INTERNATIONAL STANDARD 261

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

ISO general purpose metric screw threads — General plan

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, International Standard ISO 261 replaces ISO Recommendation R 261-1969 drawn up by Technical Committee ISO/TC 1, *Screw threads.*

The Member Bodies of the following countries approved the Recommendation :

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

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

Australia
U.S.A.

Printed in Switzerland

ISO general purpose metric screw threads — General plan

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies ISO general purpose metric screw threads having the basic profile according to ISO 68, *ISO general purpose screw threads — Basic profile*.

2 CHOICE OF DIAMETER AND PITCH

2.1 Choose, for preference, diameters in column 1 of Table 2 and, if necessary, in column 2 and then in column 3.

Diameter 35 mm, and pitch 1,25 mm of diameter 14 mm shall be used only for the special cases indicated in the footnotes.

2.2 The words "coarse" and "fine" are given in order to conform to usage. No concept of quality shall, however, be associated with these words.

It shall be understood that "coarse" pitches are the largest metric pitches used in current practice.

2.3 For the diameter (or the diameter range) selected, choose one of the pitches shown on the corresponding line (or lines), avoiding pitches in brackets.

2.4 If screw threads finer than those appearing in Table 2 are found necessary, only the following pitches shall be used :

3 – 2 – 1,5 – 1 – 0,75 – 0,5 – 0,35 – 0,25 – 0,2

When selecting such pitches, take into account the fact that there is increasing difficulty in complying with tolerances as the diameter is increased for a given pitch. It is suggested, for the time being, that diameters larger than those shown in Table 1 should generally not be used with the pitches indicated.

TABLE 1 — **Maximum diameters**

Dimensions in millimetres

Pitch	Maximum diameter
0,5	22
0,75	33
1	80
1,5	150
2	200
3	300

2.5 In cases where it would be necessary to use a thread with a pitch larger than 6 mm, in the diameter range 150 to 300 mm, the pitch 8 mm should be used for preference.

3 DESIGNATION

A screw thread in conformity with this International Standard shall be designated by the letter M followed by the values of the nominal diameter and of the pitch, expressed in millimetres and separated by the sign X.

Example : M6 X 0,75

The absence of the indication of pitch means that a coarse pitch is specified.

Example : M6

4 DIAMETER/PITCH COMBINATIONS

TABLE 2 – **Diameter/pitch**

Dimensions in millimetres

Nominal diameters			Pitches										
Col. 1 1st choice	Col. 2 2nd choice	Col. 3 3rd choice	coarse	fine									
				3	2	1,5	1,25	1	0,75	0,5	0,35	0,25	0,2
1			0,25										0,2
	1,1		0,25										0,2
1,2			0,25										0,2
	1,4		0,3										0,2
1,6			0,35										0,2
	1,8		0,35										0,2
2			0,4									0,25	
	2,2		0,45									0,25	
2,5			0,45								0,35		
3			0,5								0,35		
	3,5		0,6								0,35		
4			0,7							0,5			
	4,5		0,75							0,5			
5			0,8							0,5			
		5,5								0,5			
6			1						0,75				
		7	1						0,75				
8			1,25					1	0,75				
		9	1,25					1	0,75				
10			1,5				1,25	1	0,75				
		11	1,5					1	0,75				
12			1,75			1,5	1,25	1					
	14		2			1,5	1,25*	1					
		15				1,5		1					
16			2			1,5		1					
		17				1,5		1					
	18		2,5		2	1,5		1					
20			2,5		2	1,5		1					
	22		2,5		2	1,5		1					
24			3		2	1,5		1					
		25			2	1,5		1					
		26				1,5							
	27		3		2	1,5		1					
		28			2	1,5		1					
30			3,5	(3)	2	1,5		1					
		32			2	1,5							
	33		3,5	(3)	2	1,5							
		35**				1,5							
36			4	3	2	1,5							
		38				1,5							
	39		4	3	2	1,5							

* Only for spark plugs for engines.

** Only for locking nuts for bearings.

Pitches shown in brackets are to be avoided, as far as possible.

TABLE 2 – **Diameter/pitch** (*concluded*)

Dimensions in millimetres

Nominal diameters			Pitches					
Col. 1 1st choice	Col. 2 2nd choice	Col. 3 3rd choice	coarse	fine				
				6	4	3	2	1,5
		40				3	2	1,5
42			4,5		4	3	2	1,5
	45		4,5		4	3	2	1,5
48			5		4	3	2	1,5
		50				3	2	1,5
	52		5		4	3	2	1,5
		55			4	3	2	1,5
56			5,5		4	3	2	1,5
		58			4	3	2	1,5
	60		5,5		4	3	2	1,5
		62			4	3	2	1,5
64			6		4	3	2	1,5
		65			4	3	2	1,5
	68		6		4	3	2	1,5
		70		6	4	3	2	1,5
72				6	4	3	2	1,5
		75			4	3	2	1,5
	76			6	4	3	2	1,5
		78					2	
80				6	4	3	2	1,5
		82					2	
	85			6	4	3	2	
90				6	4	3	2	
	95			6	4	3	2	
100				6	4	3	2	
	105			6	4	3	2	
110				6	4	3	2	
	115			6	4	3	2	
	120			6	4	3	2	
125				6	4	3	2	
	130			6	4	3	2	
		135		6	4	3	2	
140				6	4	3	2	
		145		6	4	3	2	
	150			6	4	3	2	
		155		6	4	3		
160				6	4	3		
		165		6	4	3		
	170			6	4	3		
		175		6	4	3		
180				6	4	3		
		185		6	4	3		
	190			6	4	3		
		195		6	4	3		
200				6	4	3		
		205		6	4	3		
	210			6	4	3		
		215		6	4	3		
220				6	4	3		
		225		6	4	3		
		230		6	4	3		
		235		6	4	3		
	240			6	4	3		
		245		6	4	3		
250				6	4	3		
		255		6	4			
	260			6	4			
		265		6	4			
		270		6	4			
		275		6	4			
280				6	4			
		285		6	4			
		290		6	4			
		295		6	4			
	300			6	4			