भारतीय मानक
Indian Standard

IS 18852 (Part 1) : 2024
ISO 7755-1 : 2013

कठोर धातु के बर्र

भाग 1 सामान्य विशिष्टियाँ

Hardmetal Burrs

Part 1 General Specifications

ICS 25.100.20

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Price Group 6

Cutting Tools Sectional Committee, PGD 32

NATIONAL FOREWORD

This Indian Standard (Part 1) which is identical to ISO 7755-1 : 2013 'Hardmetal burrs — Part 1: General specifications' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on recommendation of the Cutting Tools Sectional Committee and approval of the Production and General Engineering Division Council.

Hard metal burrs are cutting tools used in various machining and metalworking applications. Their functions encompass material removal, deburring of sharp edges, crafting intricate profiles, and providing the finishing touches to workpieces. These burrs are available in diverse shapes and sizes including cylindrical, spherical, conical varieties and each shape is uniquely tailored for specific cutting, shaping and grinding tasks.

This standard is published in twelve parts. Other parts in this series are:

Part 2 Cylindrical burrs (style A)
Part 3 Cylindrical round- (ball-) nose burrs (style C)
Part 4 Spherical burrs (style D)
Part 5 Oval burrs (style E)
Part 6 Arch round- (ball-) nose burrs (style F)
Part 7 Arch pointed-nose burrs (style G)
Part 8 Flame burrs (style H)
Part 9 60 degrees and 90 degrees cone burrs (styles J and K)
Part 10 Conical round- (ball-) nose burrs (style L)
Part 11 Conical pointed-nose burrs (style M)
Part 12 Inverted cone burrs (style N)

The text of ISO standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'; and

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 7755-2 Hardmetal burrs — Part 2: Cylindrical burrs (style A)	IS 18852 (Part 2) : 2024/ ISO 7755-2 : 2013 Hardmetal burrs: Part 2 Cylindrical burrs (style A)	Identical
ISO 7755-3 Hardmetal burrs — Part 3: Cylindrical round- (ball-) nose burrs (style C)	IS 18852 (Part 3) : 2024/ ISO 7755-3 : 2013 Hardmetal burrs: Part 3 Cylindrical round- (ball-) nose burrs (style C)	Identical

(*Continued on third cover*)

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Indian Standard

HARDMETAL BURRS

PART 1 GENERAL SPECIFICATIONS

1 Scope

This part of ISO 7755 specifies the common characteristics of hardmetal burrs of various styles, in solid design or with brazed shank.

The main dimensions of the cutting part of hardmetal burrs are dealt with individually in ISO 7755-2, ISO 7755-3, ISO 7755-4, ISO 7755-5, ISO 7755-6, ISO 7755-7, ISO 7755-8, ISO 7755-9, ISO 7755-10, ISO 7755-11 and ISO 7755-12.

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 7755-2, *Hardmetal burrs — Part 2: Cylindrical burrs (style A)*

ISO 7755-3, *Hardmetal burrs — Part 3: Cylindrical round- (ball-) nose burrs (style C)*

ISO 7755-4, *Hardmetal burrs — Part 4: Spherical burrs (style D)*

ISO 7755-5, *Hardmetal burrs — Part 5: Oval burrs (style E)*

ISO 7755-6, *Hardmetal burrs — Part 6: Arch round- (ball-) nose burrs (style F)*

ISO 7755-7, *Hardmetal burrs — Part 7: Arch pointed-nose burrs (style G)*

ISO 7755-8, *Hardmetal burrs — Part 8: Flame burrs (style H)*

ISO 7755-9, *Hardmetal burrs — Part 9: 60 degrees and 90 degrees cone burrs (styles J and K)*

ISO 7755-10, *Hardmetal burrs — Part 10: Conical round- (ball-) nose burrs (style L)*

ISO 7755-11, *Hardmetal burrs — Part 11: Conical pointed-nose burrs (style M)*

ISO 7755-12, *Hardmetal burrs — Part 12: Inverted cone burrs (style N)*

3 Dimensions

3.1 Cutting diameter

Table 1 gives the series of cutting diameters and their related tolerances. The main dimensions of the cutting part of hardmetal burrs are specified individually in ISO 7755-2, ISO 7755-3, ISO 7755-4, ISO 7755-5, ISO 7755-6, ISO 7755-7, ISO 7755-8, ISO 7755-9, ISO 7755-10, ISO 7755-11 and ISO 7755-12.

Table 1 — Cutting diameters and related tolerances

Dimensions in millimetres

Cutting diameter	Tolerance
2	± 0,1
3 4 6 8 10	± 0,2
12 16	± 0,3

3.2 Cylindrical shank

Shank diameter shall be 3 mm and 6 mm, with tolerance h9. Shank length shall be in accordance wtih Table 2. The shank length is defined as the length of the burr minus the length of the cutting part as given in ISO 7755-2, ISO 7755-3, ISO 7755-4, ISO 7755-5, ISO 7755-6, ISO 7755-7, ISO 7755-8, ISO 7755-9, ISO 7755-10, ISO 7755-11 and ISO 7755-12.

NOTE These length ranges permit manufacture both of burrs with constant overall length and variable shank length, and of burrs with constant shank length and variable overall length. In the latter case, national standards are intended to indicate the agreed shank length.

The agreed shank length shall be within the limits given in Table 2.

Table 2 — Shank diameter and length

Dimensions in millimetres

Shank diameter	Shank length
3	20 to 35
6	25 to 50

3.3 Relationship between cutting diameter and shank diameter

Table 3 gives the possible combinations of cutting diameters and shank diameters.

Table 3 — Cutting diameters and shank diameters

Dimensions in millimetres

Cutting diameter	Shank diameter	
	3	6
2	×	
3	×	×
4	×	×
6	×	×
8		×
10		×
12		×
16		×

4 Direction of flute helix and direction of cut

Burrs shall have a right-hand helix and right-hand cut, unless otherwise specified.

60° and 90° cone burrs (shapes J and K) may also be straight fluted.

5 Designation

5.1 Explanation of the designation code

The designation of hardmetal burrs includes six symbols, the last one being optional.

The meaning of the symbols is as follows:

1 letter symbol identifying the burr style (see 5.2.1);

2 number symbol identifying the cutting diameter (see 5.2.2);

3 number symbol identifying the cutting part length (see 5.2.3);

4 letter symbol identifying the tooth type (see 5.2.4);

5 number symbol identifying the shank diameter (see 5.2.5);

6 number symbol identifying the shank length – optional (see 5.2.6).

EXAMPLE

1	2	3	4	5	6
C	**12**	**25**	**M**	**06**	**30**

5.2 Symbols

5.2.1 Symbol for the burr style — Reference 1

Table 4 gives the letter symbols identifying each burr style.

Table 4 — Letter symbols identifying burr styles

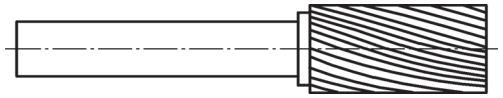
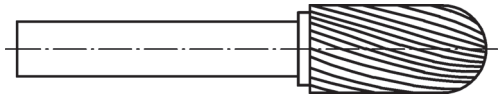
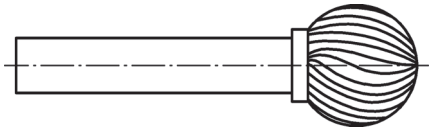
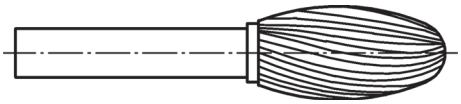
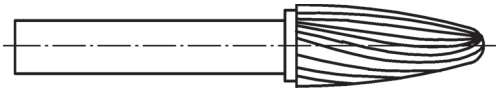
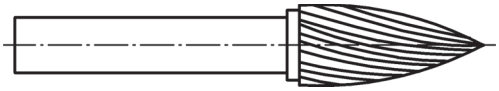
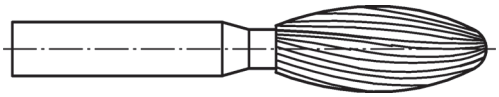
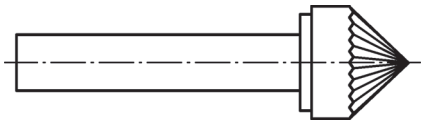
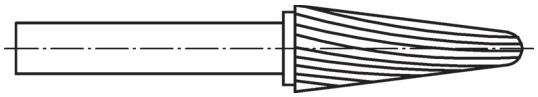
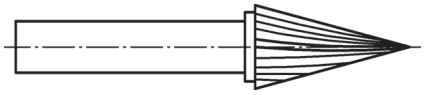
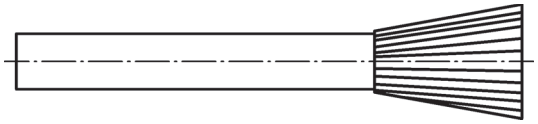
Letter symbol	Type	Illustration
A	Cylindrical burr	
C	Cylindrical round-(ball-)nose burr	
D	Spherical burr	
E	Oval burr	

Table 4 *(continued)*

Letter symbol	Type	Illustration
F	Arch round-(ball-)nose burr	
G	Arch pointed nose burr	
H	Flame burr	
J	60° cone burr	
K	90° cone burr	
L	Conical round-(ball-)nose burr	
M	Conical pointed nose burr	
N	Inverted cone burr	

5.2.2 Symbol for the cutting diameter — Reference 2

The number symbol is the numerical value of the cutting diameter, in millimetres. One-digit values shall be preceded by a “0” (zero).

EXAMPLE 1 cutting diameter 6 mm – symbol **06**

EXAMPLE 2 cutting diameter 12 mm – symbol **12**

5.2.3 Symbol for the cutting part length — Reference 3

The number symbol is the numerical value of the cutting part length, in millimetres, ignoring decimals. One-digit values shall be preceded by a “0” (zero).

EXAMPLE 1 cutting part length 5,2 mm – symbol **05**

EXAMPLE 2 cutting part length 10 mm – symbol **10**

5.2.4 Symbol for the tooth type — Reference 4

Table 5 gives the letter symbols identifying each type of tooth.

Table 5 — Letter symbols identifying tooth types

Letter symbol	Tooth type
F	Fine teeth
M	Standard (medium) teeth
C	Coarse teeth
NOTE The intention is to study the number of teeth for each tooth type in the future.	

5.2.5 Symbol for the shank diameter — Reference 5

Table 6 gives the number symbols identifying the shank diameter.

Table 6 — Number symbols identifying shank diameters

Dimensions in millimetres

Number symbol	Shank diameter
03	3
06	6

5.2.6 Symbol for the shank length — Reference 6

The optional number symbol is the numerical value of the shank length, in millimetres, ignoring decimals.

Annex A
(informative)

Relationship between designations in this part of ISO 7755 and ISO 13399 (all parts)

For the relationship between designations in this part of ISO 7755 and preferred symbols according to the ISO 13399 series, see Table A.1.

Table A.1 — Relationship between designations in this part of ISO 7755 and the ISO 13399 series

Symbol in this part of ISO 7755 **(**ISO 7755-1**)**	**Reference in this part of** ISO 7755 **(**ISO 7755-1**)**	**Property name in the** ISO 13399 **series**	**Symbol in the** ISO 13399 **series**	**Reference in the** ISO 13399 **series**
–	5.2.1	Burr type code	BTC	ISO/TS 13399-3 71DF1523869EE
–	5.2.2	Cutting diameter	DC	ISO/TS 13399-3 71E57F
–	5.2.3	Cutting edge length	L	ISO/TS 13399-3 71DD6C95DA49B
–	5.2.5	Connection diameter	DCON	ISO/TS 13399-3 71EBDBF5060E6
–	5.2.6	Shank length	LS	ISO/TS 13399-3 71CF298870946

Bibliography

[1] ISO 13399 (all parts), *Cutting tool data representation and exchange*

(*Continued from second cover*)

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 7755-4 Hardmetal burrs — Part 4: Spherical burrs (style D)	IS 18852 (Part 4) : 2024/ ISO 7755-4 : 2013 Hardmetal burrs: Part 4 Spherical burrs (style D)	Identical
ISO 7755-5 Hardmetal burrs — Part 5: Oval burrs (style E)	IS 18852 (Part 5) : 2024/ ISO 7755-5 : 2013 Hardmetal burrs: Part 5 Oval burrs (style E)	Identical
ISO 7755-6 Hardmetal burrs — Part 6: Arch round- (ball-) nose burrs (style F)	IS 18852 (Part 6) : 2024/ ISO 7755-6 : 2013 Hardmetal burrs: Part 6 Arch round- (ball-) nose burrs (style F)	Identical
ISO 7755-7 Hardmetal burrs — Part 7: Arch pointed-nose burrs (style G)	IS 18852 (Part 7) : 2024/ ISO 7755-7 : 2013 Hardmetal burrs: Part 7 Arch pointed-nose burrs (style G)	Identical
ISO 7755-8 Hardmetal burrs — Part 8: Flame burrs (style H)	IS 18852 (Part 8) : 2024/ ISO 7755-8 : 2013 Hardmetal burrs: Part 8 Flame burrs (style H)	Identical
ISO 7755-9 Hardmetal burrs — Part 9: 60 degrees and 90 degrees cone burrs (styles J and K)	IS 18852 (Part 9) : 2024/ISO 7755-9 : 2013 Hardmetal burrs: Part 9 60 degrees and 90 degrees cone burrs (styles J and K)	Identical
ISO 7755-10 Hardmetal burrs — Part 10: Conical round- (ball-) nose burrs (style L)	IS 18852 (Part 10) : 2024/ ISO 7755-10 : 2013 Hardmetal burrs: Part 10 Conical round- (ball-) nose burrs (style L)	Identical
ISO 7755-11 Hardmetal burrs — Part 11: Conical pointed-nose burrs (style M)	IS 18852 (Part 11) : 2024/ISO 7755-11 : 2013 Hardmetal burrs: Part 11 Conical pointed-nose burrs (style M)	Identical
ISO 7755-12 Hardmetal burrs — Part 12: Inverted cone burrs (style N)	IS 18852 (Part 12) : 2024/ ISO 7755-12 : 2013 Hardmetal burrs: Part 12 Inverted cone burrs (style N)	Identical

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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