

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ADDENDUM 1 TO ISO RECOMMENDATION R 529

SHORT MACHINE TAPS AND HAND TAPS

1st EDITION

June 1972

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## FOREWORD

Addendum 1 (which is a combination of two documents originally circulated as Draft Addendum 1 [Draft No. 2282] and Draft Addendum 2) to ISO Recommendation R 529-1966 was drawn up by Technical Committee ISO/TC 29, *Small tools*.

Draft No. 2282 and ISO/R 529/Add. 2 were approved in August 1971 by the Member Bodies of the following countries :

Austria	Israel	Spain*
Belgium	Italy	Sweden
Czechoslovakia	Japan	Switzerland
Egypt, Arab Rep. of	Korea, Rep. of*	Thailand*
France	Netherlands	Turkey
Hungary	Poland	United Kingdom
India	Romania	U.S.A.
Ireland	South Africa, Rep. of	U.S.S.R.

\* did not vote on ISO/R 529/Add. 2.

The Member Body of the following country expressed disapproval of Draft No. 2282 on technical grounds :

Australia

No Member Body expressed disapproval of ISO/R 529/Add. 2.

## SHORT MACHINE TAPS AND HAND TAPS

### 1. SCOPE

This document is a supplement to ISO Recommendation R 529, *Short machine taps and hand taps*, which as far as relieved shanks taps are concerned, applies only to nominal diameters from 11 mm (7/16 in).

It applies to taps with nominal diameters from 3 mm up to 10 mm and 1/8 to 3/8 in and applies to the same types of threads as those covered by ISO Recommendation R 529, i.e.

#### ISO metric threads

- coarse pitches (See Table 1)
- fine pitches (See Table 2)

#### ISO inch threads

- Unified Coarse (UNC) (See Table 3)
- Unified Fine (UNF) (See Table 4)

In addition, taps for non-recommended threads are given in an Appendix and apply to the following thread types :

- British Standard Whitworth (BSW) (See Table 5)
- British Standard Fine (BSF) (See Table 5)
- British Association (BA) (See Table 6)

For tolerances and for the marking of taps, refer to the relevant sections of ISO Recommendation R 529.

This document also completes Note 2 of pages 8 and 10, for the marking of the material, as follows :

#### Material

High speed steel taps :

High speed steel taps should be marked HSS.

- Taps made from other steels than high speed steel :

The marking of taps made from steels other than high speed steel is left to the discretion of the manufacturer or should be specified in the national standards.

## 2. RELIEVED SHANK TAPS

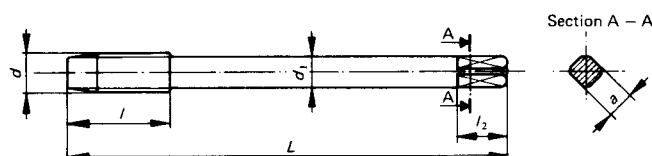


FIGURE — Dimensions

TABLE 1 — Coarse pitch metric threads

Dimensions in millimetres

Designation	$d$ nominal	Pitch	$d_1$ h9	$l$	$L$	Square	
						$a$ h11	$l_2$
M 3	3	0.5	2.24	11	48	1.80	4
M 3.5	3.5	0.6	2.50	13	50	2.00	
M 4	4	0.7	3.15		53	2.24	5
M 4.5	4.5	0.75	3.55	16	58	2.50	
M 5	5	0.8	4.00		66	2.80	6
M 6	6	1	4.50	19	72	3.55	
M 7	7		5.60			4.50	7
M 8	8	1.25	6.30	22	80	5.00	8
M 9	9		7.10			5.60	
M 10	10	1.5	8.00	24	80		

NOTE. — A recess, optional at the wish of the manufacturer, having the dimension equal to  $d_2$  of ISO/R 529, may be provided.

TABLE 2 — Fine pitch metric threads

Dimensions in millimetres

Designation	$d$ nominal	Pitch	$d_1$ h9	$l$	$L$	Square	
						$a$ h11	$l_2$
M 3 × 0.35	3	0.35	2.24	11	48	1.80	4
M 3.5 × 0.35	3.5		2.50	13	50	2.00	
M 4 × 0.5	4	0.5	3.15		53	2.24	5
M 4.5 × 0.5	4.5		3.55	16	58	2.50	
M 5 × 0.5	5		4.00	17	62	3.15	6
M 5.5 × 0.5	5.5	0.75	4.50	19	66	3.55	
M 6 × 0.75	6					4.50	7
M 7 × 0.75	7	1	6.30	20	76	5.00	8
M 8 × 1	8		7.10			5.60	
M 9 × 1	9	1.25	8.00	20	76	5.60	8
M 10 × 1	10						
M 10 × 1.25	10	1.25	8.00	20	76		

NOTE. — A recess, optional at the wish of the manufacturer, having the dimension equal to  $d_2$  of ISO/R 529, may be provided.

TABLE 3 - Unified Coarse (UNC) threads

Dimensions in millimetres

Designation	$d$ nominal	Approximate pitch	$d_1$ h9	$l$	$L$	Square	
						$a$ h11	$l_2$
No. 5-40-UNC	3.175	0.635	2.25	11	48	1.80	3
No. 6-32-UNC	3.505	0.794	2.50	13	50	2.00	
No. 8-32-UNC	4.166		3.15		53	2.50	5
No. 10-24-UNC	4.826	1.058	3.55	16	58	2.80	
No. 12-24-UNC	5.486		4.00	17	62	3.15	6
$\frac{1}{4}$ -20-UNC	6.350	1.270	4.50	19	66	3.55	
$\frac{5}{16}$ -18-UNC	7.938	1.411	6.30	22	72	5.00	8
$\frac{3}{8}$ -16-UNC	9.525	1.588	7.10	24	80	5.60	

TABLE 4 - Unified Fine (UNF) threads

Dimensions in millimetres

Designation	$d$ nominal	Approximate pitch	$d_1$ h9	$l$	$L$	Square	
						$a$ h11	$l_2$
No. 5-44-UNF	3.175	0.577	2.24	11	48	1.80	4
No. 6-40-UNF	3.505	0.635	2.50	13	50	2.00	
No. 8-36-UNF	4.166	0.706	3.15		53	2.50	5
No. 10-32-UNF	4.826	0.794	3.55	16	58	2.80	
No. 12-28-UNF	5.486	0.907	4.00	17	62	3.15	6
$\frac{1}{4}$ -28-UNF	6.350		4.50	19	66	3.55	
$\frac{5}{16}$ -24-UNF	7.938	1.058	6.30		69	5.00	8
$\frac{3}{8}$ -24-UNF	9.525		7.10	20	76	5.60	