UDC 621.882.2.082.8 : 621.882.081.1

December 1984

Thread rolling screws
for ISO metric thread
Guideline values for hole diameters

DIN 7500 Part 2

Gewindefurchende Schrauben für metrisches ISO-Gewinde; Richtwerte für Lochdurchmesser

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

Dimensions in mm

1 Scope and field of application

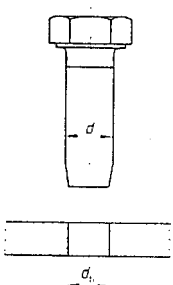
This standard specifies hole diameters for thread rolling screws conforming to DIN 7500 Part 1. These hole diameters are the result of tests carried out by manufacturers and users. The values given are assigned to various materials and lengths of engagement and should be regarded as guideline values.

As there is a wide variety of designs of thread rolling screws where the rolling area is defined only in terms of the maximum length in DIN 7500 Part 1, it is advisable to examine the specified hole diameters, particularly in mass production, by internal checks.

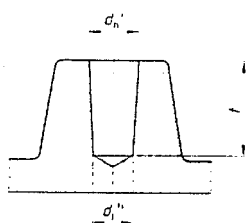
If the process of manufacturing the hole, e.g. punching, causes a hardness increase in the hole wall, larger hole diameters than those given in this standard may be required. This may also apply to cast holes (casting crust).

This standard does not apply to holes with particular shape, e.g. triangular, octagonal holes.

2 Guideline values for hole diameters



Cast hole in
Al and Zn alloys



For cast holes in Al and Zn alloys, the hole diameters are the mean of d_h' and d_h'' at a hole depth of $t \approx 2d$.

Continued on page 2

In table 1

St stands for St 12 and St 37-2;
Al stands for Al99,5 F 13 and AlMn F 10;
Cu stands for E Cu57 F 30, E Cu58 F 30 and CuZn F 38.

Table 1.

Thread size d	M 2,5			M 3			M 3,5			M 4			M 5			M 6			M 8			M 10		
Material thickness or length of engagement	Hole diameter d_h (tolerance class H11)																							
	St	Al	Cu	St	Al	Cu	St	Al	Cu	St	Al	Cu	St	Al	Cu	St	Al	Cu	St	Al	Cu	St	Al	Cu
0,8	2,25																							
0,9	2,25																							
1	2,25		2,7																					
1,2	2,25		2,7			3,15																		
1,5	2,25		2,7			3,15			3,6			4,5												
1,6	2,25		2,7			3,2			3,6			4,5												
1,7	2,25		2,7			3,2			3,6			4,5												
1,8	2,25	2,75	2,7			3,2			3,6			4,5												
2	2,25	2,75	2,7			3,2			3,6			4,5			5,4									
2,2	2,25		2,75			3,2			3,6			4,5			5,4			7,25					
2,5	2,25		2,75			3,2		3,65	3,6			4,5			5,4			7,25		9,2				
3	2,3		2,75			3,2		3,65	3,6			4,5			5,45			7,25		9,2	9,15			
3,2	2,3		2,75			3,2		3,65	3,6		4,55	4,5			5,45			7,25		9,2	9,15			
3,5	2,3		2,75			3,2			3,65			4,55			5,45			7,25		9,2	9,15			
4	2,3		2,75			3,2			3,65			4,55		5,5	5,45			7,3		9,3	9,15			
5	2,3		2,75		3,2	3,25		3,7	3,65			4,6		5,5	5,45		7,4	7,3		9,3	9,2		9,3	9,25
5,5			2,75		3,2	3,25		3,7	3,65			4,6			5,5		7,4	7,3		9,3	9,2		9,3	9,25
6			2,75					3,7	3,65			4,6			5,5		7,4	7,3		9,3	9,2		9,3	9,25
6,3									3,7			4,65			5,5		7,4	7,35		9,3	9,2		9,3	9,25
6,5									3,7			4,65			5,5		7,4	7,35		9,3	9,2		9,3	9,25
7									3,7			4,65		5,55	5,5		7,5	7,4		9,3	9,2		9,3	9,3
7,5									3,7			4,65		5,55	5,5		7,5	7,4		9,4	9,3			
8 to ≦ 10												4,65			5,55		7,5	7,4		9,4	9,3			
> 10 to ≦ 12																		7,5		9,5	9,4			
> 12 to ≦ 15																		7,5		9,5	9,4			
> 15 to ≦ 20																					9,5			

Values of hole diameter for M2 thread will be specified later.

Standards referred to

DIN 7500 Part 1 Thread rolling screws for ISO metric thread; dimensions, requirements, testing

International Patent Classification

F 16 B 25/00