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भारतीय मानक मसौदा

**डाउन-द-होल (डीटीएच) बिट्स के उपयोग हेतु टंग्स्टेन कार्बाइड बटन
और निविष्टि — विशिष्टि**

(पहला पुनरीक्षण)

DRAFT Indian Standard

**Tungsten Carbide Buttons and Inserts for Use in Down-The-Hole
(DTH) Bits — Specification**

(First Revision of IS 11672)

ICS 25.080.40

**Diamond Core and Waterwell Drilling
Sectional Committee, MED 21**

**Last date for receipt of comments
is 30 April 2023**

FOREWORD

(Formal clause to be added later)

This standard was first published in 1986.

In this revision, the standard has been brought into the latest style and format of Indian Standards, and references of Indian Standards, wherever applicable have been updated. BIS certification marking clause has been modified to align with the revised *Bureau of Indian Standards Act, 2016*.

Drilling bits play an important role in the drilling operation and so the buttons and inserts for drilling bits.

The composition of the committee, responsible for the formulation of this standard is given at *(to be added later)*.

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.

DRAFT *Indian Standard*

**TUNGSTEN CARBIDE BUTTONS AND INSERTS
FOR USE IN DOWN-THE-HOLE (DTH) BITS — SPECIFICATION**

(First Revision)

1 SCOPE

This standard covers the requirements for tungsten carbide buttons and inserts used in the manufacture of drilling bits for down-the-hole (DTH) drilling method.

2 REFERENCES

The standards listed below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below.

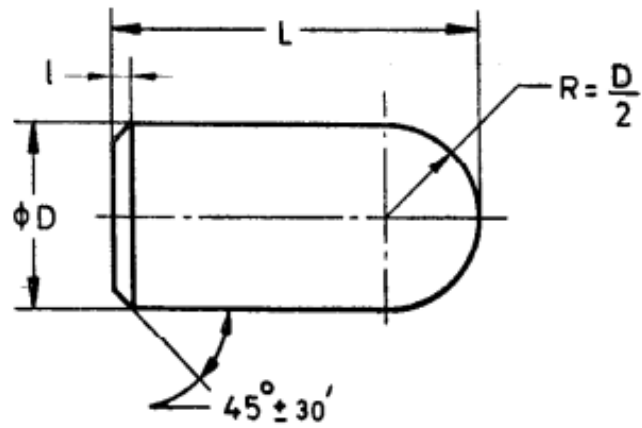
<i>IS No.</i>	<i>Title</i>
IS 4005 : 1967	Specification for tungsten carbide for mining tools
IS 8669 : 2014/ ISO 1173 : 2001	Assembly tools for screws and nuts — Drive ends for hand- and machine-operated screwdriver bits and connecting parts — Dimensions, torque testing (<i>second revision</i>)
IS/ISO 18758-1 : 2018	Mining and earth-moving machinery — Rock drill rigs and rock reinforcement rigs Part 1 Vocabulary

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS/ISO 18758-1 shall apply.

4 DIMENSIONS

4.1 Buttons

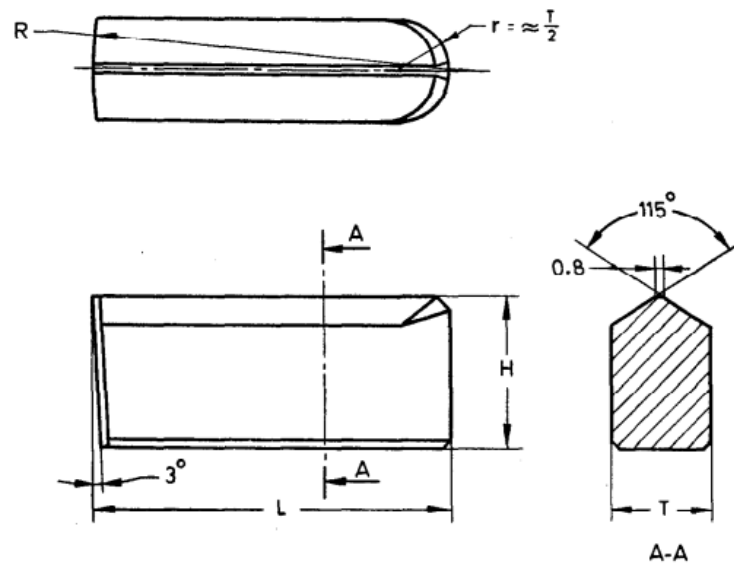


All dimensions in millimetres.

FIG. 1 TUNGSTEN CARBIDE BUTTON DRAWING

Sl No.	Diameter, D		l_0^{+1}	Length, L	
	Nominal	Tolerance		Nominal	Tolerance
(1)	(2)	(3)	(4)	(5)	(6)
i)	10	+0.6	1.5	15	+0.5
ii)		-0.3			0
iii)	12	+0.5	1.5	20	+0.5
iv)		-0.2			0
v)	12	+0.6	1.5	25	+0.8
vi)		-0.2			0
vii)	12.7	+0.6	1.5	25	+0.8
viii)		-2.2			0
ix)	16	+0.6	1.5	24	+0.8
x)		-0.3			0
xi)	16	+0.6	2.5	32	+0.8
xii)		-0.2			0
xiii)	16.5	+0.6	2.5	33	+0.8
xiv)		-0.2			0

4.2 Inserts



All dimensions in millimetres.

FIG. 2 TUNGSTEN CARBIDE INSERTS DRAWING

Sl No.	L		H		T	R
	Nominal	Tolerance	Nominal	Tolerance		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)		+0.5		+0.2		
ii)	45	0	19	-0.3	12.7	51
iii)		+0.5		+0.2		
iv)	48	0	19	-0.3	12.7	58
v)		+0.8		+0.2		
vi)	58	0	47	-0.4	25	76

5 MATERIAL

The material shall conform to IS 4005. Depending upon the usage the grade of material used shall be subject to agreement between the purchaser and the manufacturer.

6 DESIGNATION

A button made of T grade tungsten carbide (*see* IS 4005) having nominal diameter $D = 12$ mm and nominal length $L = 25$ mm conforming to this standard shall be designated as:

Button T 12 × 25 IS 11672

7 PACKING

The buttons shall be packed in plastic containers. Each plastic container shall contain 10 numbers of buttons of 10, 12, or 12.7 mm diameter or shall contain five numbers of buttons of 16 or 16.5 mm diameter. Inserts shall also be packed in plastic containers.

8 MARKING

8.1 Each button/insert shall be marked with manufacturer's identification mark, grade of tungsten carbide, diameter, and length of the button/insert on its diameter/thickness.

8.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.