
INTERNATIONAL STANDARD



2010

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Slotted raised countersunk (oval) head screws — Metric series

Vis à tête fendue fraisée bombée — Série métrique

First edition — 1974-11-01

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UDC 621.882.215.4

Ref. No. ISO 2010-1974 (E)

Descriptors : fasteners, screws, slotted head screws, dimensions.

Price based on 3 pages

FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2010 was drawn up by Technical Committee ISO/TC 2, *Fasteners*, and circulated to the Member Bodies in December 1971.

It has been approved by the Member Bodies of the following countries :

| | | |
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This International Standard has also been approved by the International Union of Railways (UIC).

The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Canada
France

Slotted raised countersunk (oval) head screws – Metric series

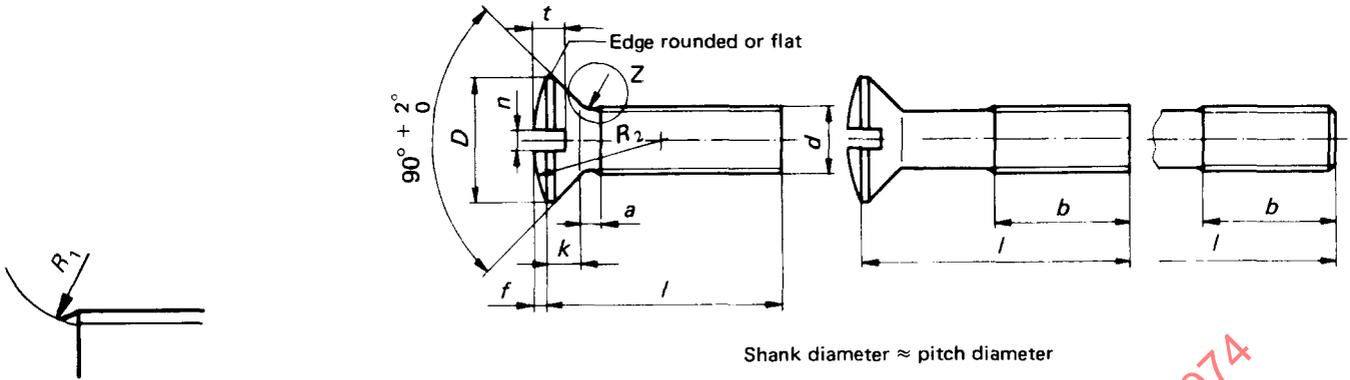
1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies dimensions of slotted raised countersunk (oval) head screws of the metric series and provides a system of standard lengths, i.e. recommended combinations of thread diameter, thread length and nominal length.

2 DIMENSIONS

Principal dimensions are given in table 1. Nominal lengths and thread lengths are given in clause 3.

The thread sizes in brackets are to be avoided if possible.



Detail Z

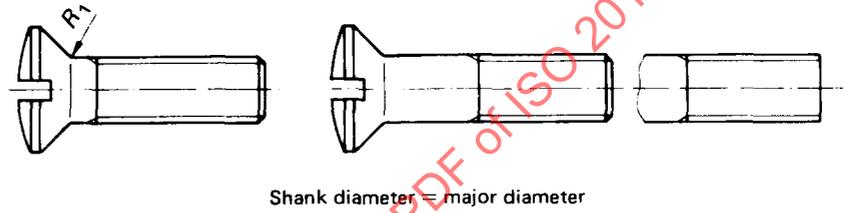


TABLE 1 – Principal dimensions

Dimensions in millimetres

| Thread diameter <i>d</i> | | 1 | 1,2 | (1,4) | 1,6 | (1,8) | 2 | (2,2) | 2,5 | 3 | (3,5) | 4 | (4,5) | 5 | 6 | 8 | 10 | 12 | (14) | 16 | (18) | 20 |
|--------------------------|-------------|------|------|-------|------|-------|------|-------|------|------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| <i>D</i> | theoretical | 2,2 | 2,64 | 3,08 | 3,52 | 3,96 | 4,4 | 4,84 | 5,5 | 6,3 | 7,35 | 8,4 | 9 | 10 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| | max. | 2 | 2,35 | 2,7 | 3,1 | 3,45 | 3,8 | 4,2 | 4,7 | 5,6 | 6,5 | 7,4 | 8,3 | 9,2 | 11 | 14,5 | 18 | 21,5 | 25 | 28,5 | 32,5 | 36 |
| | min. | 1,75 | 2,1 | 2,45 | 2,8 | 3,15 | 3,5 | 3,9 | 4,4 | 5,3 | 6,1 | 7 | 7,9 | 8,8 | 10,5 | 14 | 17,5 | 21 | 24,5 | 28 | 31,5 | 35 |
| <i>k</i> | max. | 0,6 | 0,72 | 0,84 | 0,96 | 1,08 | 1,2 | 1,32 | 1,5 | 1,65 | 1,93 | 2,2 | 2,25 | 2,5 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| <i>n</i> | nominal | 0,25 | 0,3 | 0,3 | 0,4 | 0,4 | 0,5 | 0,6 | 0,6 | 0,8 | 0,8 | 1 | 1 | 1,2 | 1,6 | 2 | 2,5 | 3 | 3 | 4 | 4 | 5 |
| | min. | 0,31 | 0,36 | 0,36 | 0,46 | 0,46 | 0,56 | 0,66 | 0,66 | 0,86 | 0,86 | 1,06 | 1,06 | 1,26 | 1,66 | 2,06 | 2,56 | 3,06 | 3,06 | 4,07 | 4,07 | 5,07 |
| | max. | 0,45 | 0,5 | 0,5 | 0,6 | 0,6 | 0,7 | 0,8 | 0,8 | 1 | 1 | 1,2 | 1,2 | 1,51 | 1,91 | 2,31 | 2,81 | 3,31 | 3,31 | 4,37 | 4,37 | 5,37 |
| <i>t</i> | min. | 0,4 | 0,48 | 0,56 | 0,64 | 0,72 | 0,8 | 0,88 | 1 | 1,2 | 1,4 | 1,6 | 1,8 | 2 | 2,4 | 3,2 | 4 | 4,8 | 5,6 | 6,4 | 7,2 | 8 |
| | max. | 0,55 | 0,64 | 0,73 | 0,8 | 0,9 | 1 | 1,1 | 1,2 | 1,45 | 1,7 | 1,9 | 2,1 | 2,3 | 2,8 | 3,7 | 4,5 | 5,4 | 6,3 | 7,2 | 8,1 | 9 |
| <i>R</i> ₁ | ≈ | 0,1 | 0,12 | 0,14 | 0,16 | 0,18 | 0,2 | 0,22 | 0,25 | 0,3 | 0,35 | 0,4 | 0,45 | 0,5 | 0,6 | 0,8 | 1 | 1,2 | 1,4 | 1,6 | 1,8 | 2 |
| <i>R</i> ₂ | ≈ | 2,1 | 2,6 | 2,9 | 3,4 | 3,8 | 4,2 | 4,6 | 5,4 | 6 | 6,8 | 8 | 8,7 | 9,4 | 12 | 15 | 19 | 22,5 | 26 | 30 | 34 | 38 |
| <i>f</i> | | 0,25 | 0,3 | 0,35 | 0,4 | 0,45 | 0,5 | 0,55 | 0,6 | 0,75 | 0,9 | 1 | 1,1 | 1,25 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 |
| <i>a</i> (2 × pitch) | max. | 0,5 | 0,5 | 0,6 | 0,7 | 0,7 | 0,8 | 0,9 | 0,9 | 1 | 1,2 | 1,4 | 1,5 | 1,6 | 2 | 2,5 | 3 | 3,5 | 4 | 4 | 5 | 5 |

3 STANDARD LENGTHS

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

Screws with nominal lengths above the broken stepped line (---) are threaded up to the head. Nominal lengths in brackets are to be avoided if possible.

TABLE 2 – Standard lengths

Dimensions in millimetres

| Thread diameter <i>d</i> | 1 | 1,2 | (1,4) | 1,6 | (1,8) | 2 | (2,2) | 2,5 | 3 | (3,5) | 4 | (4,5) | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | |
|--------------------------|------------------|-----|-------|-----|-------|----|-------|-----|----|-------|----|-------|----|----|----|----|----|----|----|----|----|--|
| Thread length <i>b</i> | * | * | * | 15 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 34 | 40 | 46 | 52 | 58 | 64 | 70 | |
| Nominal length <i>l</i> | Standard lengths | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | |
| 2,5 | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | |
| (105) | | | | | | | | | | | | | | | | | | | | | | |
| 110 | | | | | | | | | | | | | | | | | | | | | | |
| (115) | | | | | | | | | | | | | | | | | | | | | | |
| 120 | | | | | | | | | | | | | | | | | | | | | | |
| (125) | | | | | | | | | | | | | | | | | | | | | | |
| 130 | | | | | | | | | | | | | | | | | | | | | | |
| 140 | | | | | | | | | | | | | | | | | | | | | | |
| 150 | | | | | | | | | | | | | | | | | | | | | | |
| 160 | | | | | | | | | | | | | | | | | | | | | | |
| 170 | | | | | | | | | | | | | | | | | | | | | | |
| 180 | | | | | | | | | | | | | | | | | | | | | | |
| 190 | | | | | | | | | | | | | | | | | | | | | | |
| 200 | | | | | | | | | | | | | | | | | | | | | | |

• Threaded up to the head only.

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