>J</i>	Smallest diameter of tapered cup, dish, tapered and hubbed wheels
<i>K</i>	Internal diameter of recess of tapered cup and dish wheels
<i>L</i>	Length of segments, length of thread bore of wheels with threaded insert, sticks and stones
<i>L</i> <sub>0</sub>	Overhang length of mounted wheels and points
<i>L</i> <sub>1</sub>	Total length of mounted wheels and points
<i>L</i> <sub>2</sub>	Length of the spindle of mounted wheels and points
<i>L</i> <sub>3</sub>	Clamping length of the spindle of mounted wheels and points
<i>N</i>	Depth of the relief
<i>P</i>	Recessed diameter
<i>R</i>	Radius of recessed grinding wheels, grinding segments, cones and plugs and mounted wheels and points
<i>S</i>	Diameter of spindle of mounted wheels and points
<i>T</i>	Overall thickness
<i>U</i>	Smallest thickness of tapered, hubbed and depressed centre wheels, e.g. in Type 4 or Type 38
<i>W</i>	Rim width of cups, cylinders and dishes
<i>V</i>	profile angle <sup>a</sup>
<i>X</i>	other profile element <sup>a</sup>
↓	Symbolizes the grinding face of bonded abrasive products.
<sup>a</sup> For wheel profiles, see 5.1.	

4 Types — Designation of shapes and dimensions

See Table 2

Table 2 — Dimensions and characteristics of types

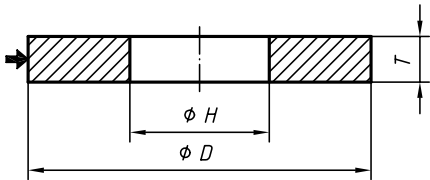
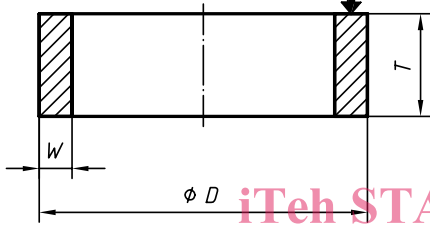
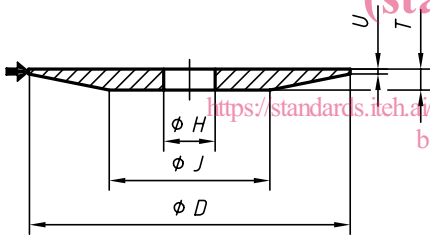
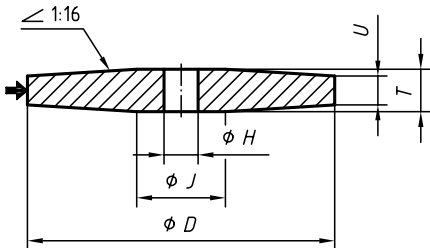
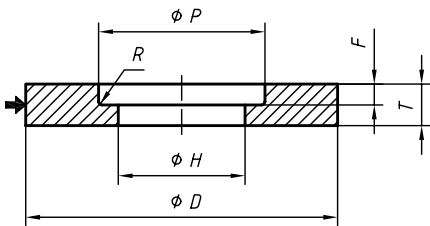
Type	Sketch	Designation of characteristics	Dimensions in ISO
1		Straight grinding wheel Type 1 — Profile <sup>a</sup> — $D \times T \times H$	603-1 603-2 603-3 603-4 603-6 603-7 603-8 603-9 603-12
2		Cylinder wheel, cemented or clamped Type 2 — $D \times T \times W$	603-5
3		ISO 525:1999 Tapered wheel <a href="https://standards.iteh.ai/catalog/standards/sist/f045e9ad-9bb0-4c98-a0fb-b5da21a39668/iso-525-1999">https://standards.iteh.ai/catalog/standards/sist/f045e9ad-9bb0-4c98-a0fb-b5da21a39668/iso-525-1999</a> Type 3 — $D/J \times T \times H$	603-6
4		Wheel tapered on both sides Type 4 — $D \times T \times H$	603-12
5		Wheel, recessed one side Type 5 — Profile <sup>a</sup> — $D \times T \times H - P \times F$	603-1 603-2 603-3 603-4 603-6 603-7



Table 2 (continued)

Type	Sketch	Designation of characteristics	Dimensions in ISO
6		<p>Straight cup wheel</p> <p>Type 6 — <math>D \times T \times H - W \times E</math></p>	<p>603-5 603-6 603-7 603-13 603-14</p>
7		<p>Wheel, recessed two sides</p> <p>Type 7 — Profile <sup>a</sup> — <math>D \times T \times H - P \times F/G</math></p>	<p>603-1 603-2 603-4 603-6</p>
9		<p>Double cup wheel</p> <p>ISO 525:1999</p> <p>Type 9 — <math>D \times T \times H - W \times E</math></p>	<p>—</p>
11		<p>Taper cup wheel</p> <p>Type 11 — <math>D/J \times T \times H - W \times E</math></p>	<p>603-6 603-14</p>
12		<p>Dish wheel</p> <p>Type 12 — <math>D/J \times T \times H</math></p>	<p>603-6</p>

iTech STANDARD PREVIEW  
(standards.itech.ai)

<https://standards.itech.ai/catalog/standards/sio/4c98-a0fb-b5da21a39668/iso-525-1999>

Table 2 (continued)

Type	Sketch	Designation of characteristics	Dimensions in ISO
13		<p>Saucer wheel</p> <p>Type 13 — <math>D/J \times T/U \times H - K</math></p>	—
16		<p>Cones and plugs, tapered</p> <p>Type 16 — <math>D \times T - H \times L</math></p>	603-12
18		<p>Cones and plugs, cylindrical</p> <p>Type 18 — <math>D \times T - H \times L</math></p>	603-12
18R		<p>Cones and plugs, roll shaped</p> <p>Type 18R — <math>D \times T - H \times L</math></p>	603-12
19		<p>Cones and plugs, tapered roll shaped</p> <p>Type 19 — <math>D \times T - H \times L</math></p>	603-12

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/f045e9ad-9bb0-4c98-a0fb-b5da21a39668/iso-525-1999>

Table 2 (continued)

Type	Sketch	Designation of characteristics	Dimensions in ISO
20		Wheel, relieved one side Type 20 — $D/K \times T/N \times H$	603-1 603-4
21		Wheel, relieved two sides Type 21 — $D/K \times T/N \times H$	603-1 603-4
22		Wheel, relieved one side, recessed other side Type 22 — $D/K \times T/N \times H - P \times F$	603-1 603-4
23		Wheel, relieved and recessed same side Type 23 — $D \times T/N \times H - P \times F$	603-1 603-4
24		Wheel, relieved and recessed one side, recessed other side Type 24 — $D \times T/N \times H - P \times F/G$	603-1 603-4