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# Ground thread taps for ISO Metric threads of tolerance 4H to 8H and 4G to 6G coarse and fine pitches — Manufacturing tolerances on the threaded portion

## AMENDMENT 1

### iTeh STANDARD PREVIEW

(standards.iteh.ai)

Amendment 1 to International Standard ISO 2857-1973 was developed by Technical Committee ISO/TC 29, *Small tools*, and was circulated to the member bodies in January 1983.

[ISO 2857:1973/Amd 1:1984](https://standards.iteh.ai/catalog/standards/sist/4d8683ca-ab74-484e-8604-f7c5778db686/iso-2857-1973-amd-1-1984)

It has been approved by the member bodies of the following countries:

|                |         |                       |
|----------------|---------|-----------------------|
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| Austria        | India   | Sweden                |
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| Czechoslovakia | Poland  | USSR                  |
| Germany, F.R.  | Romania |                       |

The member bodies of the following countries expressed disapproval of the document on technical grounds:

France  
USA

UDC 621.993

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**Descriptors:** tools, cutting tools, taps, screw threads, dimensional tolerances.

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Delete clause 4.4 and substitute:

**4.4 Tolerances on the half-angle  $\alpha/2$  of thread**

The values for tolerances on the half-angle  $\alpha/2$  are based on the pitch of the thread and shall be in accordance with the values of table 3.

**Table 3 – Tolerances on the half-angle  $\alpha/2$**

| Pitch                            | Tolerance on $\alpha/2$ |
|----------------------------------|-------------------------|
| 0,2<br>0,25                      | $\pm 70'$               |
| 0,3<br>0,35<br>0,4               | $\pm 50'$               |
| 0,45<br>0,5<br>0,6               | $\pm 35'$               |
| 0,7<br>0,75<br>0,8               | $\pm 30'$               |
| 1,25<br>1,5                      | $\pm 25'$               |
| 1,75<br>2<br>2,5<br>3            | $\pm 20'$               |
| 3,5<br>4<br>4,5<br>5<br>5,5<br>6 | $\pm 15'$               |

NOTE — For a given pitch, the half-angle tolerance  $\alpha/2$  has been calculated so that the equivalent error on the virtual pitch diameter does not exceed a stated proportion of the pitch diameter tolerance  $T_{D_2}$  for the corresponding class 5 nut thread.

The stated proportion is 8 %, except for pitches finer than 0,4 mm where it is 10 %. The calculated values have been rounded off to the nearest 5' to bring them within the scope of practical measurement.

STANDARD PREVIEW  
(standards.itech.ai)  
ISO 2857:1973/Amd 1:1984  
<https://standards.itech.ai/catalog/standards/sist/4d8683ca-ab74-484e-8604-fc5778db686/iso-2857-1973-amd-1-1984>

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Clause 6

Delete the line before the last in the left-hand column and substitute:

“Tolerance on the half-angle of pitch ( $\alpha/2$ )”.

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Annex A

In the table, replace the column “Tolerance on  $\alpha$  and  $\alpha/2$ ” by the following:

| Class of taps |             |           | Toler. on $\alpha/2$ | $d$ nominal |
|---------------|-------------|-----------|----------------------|-------------|
| Thread        |             |           |                      |             |
| Designation   | $d$ nominal | Pitch $P$ |                      |             |
| M 1           | 1           | 0,25      | $\pm 70'$            | 1           |
| M 1,1         | 1,1         |           |                      | 1,1         |
| M 1,2         | 1,2         |           |                      | 1,2         |
| M 1,4         | 1,4         | 0,3       | $\pm 50'$            | 1,4         |
| M 1,6         | 1,6         |           |                      | 1,6         |
| M 1,8         | 1,8         |           |                      | 1,8         |
| M 2           | 2           | 0,4       | $\pm 35'$            | 2           |
| M 2,2         | 2,2         |           |                      | 2,2         |
| M 2,5         | 2,5         |           |                      | 2,5         |
| M 3           | 3           | 0,5       | $\pm 30'$            | 3           |
| M 3,5         | 3,5         |           |                      | 3,5         |
| M 4           | 4           |           |                      | 4           |
| M 4,5         | 4,5         | 0,75      | $\pm 25'$            | 4,5         |
| M 5           | 5           |           |                      | 5           |
| M 6           | 6           |           |                      | 6           |
| M 7           | 7           | 1         | $\pm 20'$            | 7           |
| M 8           | 8           |           |                      | 8           |
| M 9           | 9           |           |                      | 9           |
| M 10          | 10          | 1,25      | $\pm 15'$            | 10          |
| M 11          | 11          |           |                      | 11          |
| M 12          | 12          |           |                      | 12          |
| M 14          | 14          | 2         | $\pm 10'$            | 14          |
| M 16          | 16          |           |                      | 16          |
| M 18          | 18          |           |                      | 18          |
| M 20          | 20          | 2,5       | $\pm 5'$             | 20          |
| M 22          | 22          |           |                      | 22          |
| M 24          | 24          |           |                      | 24          |
| M 27          | 27          | 3         | $\pm 2'$             | 27          |
| M 30          | 30          |           |                      | 30          |
| M 33          | 33          |           |                      | 33          |
| M 36          | 36          | 4         | $\pm 1'$             | 36          |
| M 39          | 39          |           |                      | 39          |
| M 42          | 42          |           |                      | 42          |
| M 45          | 45          | 4,5       | $\pm 0,5'$           | 45          |
| M 48          | 48          |           |                      | 48          |
| M 52          | 52          |           |                      | 52          |
| M 56          | 56          | 5,5       | $\pm 0,25'$          | 56          |
| M 60          | 60          |           |                      | 60          |
| M 64          | 64          |           |                      | 64          |
| M 68          | 68          | 6         | $\pm 0,125'$         | 68          |

In the table, replace the column "Tolerance on  $\alpha$  and  $\alpha/2$ " by the following:

| Class of taps |             |           | Toler. on $\alpha/2$ | $d$ nominal |
|---------------|-------------|-----------|----------------------|-------------|
| Thread        |             |           |                      |             |
| Designation   | $d$ nominal | Pitch $P$ |                      |             |
| M 1 × 0,2     | 1           | 0,2       | ± 70'                | 1           |
| M 1,1 × 0,2   | 1           |           |                      | 1,1         |
| M 1,2 × 0,2   | 1,2         |           |                      | 1,2         |
| M 1,4 × 0,2   | 1,4         |           |                      | 1,4         |
| M 1,6 × 0,2   | 1,6         |           |                      | 1,6         |
| M 1,8 × 0,2   | 1,8         |           |                      | 1,8         |
| M 2 × 0,25    | 2           | 0,25      |                      | 2           |
| M 2,2 × 0,25  | 2,2         |           |                      | 2,2         |
| M 2,5 × 0,35  | 2,5         | 0,35      | ± 50'                | 2,5         |
| M 3 × 0,35    | 3           |           |                      | 3           |
| M 3,5 × 0,35  | 3,5         |           |                      | 3,5         |
| M 4 × 0,5     | 4           | 0,5       | ± 35'                | 4           |
| M 4,5 × 0,5   | 4,5         |           |                      | 4,5         |
| M 5 × 0,5     | 5           |           |                      | 5           |
| M 5,5 × 0,5   | 5,5         |           |                      | 5,5         |
| M 6 × 0,75    | 6           | 0,75      | ± 30'                | 6           |
| M 7 × 0,75    | 7           |           |                      | 7           |
| M 8 × 1       | 8           | 1         |                      | 8           |
| M 9 × 1       | 9           |           |                      | 9           |
| M 10 × 1      | 10          |           |                      | 10          |
| M 10 × 1,25   | 10          | 1,25      | ± 25'                | 10          |
| M 12 × 1,25   |             |           |                      | 12          |
| M 12 × 1,5    | 12          | 1,5       |                      | 12          |
| M 14 × 1,25   | 14          | 1,25      |                      | 14          |
| M 14 × 1,5    |             |           |                      | 14          |
| M 15 × 1,5    | 15          | 1,5       |                      | 15          |
| M 16 × 1,5    | 16          |           |                      | 16          |
| M 17 × 1,5    | 17          |           |                      | 17          |
| M 18 × 1,5    | 18          | 2         | ± 20'                | 18          |
| M 18 × 2      |             |           |                      | 18          |
| M 20 × 1,5    | 20          | 1,5       | ± 25'                | 20          |
| M 20 × 2      |             | 2         | ± 20'                |             |
| M 22 × 1,5    | 22          | 1,5       | ± 25'                | 22          |
| M 22 × 2      |             | 2         | ± 20'                |             |
| M 24 × 1,5    | 24          | 1,5       | ± 25'                | 24          |
| M 24 × 2      |             | 2         | ± 20'                |             |
| M 25 × 1,5    | 25          | 1,5       | ± 25'                | 25          |
| M 25 × 2      |             | 2         | ± 20'                |             |
| M 27 × 1,5    | 27          | 1,5       | ± 25'                | 27          |
| M 27 × 2      |             | 2         | ± 20'                |             |
| M 28 × 1,5    | 28          | 1,5       | ± 25'                | 28          |
| M 28 × 2      |             | 2         | ± 20'                |             |
| M 30 × 1,5    | 30          | 1,5       | ± 25'                | 30          |
| M 30 × 2      |             | 2         | ± 20'                |             |
| M 30 × 3      |             | 3         |                      |             |
| M 32 × 1,5    | 32          | 1,5       | ± 25'                | 32          |
| M 32 × 2      |             | 2         | ± 20'                |             |