
**Bonded abrasive products —
Dimensions —**

**Part 17:
Spindle mounted wheels (ISO type 52)**

Produits abrasifs agglomérés — Dimensions —

Partie 17: Meules sur tige (ISO type 52)



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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.

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO 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).

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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 5, *Grinding wheels and abrasives*.

ISO 603 consists of the following parts, under the general title *Bonded abrasive products — Dimensions*:

- Part 1: Grinding wheels for external cylindrical grinding between centres
- Part 2: Grinding wheels for centreless external cylindrical grinding
- Part 3: Grinding wheels for internal cylindrical grinding
- Part 4: Grinding wheels for surface grinding/peripheral grinding
- Part 5: Grinding wheels for surface grinding/face grinding
- Part 6: Grinding wheels for tool and tool room grinding
- Part 7: Grinding wheels for manually guided grinding
- Part 8: Grinding wheels for deburring and fettling/snagging
- Part 9: Grinding wheels for high-pressure grinding
- Part 10: Stones for honing and superfinishings
- Part 11: Hand finishing sticks
- Part 12: Grinding wheels for deburring and fettling on a straight grinder
- Part 13: Grinding wheels for deburring and fettling on a vertical grinder
- Part 14: Grinding wheels for deburring and fettling/snagging on an angle grinder
- Part 15: Grinding wheels for cutting-off on stationary or mobile cutting-off machines
- Part 16: Grinding wheels for cutting-off on hand-held power tools

- *Part 17: Spindle mounted wheels (ISO type 52)*
- *Part 18: Grinding wheels for flat glass edge grinding machines*

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Bonded abrasive products — Dimensions —

Part 17:

Spindle mounted wheels (ISO type 52)

1 Scope

This part of ISO 603 specifies the current shapes, nominal dimensions and limit deviations, in millimetres, of

— Type 52: Spindle mounted wheels.

These bonded abrasive products are intended to be used for hand-held grinding and manually guided or on hand-held power tools guided by hand.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 — General requirements*

3 Shapes and dimensions

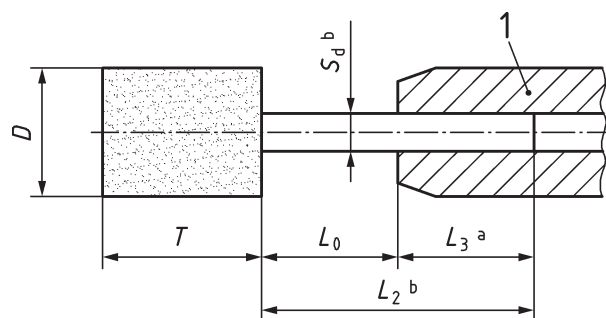
NOTE 1 In all tables below, the “Designation” given in the first column is generated according to the following principle: Shape (= three letter code), D (mm), T (mm), and S_d (mm). For example, the designation for a spindle mounted wheel, shape WPL with $D = 10$ mm, $T = 13$ mm, and $S_d = 6$ mm the designation is “WPL 10 13 06”. As an exception, this rule can only be applied equivalently to [3.11](#), [Table 11](#), because dimension T does not exist for the spherical shape.

NOTE 2 In all tables below the former code is given in the second column for information only.

3.1 Wheel plain, Shape WPL

See [Figure 1](#) and [Table 1](#).

Dimensions in millimetres



Key

- 1 collet
a $L_3 \geq 10$.
b $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$ or $S_d = 8$ and $L_2 = 40$.

Figure 1 — Wheel plain, Shape WPL

Table 1 — Wheel plain, Shape WPL, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm or $S_d = 8$ mm and $L_2 = 40$ mm

Dimensions in millimetres

Designation	Former code	D	T
WPL 03 06 03	W144	3	6
WPL 03 10 03	W145		10
WPL 03 13 03	W146		13
WPL 05 06 03	W152	5	6
WPL 05 10 03	W153		10
WPL 05 13 03	W154		13
WPL 06 06 03	W160	6	6
WPL 06 10 03 WPL 06 10 06	W162		10
WPL 06 13 03 WPL 06 13 06	W163		13
WPL 06 20 03	W164		20
WPL 08 10 03 WPL 08 10 06	W169		8
WPL 08 13 03	W170	13	
WPL 08 20 03	W171	20	
WPL 10 10 03 WPL 10 10 06	W175	10	10
WPL 10 13 03 WPL 10 13 06	W176		13
WPL 10 20 03 WPL 10 20 06	W177		20
WPL 10 25 03 WPL 10 25 06	W178		25
WPL 10 32 06	W179		32

Table 1 (continued)

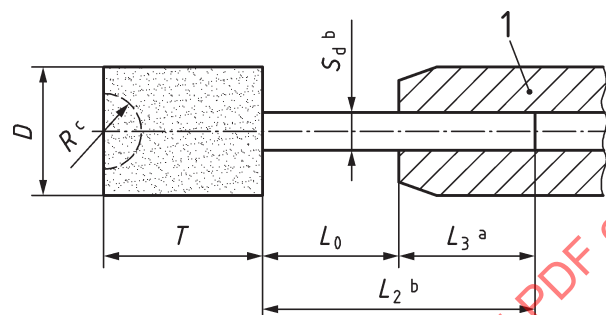
Designation	Former code	D	T
WPL 13 03 03 WPL 13 03 06	W182	13	3
WPL 13 06 03 WPL 13 06 06	W183		6
WPL 13 13 03 WPL 13 13 06	W185		13
WPL 13 20 03 WPL 13 20 06	W186		20
WPL 13 25 03 WPL 13 25 06	W187		25
WPL 13 40 06	W188		40
WPL 16 20 03 WPL 16 20 06	W195	16	20
WPL 16 25 03 WPL 16 25 06	W196		25
WPL 16 50 06	W197		50
WPL 20 06 03 WPL 20 06 06	W201	20	6
WPL 20 10 03 WPL 20 10 06	W202		10
WPL 20 20 03 WPL 20 20 06	W204		20
WPL 20 25 06	W205		25
WPL 20 32 06	W206		32
WPL 20 38 06	W207		38
WPL 20 50 06	W208		50
WPL 25 03 03 WPL 25 03 06	W215	25	3
WPL 25 06 03 WPL 25 06 06	W216		6
WPL 25 10 06	W217		10
WPL 25 13 06	W218		13
WPL 25 20 06	W219		20
WPL 25 25 06	W220		25
WPL 25 32 06 WPL 25 32 08	W221		32
WPL 25 50 06 WPL 25 50 08	W222		50
WPL 32 06 06	W225	32	6
WPL 32 10 06	W226		10
WPL 32 20 06	W228		20
WPL 32 32 06 WPL 32 32 08	W230		32
WPL 32 50 06	W232		50
WPL 38 06 06	W235	38	6
WPL 38 13 06	W236		13
WPL 38 38 06 WPL 38 38 08	W238		38

Table 1 (continued)

Designation	Former code	D	T
WPL 40 20 06 WPL 40 20 08	W237	40	20
WPL 50 25 06 WPL 50 25 08	W242	50	25

3.2 Wheel concave end, Shape WCC

See [Figure 2](#) and [Table 2](#).



Dimensions in millimetres

Key

- 1 collet
- a $L_3 \geq 10$.
- b $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$.
- c R is specified by the manufacturer.

Figure 2 — Wheel concave end, Shape WCC

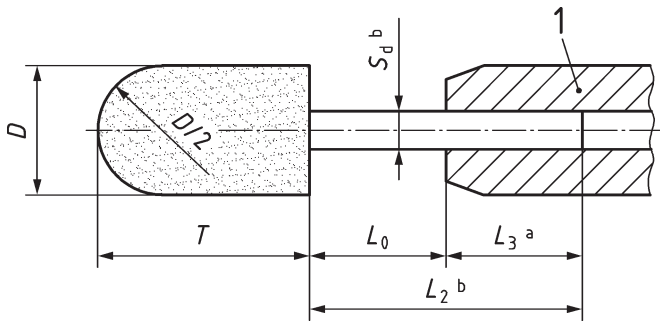
Table 2 — Wheel concave end, Shape WCC, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm

Dimensions in millimetres

Designation	Former code	D	T
WCC 06 13 03	B135	6	13
WCC 10 13 06	B132	10	13
WCC 10 10 03	B133		10
WCC 10 13 03	B132		13
WCC 13 13 03 WCC 13 13 06	B131	13	13
WCC 20 30 06	A39	20	30
WCC 25 25 06	A38	25	25

3.3 Wheel round end, Shape WRE

See [Figure 3](#) and [Table 3](#).



- Key**
- 1 collet
 - a $L_3 \geq 10$.
 - b $S_d = 6$ and $L_2 = 40$.

Figure 3 — Wheel round end, Shape WRE

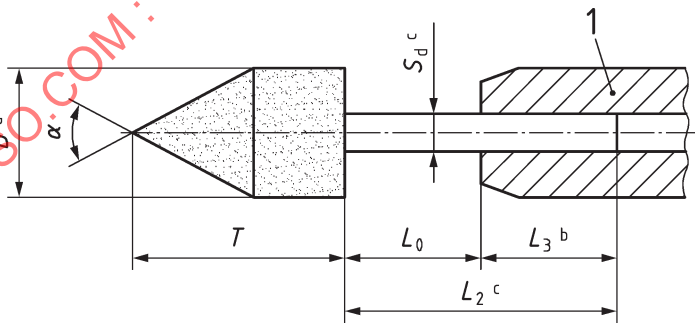
Table 3 — Wheel round end, Shape WRE, $S_d = 6$ mm and $L_2 = 40$ mm

Dimensions in millimetres

Designation	Former code	D	T
WRE 06 20 06	A24	6	20
WRE 25 25 06	A21	25	25

3.4 Wheel conical end, Shape WCE

See [Figure 4](#) and [Table 4](#).



Dimensions in millimetres

- Key**
- 1 collet
 - a For $D \leq 20$ mm is $\alpha = 60^\circ$. For $D > 20$ mm is $\alpha = 90^\circ$.
 - b $L_3 \geq 10$.
 - c $S_d = 3$ and $L_2 = 40$ or $S_d = 6$ and $L_2 = 40$.
 - d α is specified by the manufacturer.

Figure 4 — Wheel conical end, Shape WCE

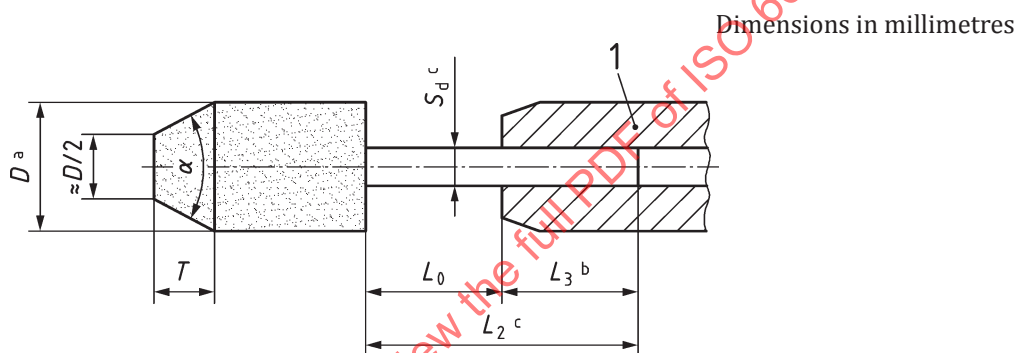
Table 4 — Wheel conical end, Shape WCE, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm

Dimensions in millimetres

Designation	Former code	D	T
WCE 06 10 03	B53	6	10
WCE 06 27 06	A15		27
WCE 20 22 06	A14	20	22
WCE 20 63 06	A1		63
WCE 28 28 06	A13	28	28

3.5 Wheel truncated cone end, Shape WTC

See [Figure 5](#) and [Table 5](#).



Key

- 1 collet
- a For $D \leq 20$ mm is $\alpha = 60^\circ$. For $D > 20$ mm is $\alpha = 90^\circ$.
- b $L_3 \geq 10$.
- c $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$.

Figure 5 — Wheel truncated cone end, Shape WTC

Table 5 — Wheel truncated cone end, Shape WTC, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm

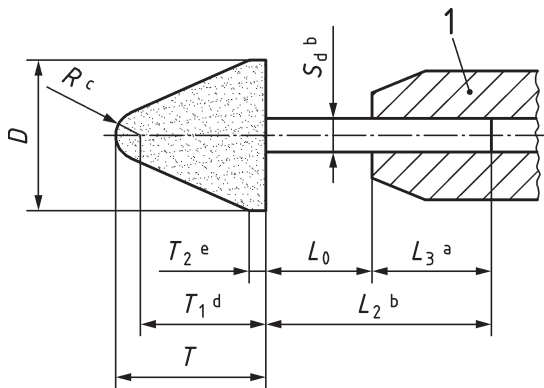
Dimensions in millimetres

Designation	Former code	D	T
WTC 06 10 03	B53	6	10
WTC 06 27 06	A15		27
WTC 20 22 06	A14	20	22
WTC 20 63 06	A1		63
WTC 28 28 06	A13	28	28

3.6 Wheel conical round end, Shape WCR

See [Figure 6](#) and [Table 6](#).

Dimensions in millimetres



Key

- 1 collet
- a $L_3 \geq 10$.
- b $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$.
- c R is specified by the manufacturer.
- d T_1 is specified by the manufacturer.
- e T_2 is specified by the manufacturer.

Figure 6 — Wheel conical round end, Shape WCR

Table 6 — Wheel conical round end, Shape WCR, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm

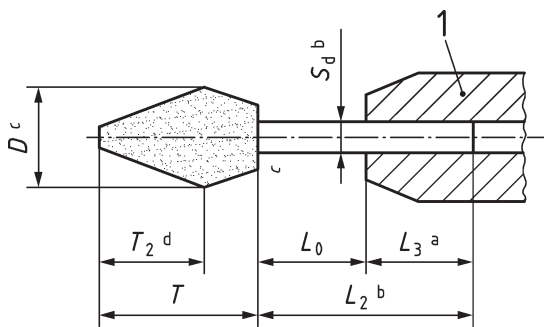
Dimensions in millimetres

Designation	Former code	D	T
WCR 16 16 03 WCR 16 16 06	B41	16	16
WCR 20 30 06	A5	20	30
WCR 32 32 06	A4	32	32

3.7 Conical double taper, Shape CDT

See [Figure 7](#) and [Table 7](#).

Dimensions in millimetres



Key

- 1 collet
- a $L_3 \geq 10$.
- b $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$.
- c D is specified by the manufacturer.
- d T_2 is specified by the manufacturer.

Figure 7 — Conical double taper, Shape CDT

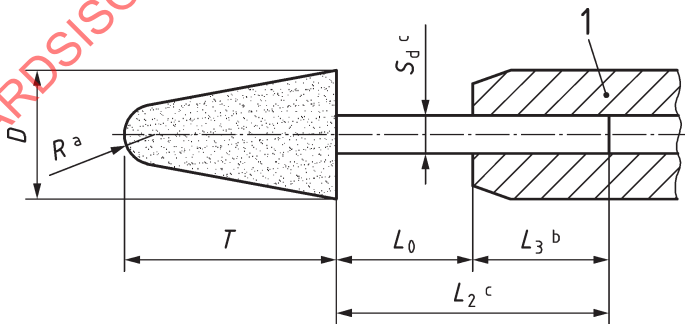
Table 7 — Conical double taper, Shape CDT, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm

Dimensions in millimetres			
Designation	Former code	D	T
CDT 11 20 03 CDT 11 20 06	B51	11	20

3.8 Conical round end, Shape CRE

See [Figure 8](#) and [Table 8](#).

Dimensions in millimetres



Key

- 1 collet
- a R is specified by the manufacturer.
- b $L_3 \geq 10$.
- c $S_d = 6$ and $L_2 = 40$.

Figure 8 — Conical round end, Shape CRE

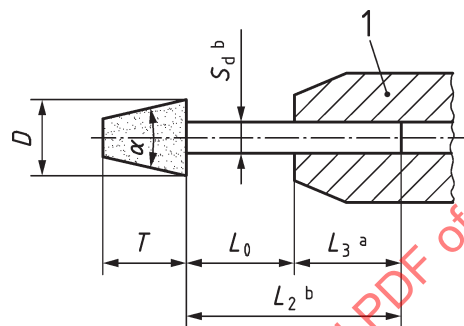
Table 8 — Conical round end, Shape CRE, $S_d = 6$ mm and $L_2 = 40$ mm

Dimensions in millimetres

Designation	Former code	D	T
CRE 16 45 06	A3mini	16	45
CRE 25 70 06	A3	25	70

3.9 Conical truncated end, Shape CTESee [Figure 9](#) and [Table 9](#).

Dimensions in millimetres

**Key**

- 1 collet
- a $L_3 \geq 10$.
- b $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$.
- c α is specified by the manufacturer.

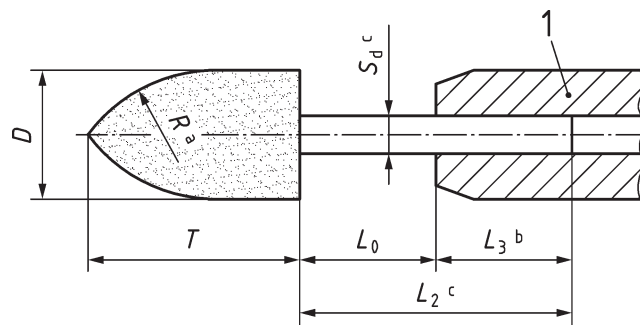
Figure 9 — Conical truncated end, Shape CTE**Table 9 — Conical truncated end, Shape CTE, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm**

Dimensions in millimetres

Designation	Former code	D	T
CTE 03 06 03	B96	3	6
CTE 03 10 03	B97		10
CTE 06 06 03	B92	6	6
CTE 13 16 03	B91	13	16
CTE 13 16 06			

3.10 Wheel ogival end, Shape WOESee [Figure 10](#) and [Table 10](#).

Dimensions in millimetres



Key

- 1 collet
- a $R = 1$ to 2,5 D .
- b $L_3 \geq 10$.
- c $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$.

Figure 10 — Wheel ogival end, Shape WOE

Table 10 — Wheel ogival end, Shape WOE, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm

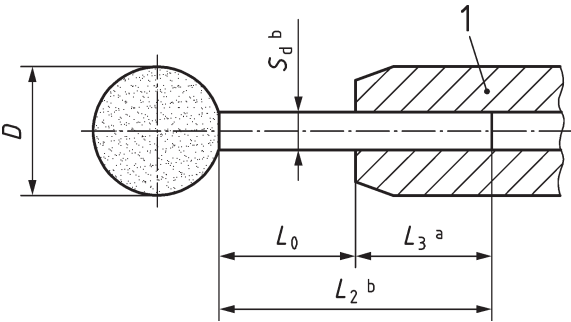
Dimensions in millimetres

Designation	Former code	D	T
WOE 06 08 03	B43	6	8
WOE 10 20 03 WOE 10 20 06	B52	10	20
WOE 13 20 03 WOE 13 20 06	B42	13	
WOE 20 32 06	A12	20	32
WOE 22 50 06	A11	22	50

3.11 Spherical, Shape SPH

See [Figure 11](#) and [Table 11](#).

Dimensions in millimetres



- Key**
- 1 collet
 - a $L_3 \geq 10$.
 - b $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$.

Figure 11 — Spherical, Shape SPH

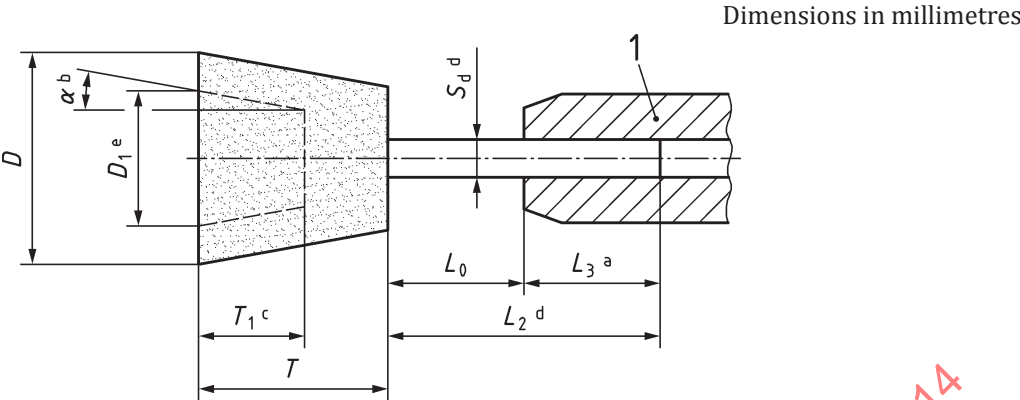
Table 11 — Spindle mounted wheels spherical shape, Shape SPH, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm

Dimensions in millimetres

Designation	Former code	D
SPH 03 03	B124	3
SPH 05 03	B123	5
SPH 13 03 SPH 13 06	B121	13
SPH 16 06	A26	16
SPH 25 06	A25	25

3.12 Conical inverse cup, Shape CIC

See [Figure 12](#) and [Table 12](#).



- Key**
- 1 collet
 - a $L_3 \geq 10$.
 - b $\alpha = 10^\circ$ to 16° .
 - c $T_1 = 0,4$ to $0,55 T$.
 - d $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$.
 - e D_1 approximately $0,6 D$.

Figure 12 — Conical inverse cup, Shape CIC

Table 12 — Conical inverse cup, Shape CIC, $S_d = 3$ mm and $L_2 = 30$ mm or $S_d = 6$ mm and $L_2 = 40$ mm

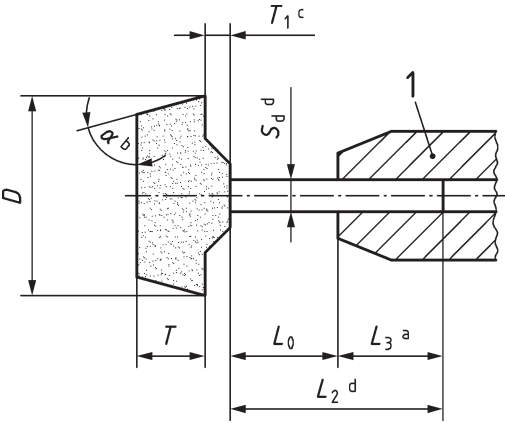
Dimensions in millimetres

Designation	Former code	D	T
CIC 16 18 03 CIC 16 18 06	B101	16	18
CIC 25 18 06	A32	25	
CIC 35 37 06	A31	35	37

3.13 Profiled periphery tapered, Shape PPT

See [Figure 13](#) and [Table 13](#).

Dimensions in millimetres



Key

- 1 collet
- a $L_3 \geq 10$.
- b α is specified by the manufacturer.
- c T_1 is specified by the manufacturer.
- d $S_d = 6$ and $L_2 = 40$.

Figure 13 — Profiled periphery tapered, Shape PPT

Table 13 — Profiled periphery tapered, Shape PPT, $S_d = 6$ mm and $L_2 = 40$ mm

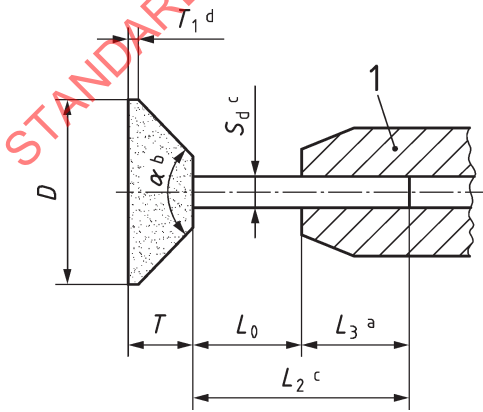
Dimensions in millimetres

Designation	Former code	D	T
PPT 25 10 06	A35	25	10
PPT 38 10 06	A34	38	

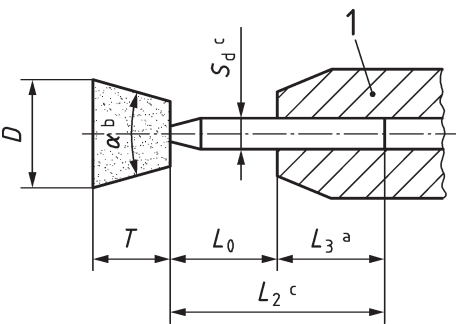
3.14 Conical inverse flat end, Shape CIF

See [Figure 14](#) and [Table 14](#).

Dimensions in millimetres



a) Variant A



b) Variant B

- Key**
- 1 collet
 - a $L_3 \geq 10$.
 - b α is specified by the manufacturer.
 - c $S_d = 3$ and $L_2 = 30$.
 - d T_1 is specified by the manufacturer.

Figure 14 — Conical inverse flat end, Shape CIF (Form A)

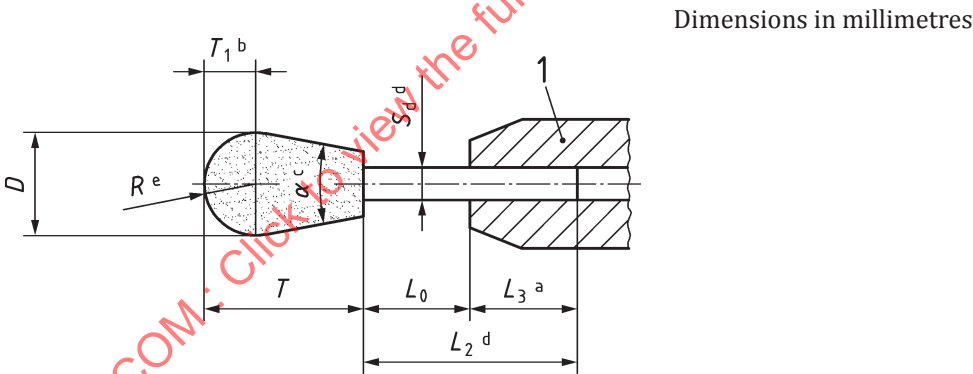
Table 14 — Conical inverse flat end, Shape CIF, $S_d = 3$ mm and $L_2 = 30$ mm

Dimensions in millimetres

Designation	Former code	D	T
CIF 08 10 03	B104	8	10
CIF 16 05 03	B103	16	5

3.15 Conical inverse round end, Shape CIR

See [Figure 15](#) and [Table 15](#).



- Key**
- 1 collet
 - a $L_3 \geq 10$.
 - b T_1 is specified by the manufacturer.
 - c α is specified by the manufacturer.
 - d $S_d = 3$ and $L_2 = 30$ or $S_d = 6$ and $L_2 = 40$.
 - e R is specified by the manufacturer.

Figure 15 — Conical inverse round end, Shape CIR