INTERNATIONAL STANDARD

**ISO 603-16**

Second edition
2022-09

# Bonded abrasive products — Dimensions —

## Part 16: Cutting-off wheels on hand held power tools



*Produits abrasifs agglomérés — Dimensions —*

*Partie 16: Meules pour tronçonnage sur machines portatives*



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# Foreword

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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 ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of 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 www.iso.org/iso/foreword.html.



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



This second edition cancels and replaces the first edition (ISO 603-16:1999), which has been technically revised.

The main changes are as follows:

— the title has been editorially corrected;

— the scope has been specified;

— Clause 2 “Normative references” has been revised;

— Clause 3 “Terms and definitions” has been added;

— in Clause 4 (former Clause 3), introductory, explanatory sentences have been added for better understanding;

— the figures with shape types and dimensions have been adapted to ISO 525:2020 (e.g. in shape type 42, the dimension “F” for the elevation of depressed centre has been renamed “M”);

— the values in the tables have been adapted to the state of the art and the most common dimensions for imperial sizes have been included for more global acceptance;

— Clause 5 (former Clause 4) “Designation” has been revised with reference to ISO 525;

— former Clause 5 “Specifications” has been removed and the reference to ISO 13942 (limit deviations and run out tolerances) has been given in the scope for information;

— the Bibliography has been revised.

A list of all parts in the ISO 603 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.

# Introduction

Dimensions and tolerances are expressed in millimetres, with dimensions in inches (in) shown between brackets.

# Bonded abrasive products — Dimensions —

# Part 16:
# Cutting-off wheels on hand held power tools

## 1 Scope

This document specifies the most common nominal dimensions, in millimetres, of:

— shape type 41: flat cutting-off wheel;

— shape type 42: depressed centre cutting-off wheel.

These bonded abrasive products are intended to be used for cutting-off of any workpiece using hand-held power tools (e.g. angle grinders and straight grinders). In this application, the workpiece is fixed and the hand-held power tool is guided by the operator.

This document does not specify limit deviations and run-out tolerances, which are given in ISO 13942.



## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.



ISO 525, *Bonded abrasive products — Shape types, designation and marking*

## 3 Terms and definitions

No terms and definitions are listed in this document.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

## 4 Shape types and dimensions

### 4.1 Shape type 41: flat cutting-off wheel

This subclause specifies the shape that a product shall have to be referred to as a flat cutting-off wheel (shape type 41 according to ISO 525).

The symbols of the dimensions to describe a type 41 wheel are given in Figure 1 in accordance with ISO 525.

Table 1 gives the most common dimensions.

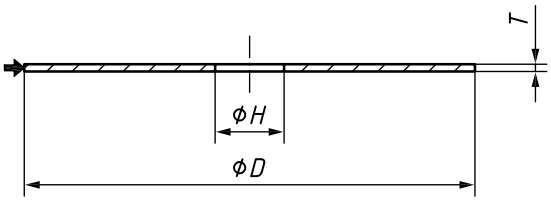


**Figure 1 — Shape type 41**

**Table 1 — Dimensions of shape type 41**

| Outside diameter<br>*D*<br>mm (in) | Overall thickness<br>*T*<br>mm | | | | | | | | Bore diameter<br>*H*<br>mm |
|---|---|---|---|---|---|---|---|---|---|
| | 0,8 | 1,0 | 1,3 | 1,6 | 2,0 | 2,5 | 3,2 | 4,0 | |
| 76 (3.0) | — | X | — | X | X | X | X | — | 6,00 / 8,00 / 9,53[a] / 10,00 |
| 80 | — | X | — | X | X | X | — | — | 9,53[a] / 10,00 |
| 100 (4.0) | — | X | X | X | X | X | — | — | 9,53[a] / 10,00 / 15,88[a] / 16,00 |
| 105 | — | X | — | X | X | — | — | — | |
| 115 (4.5) | X | X | X | X | X | X | X | — | 22,23 |
| 125 | X | X | X | X | X | X | X | — | |
| 127 (5.0) | X | X | X | X | X | X | X | — | |
| 150 | — | X | X | X | X | X | X | — | |
| 178 (7.0) | — | — | — | X | X | X | X | — | |
| 180 | — | — | — | X | X | X | X | — | |
| 230 (9.0) | — | — | — | X | X | X | X | — | |
| 300 / 305 (12.0) | — | — | — | — | — | X | X | X | 20,00 / 22,23 / 25,40 / 32,00 |
| 350 / 356 (14.0) | — | — | — | — | — | — | X | X | |
| 400 / 406 (16.0) | — | — | — | — | — | — | X | X | |

[a] These bore sizes are for machines using imperial units only.



## 4.2 Shape type 42: depressed centre cutting-off wheel

This subclause specifies the shape that a product shall have to be referred to as a depressed centre cutting-off wheel (shape type 42 according to ISO 525).

The symbols of the dimensions to describe a type 42 wheel are given in Figure 2 in accordance with ISO 525.

Table 2 gives the most common dimensions.

NOTE Variations of these products with a threaded hub are possible.

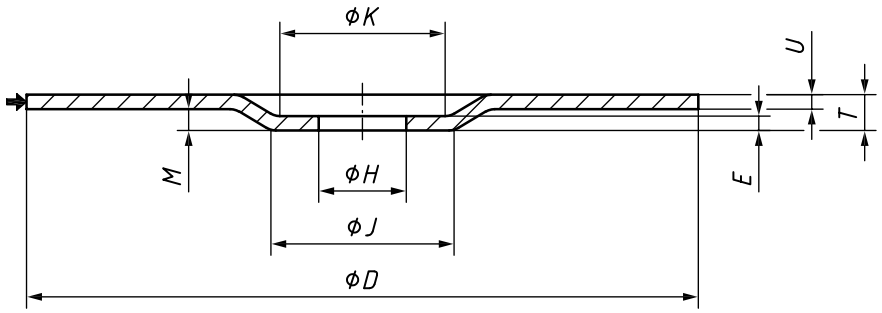


**Figure 2 — Shape type 42**

**Table 2 — Dimensions of shape type 42**

| **Outside diameter** | **Smallest thickness** | | | | | | | | **Bore diameter** | **Minimum internal diameter of recess** | **Minimum elevation of depressed centre** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $D$ | $U$ | | | | | | | | $H$ | $K_{min}$ | $M_{min}$ |
| mm (in) | mm | | | | | | | | mm | mm | mm |
| | 0,8 | 1,0 | 1,3 | 1,6 | 2,0 | 2,5 | 3,2 | 3,5 | | | |
| 76 (3.0) | — | X | — | X | X | X | X | X | 6,00 / 8,00 / 9,53[a] / 10,00 | 23,0 | 3,5 |
| 80 | — | X | — | X | X | X | — | — | 9,53[a] / 10,00 | | |
| 100 (4.0) | — | X | X | X | X | X | — | — | 9,53[a] / 10,00 / 15,88[a] / 16,00 | 35,5 | |
| 105 | — | X | — | X | X | — | — | — | | | |
| 115 (4.5) | X | X | X | X | X | X | X | X | 22,23 | 45,0 | 4,0 |
| 125 | X | X | X | X | X | X | X | X | | | |
| 127 (5.0) | X | X | X | X | X | X | X | X | | | |
| 150 | — | X | X | X | X | X | X | X | | | |
| 178 (7.0) | — | — | — | X | X | X | X | X | | | |
| 180 | — | — | — | X | X | X | X | X | | | |
| 230 (9.0) | — | — | — | — | X | X | X | X | | | |

[a] These bore sizes are for machines using imperial units only.



## 5 Designation

The designation shall be done in accordance with ISO 525.

# Bibliography

[1] ISO 6103, *Bonded abrasive products — Permissible unbalances of grinding wheels as delivered — Static testing*

[2] ISO 8486 (all parts), *Bonded abrasives — Determination and designation of grain size distribution*

[3] ISO 13942, *Bonded abrasive products — Limit deviations and run-out tolerances*