

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION R 1580

SLOTTED PAN HEAD SCREWS

METRIC SERIES

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1st EDITION

June 1970

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Printed in Switzerland

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



## BRIEF HISTORY

The ISO Recommendation R 1580, *Slotted pan head screws – Metric series*, was drawn up by Technical Committee ISO/TC 2, *Bolts, nuts and accessories*, the Secretariat of which is held by the Deutscher Normenausschuss (DNA).

Work on this question led to the adoption of Draft ISO Recommendation No. 1580, which was circulated to all the ISO Member Bodies for enquiry in July 1968. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Israel	South Africa, Rep. of
Belgium	Italy	Spain
Brazil	Japan	Sweden
Canada	Korea, Rep. of	Switzerland
Czechoslovakia	Netherlands	Thailand
Denmark	New Zealand	Turkey
Finland	Norway	U.A.R.
Germany	Poland	United Kingdom
Hungary	Portugal	U.S.A.
India	Romania	U.S.S.R.

The following Member Body opposed the approval of the Draft :

France

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



ISO Recommendation

R 1580

June 1970

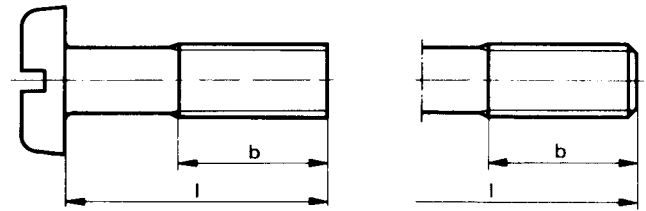
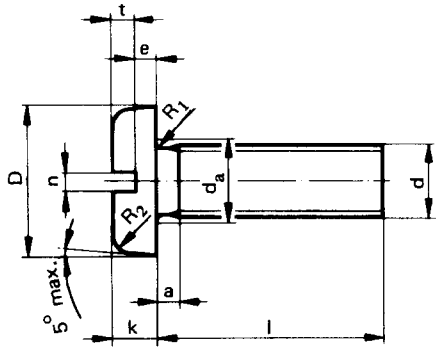
**SLOTTED PAN HEAD SCREWS****METRIC SERIES****1. SCOPE**

This ISO Recommendation specifies dimensions of slotted pan head screws of the metric series and provides a system of standard lengths, i.e. recommended combinations of thread size, thread length and nominal length.

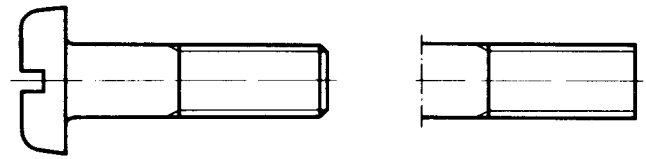
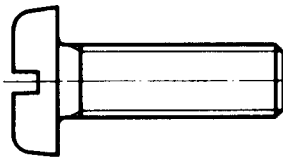
**2. DIMENSIONS**

Principal dimensions are given in Table 1, page 6. (Nominal lengths and thread lengths are given in section 3.) The thread sizes in parentheses should be avoided if possible.

NOTE. — According to the type of manufacturing process used, screw cutting or die-casting, the shape of the head may be cylindrical or tapered with a conicity of up to 5°.



shank diameter  $\approx$  pitch diameter



shank diameter  $\approx$  major diameter

TABLE 1 - Principal dimensions

Dimensions in millimetres

Thread size	$d$	2.5	3	(3.5)	4	(4.5)	5	6	8	10
$D$	h14	5	6	7	8	9	10	12	16	20
$k$	h13	1.5	1.8	2.1	2.4	2.7	3	3.6	4.8	6
$n$	Nominal value	0.6	0.8	0.8	1	1	1.2	1.6	2	2.5
	max.	0.80	1.00	1.00	1.20	1.20	1.51	1.91	2.31	2.81
	min.	0.66	0.86	0.86	1.06	1.06	1.26	1.66	2.06	2.56
$e$	min.	0.6	0.72	0.84	0.96	1.08	1.2	1.44	1.92	2.4
$t$	max.	0.9	1.08	1.26	1.44	1.62	1.8	2.16	2.88	3.6
	min.	0.6	0.72	0.84	0.96	1.08	1.2	1.44	1.92	2.4
$R_1$	min.	0.1	0.1	0.1	0.2	0.2	0.2	0.25	0.4	0.4
$R_2$	max.	1	1.2	1.4	1.6	1.8	2	2.5	3.2	4
$d_a$	max.	3.1	3.6	4.1	4.7	5.2	5.7	6.8	9.2	11.2
$a$	max.	0.9	1	1.2	1.4	1.5	1.6	2	2.5	3

NOTE. - For tolerance and symbols see ISO Recommendation R 286, *ISO System of limits and fits - Part 1: General, tolerances and deviations.*

3. STANDARD LENGTHS

Standard lengths, i.e. recommended combinations of thread size, thread length and nominal length, should be selected from those given in Table 2, below. The standard lengths are those between the heavy stepped lines.

Screws with nominal lengths above the stepped line marked thus, - - - -, are threaded up to the head. Nominal lengths in brackets should be avoided if possible.

TABLE 2 - Standard lengths

Dimensions in millimetres

Nominal lengths <i>l</i>	Thread size <i>d</i>								
	2.5	3	(3.5)	4	(4.5)	5	6	8	10
4									
5									
6									
(7)									
8									
(9)									
10									
(11)									
12									
14									
16									
(18)									
20									
(22)									
25									
(28)									
30									
(32)									
35									
(38)									
40									
45									
50									
55									
60									
65									
70									
75									
80									
85									
90									
95									
100									
Thread length <i>b</i>	18	19	20	22	24	25	28	34	40