UDC 621.882.2/.3 : 681

September 1975

Fasteners

Product grade F

DIN 267 Part 6

Mechanische Verbindungselemente; technische Lieferbedingungen, Ausführungen und Maßgenauigkeit für Produktklasse F

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 tolerances for product grade F screws, bolts and nuts with thread diameters from 1 to 3 mm.

It is recommended that this standard should also be used for non-standardized fasteners.

Product grade F generally refers to the quality of products for which stringent requirements are made with respect to tolerances (e.g. in precision mechanics).

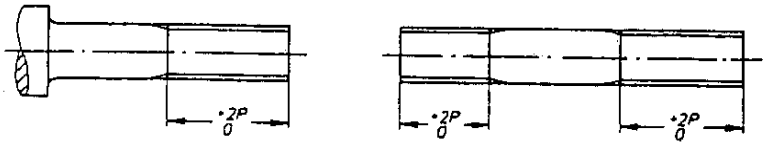
2 Thread diameters

Table 1

Thread diameter	Tolerance[1]	
	Internal thread (nuts)	External thread (bolts and screws)
≥ 1 ≤ 1,4	5H	4h
> 1,4 ≤ 3	6H	6g

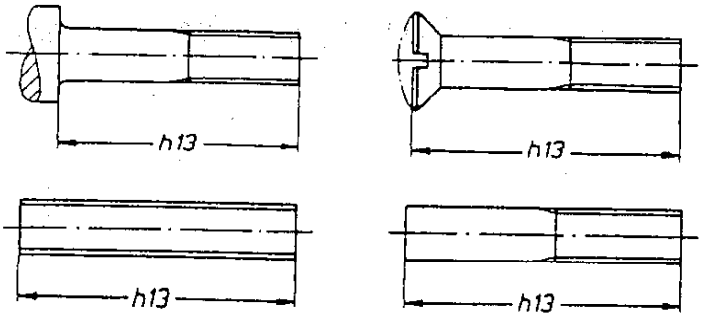
[1]) Plated threads shall not infringe the maximum material limit with zero fundamental deviation.

3 Thread lengths



P = pitch of thread

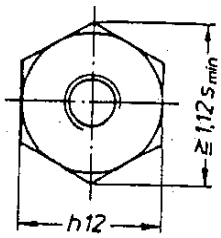
4 Nominal lengths



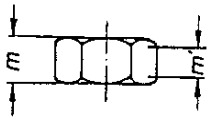
Continued on pages 2 to 5.

5 Driving geometry

5.1 Widths across flats and widths across corners



The specified tolerances for widths across flats and the minimum widths across corners apply to fasteners where the height of hexagons, m', is equal to 0,7 m or more:



$m' \geq 0{,}7\ m$

5.2 Slots

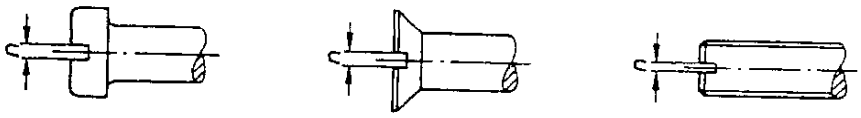


Table 2

Slot width, n	
Nominal value	Tolerance
< 0,3	C 11
≥ 0,3 < 0,4	C 12
≥ 0,4	C 13

6 Head heights

6.1 Head diameters

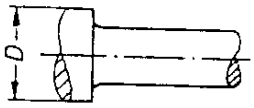


Table 3

Thread diameter	Tolerance on D	
	Slotted cheese head screws	Cross recessed pan head screws
≥ 1 ≤ 1,4	h12	h13
> 1,4 ≤ 3	h13	h13

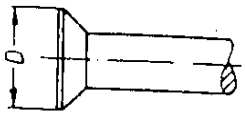


Table 4

Thread diameter	Tolerance on $D^{2)}$
≥ 1 ≤ 1,4	h10
> 1,4 < 2	h12
≥ 2 ≤ 3	h13

2) For tolerance on circularity of countersunk cross recessed head screws, see figure 9 in table 6.

6.2 Head heights

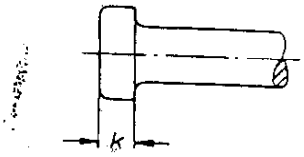
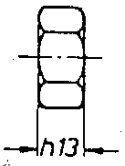


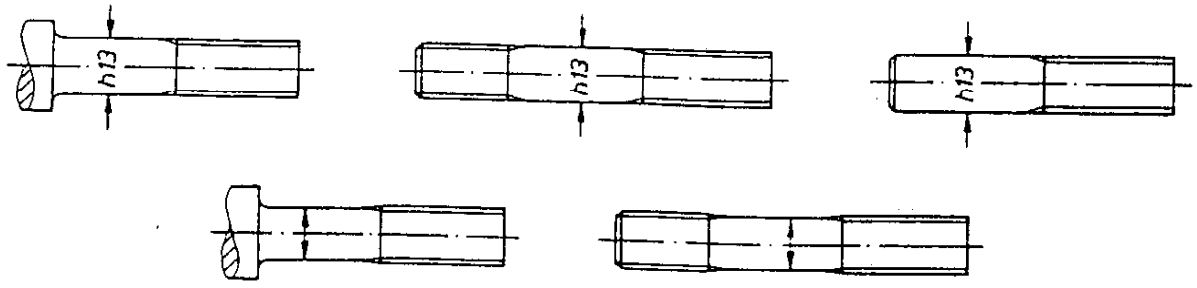
Table 5

Head height (nominal value)	Tolerance on k	
	Slotted cheese head screws	Cross recessed pan head screws
... ≤ 0,8	h11	h12
> 0,8 < 1,2	h12	h13
≥ 1,2	h13	

7 Thickness of nuts



8 Shank diameters



The shank diameter is approximately equal to the pitch diameter.

9 Geometrical tolerances

Table 6

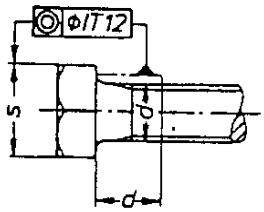
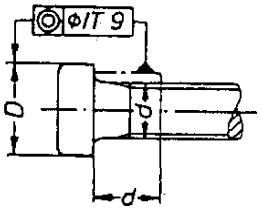
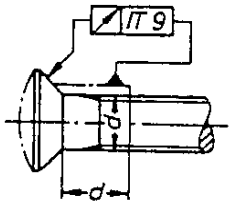
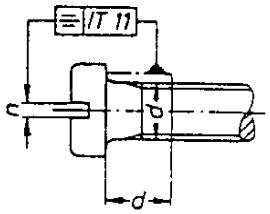
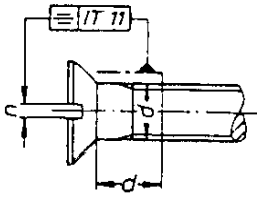
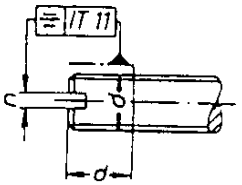
Figure No	Feature	Tolerance based on dimension
1		*s*
2		*D*
3		*d*
4		*d*
5		*d*
6		*d*

Table 6 (continued)

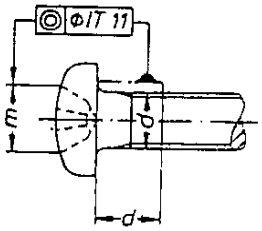
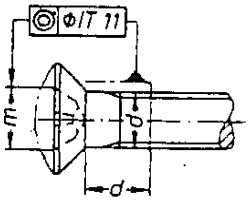
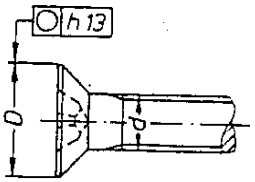
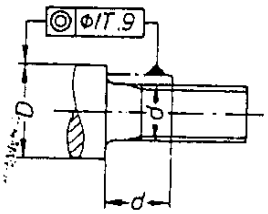
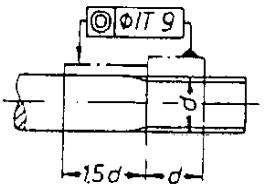
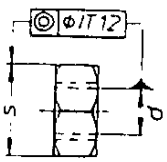
Figure No	Feature	Tolerance based on dimension
7		*d*
8		*d*
9		*d*
10		*d*
11		*d*
12		*s*

Table 6 (continued)

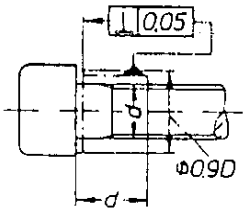
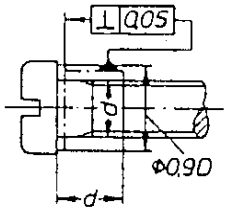
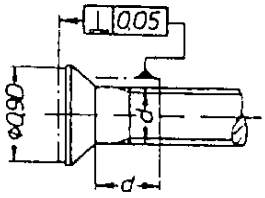
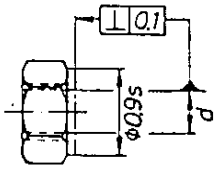
Figure No	Feature	Tolerance based on dimension
13		
14		

Table 6 (concluded)

Figure No	Feature	Tolerance based on dimension
15		
16		

Explanatory notes

This standard has been prepared by *Normenausschuß Feinmechanik und Optik* (Precision Mechanics and Optics Standards Committee).