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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

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.

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

Australia  
Austria  
Belgium  
China  
Czechoslovakia  
Germany, F.R.

Hungary  
India  
Italy  
Japan  
Poland  
Romania

South Africa, Rep. of  
Sweden  
Switzerland  
United Kingdom  
USSR

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<br>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.

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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<br>$\alpha/2$ | $d$<br>nominal |
|---------------|----------------|--------------|-------------------------|----------------|
| Thread        |                |              |                         |                |
| Designation   | $d$<br>nominal | Pitch<br>$P$ |                         |                |
| 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             | 1,5          | $\pm 15'$               | 14             |
| M 16          | 16             |              |                         | 16             |
| M 18          | 18             |              |                         | 18             |
| M 20          | 20             | 2            | $\pm 15'$               | 20             |
| M 22          | 22             |              |                         | 22             |
| M 24          | 24             |              |                         | 24             |
| M 27          | 27             | 2,5          | $\pm 15'$               | 27             |
| M 30          | 30             |              |                         | 30             |
| M 33          | 33             |              |                         | 33             |
| M 36          | 36             | 3            | $\pm 15'$               | 36             |
| M 39          | 39             |              |                         | 39             |
| M 42          | 42             |              |                         | 42             |
| M 45          | 45             | 3,5          | $\pm 15'$               | 45             |
| M 48          | 48             |              |                         | 48             |
| M 52          | 52             |              |                         | 52             |
| M 56          | 56             | 4            | $\pm 15'$               | 56             |
| M 60          | 60             |              |                         | 60             |
| M 64          | 64             |              |                         | 64             |
| M 68          | 68             | 4,5          | $\pm 15'$               | 68             |
|               |                |              |                         |                |
|               |                |              |                         |                |
|               |                | 5            | $\pm 15'$               |                |
|               |                |              |                         |                |
|               |                |              |                         |                |
|               |                | 5,5          | $\pm 15'$               |                |
|               |                |              |                         |                |
|               |                |              |                         |                |
|               |                | 6            | $\pm 15'$               |                |
|               |                |              |                         |                |
|               |                |              |                         |                |