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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION
R 242

CARBIDE TIPS FOR TURNING TOOLS

METRIC SERIES

1st EDITION

December 1961

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 242, *Carbide Tips for Turning Tools – Metric Series*, was drawn up by Technical Committee ISO/TC 29, *Small Tools*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1952 and led, in 1958, to the adoption of a Draft ISO Recommendation.

In September 1959, this Draft ISO Recommendation (No. 308) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Austria	Hungary	Portugal
Belgium	India	Sweden
Burma	Italy	Switzerland
Czechoslovakia	Mexico	United Kingdom
France	Netherlands	U.S.A.
Germany	Pakistan	
Greece	Poland	

One Member Body opposed the approval of the Draft: U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in December 1961, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 242 December 1961

CARBIDE TIPS FOR TURNING TOOLS

METRIC SERIES

INTRODUCTION

I. SCOPE

This ISO Recommendation relates to carbide tips for turning tools.

It is valid for applications in metric measure only.*

II. INTERCHANGEABILITY

The dimensions specified in the present ISO Recommendation are unified dimensions intended not merely to permit interchangeability between the tips and the tool shanks on which they have to be mounted, but also to facilitate trade between the various countries using metric measure.

To that end, it is desirable to respect the dimensions of interchangeability, properly so called, but also all the other dimensions given in this ISO Recommendation, in order to eliminate from their manufacture the unnecessary variation which is contrary to good productivity.

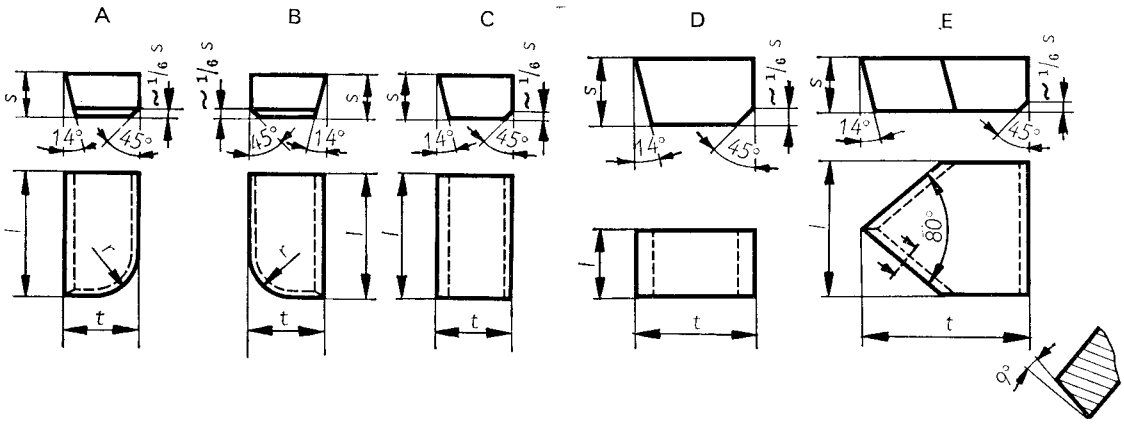
Dimension l is equal to the nominal length given in the first column of the table for tip-types *A*, *B*, *C* and *E*, and 0.5 mm more than this nominal value in the case of tip-type *D*.

* Standardization of tips applicable to inch dimensions will be undertaken as a future study with a view to finding a solution which will, if possible, ensure practical interchangeability with metric series or, failing this, will comprise dimensions and designations sufficiently different to obviate all risk of confusion between the two series.

CARBIDE TIPS FOR TURNING TOOLS

Metric series

Types:



Metric dimensions

Types	A&B				C			D			E		
Nominal length	*l*	*t*	*s*	*r*	*l*	*t*	*s*	*l*	*t*	*s*	*l*	*t*	*s*
3	—	—	—	—	—	—	—	3.5	8	3	—	—	—
4	—	—	—	—	—	—	—	4.5	10	4	4	10	2.5
5	5	3	2	2	5	3	2	5.5	12	5	5	12	3
6	6	4	2.5	2.5	6	4	2.5	6.5	14	6	6	14	3.5
8	8	5	3	3	8	5	3	8.5	16	8	8	16	4
10	10	6	4	4	10	6	4	10.5	18	10	10	18	5
12	12	8	5	5	12	8	5	12.5	20	12	12	20	6
16	16	10	6	6	16	10	6	—	—	—	16	22	7
20	20	12	7	7	20	12	7	—	—	—	20	25	8
25	25	14	8	8	25	14	8	—	—	—	25	28	9
32	32	18	10	10	32	18	10	—	—	—	32	32	10
40	40	22	12	12	40	22	12	—	—	—	—	—	—
50	50	25	14	14	50	25	14	—	—	—	—	—	—

All the dimensions given in this Table are minimum dimensions.

NOTES

1. Tips with a thickness "*s*" below 4 mm are supplied without a chamfer at the base and without the 14° clearance angle. Cutting edges may be slightly rounded. As shown in the table, type *D* tips are supplied with a length *l* 0.5 mm greater than the nominal.
2. The value of 14° for the clearance angle is given for guidance. This value is recommended as an international standard at the present time.
   Further study will enable the optimum standard value to be recommended for the future.

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ERRATUM
March 1964

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ERRATUM

Page 4, to the right of the drawing D, read:

$^1/_4$ s as the dimension of the chamfer, instead of $^1/_6$ s.