

## ISO TOLERANCES FOR METRIC FASTENERS

nominal dimension		tolerance zone in mm (external measurements)												tolerance zone in mm						
over	to	h6	h8	h10	h11	h13	h14	h15	h16	js14	js15	js16	js17	m6	H7	H8	H9	H11	H13	H14
0	1	0 -0.006	0 -0.014	0 -0.040	0 -0.060	0 -0.14								+0.002 +0.008	+0.010 0	+0.0014 0	+0.025 0	+0.060 0	+0.14 0	
1	3	0 -0.006	0 -0.014	0 -0.040	0 -0.060	0 -0.14	0 -0.25	0 -0.40	0 -0.60	±0.125	±0.20	±0.30	±0.50	+0.002 +0.008	+0.010 0	+0.014 0	+0.025 0	+0.060 0	+0.14 0	+0.25
3	6	0 -0.008	0 -0.018	0 -0.048	0 -0.075	0 -0.18	0 -0.30	0 -0.48	0 -0.75	±0.15	±0.24	±0.375	±0.60	+0.004 +0.012	+0.012 0	+0.018 0	+0.030 0	+0.075 0	+0.18 0	+0.30
6	10	0 -0.009	0 -0.022	0 -0.058	0 -0.090	0 -0.22	0 -0.36	0 -0.58	0 -0.90	±0.18	±0.29	±0.45	±0.75	+0.006 +0.0015	+0.015 0	+0.022 0	+0.036 0	+0.090 0	+0.22 0	+0.36
10	18	0 -0.011	0 -0.027	0 -0.070	0 -0.110	0 -0.27	0 -0.43	0 -0.70	0 -1.10	±0.215	±0.35	±0.55	±0.90	+0.007 +0.018	+0.018 0	+0.027 0	+0.043 0	+0.110 0	+0.27 0	+0.43
18	30	0 -0.030	0 -0.033	0 -0.084	0 -0.130	0 -0.33	0 -0.52	0 -0.84	0 -1.30	±0.26	±0.42	±0.65	±1.05	+0.008 +0.021	+0.021 0	+0.033 0	+0.052 0	+0.130 0	+0.33 0	+0.52
30	50					0 -0.39	0 -0.62	0 -1.00	0 -1.60	±0.31	±0.50	±0.80	±1.25						+0.39 0	+0.62 0
50	80					0 -0.46	0 -0.74	0 -1.20	0 -1.90	±0.37	±0.60	±0.95	±1.50						+0.46 0	+0.74 0
80	120					0 -0.54	0 -0.87	0 -1.40	0 -2.20	±0.435	±0.70	±1.10	±1.75						+0.54 0	+0.87 0
120	180									±0.50	±0.80	±1.25	±2.00							
180	250									±0.575	±0.925	±1.45	±2.30							
250	315									±0.65	±1.05	±1.60	±2.60							
315	400									±0.70	±1.15	±1.80	±2.85							
400	500									±0.775	±1.25	±2.00	±3.15							

## ISO TOLERANCES FOR SOCKET SCREWS

nominal dimension		tolerance zone in mm										
over	to	C13	C14	D9	D10	D11	D12	EF8	E11	E12	Js9	K9
	3	+0.20 +0.06	+0.31 +0.06	+0.045 +0.020	+0.060 +0.020	+0.080 +0.020	+0.12 +0.02	+0.024 +0.010	+0.074 +0.014	+0.100 +0.014	±0.0125	0 -0.025
3	6	+0.24 +0.06	+0.37 +0.07	+0.060 +0.030	+0.078 +0.030	+0.115 +0.030	+0.15 +0.03	+0.028 +0.014	+0.095 +0.020	+0.140 +0.020	±0.015	0 -0.030
6	10					+0.130 +0.040	+0.19 +0.40	+0.040 +0.018	+0.115 +0.025	+0.115 +0.025	±0.018	0 -0.036
10	18						+0.2 +0.05		+0.142 +0.032	+0.212 +0.032		
18	30						+0.275 +0.065					
30	50						+0.33 +0.08					
50	80						+0.40 +0.10					

### References

ISO R 286  
ISO 4759/I  
ISO 4759/II  
ISO 4759/III

### Notes

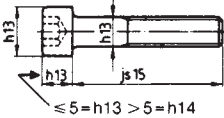
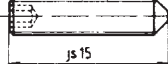
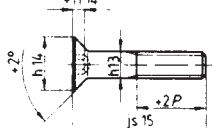
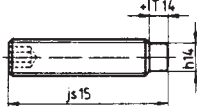
ANSI standards allow slightly wider tolerances for screw lengths than ISO and DIN.

The table is intended to assist in the design with metric fasteners. For tolerances not listed here refer to the complete standards.

## Tolerances for Metric Fasteners

The tolerances in the tables below are derived from ISO standard: ISO 4759

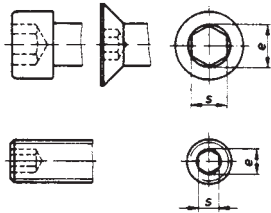
The tables show tolerances on the most common metric fasteners. However, occasionally some slight modifications are made.

Item	DIN	Item	DIN
	912		913 914 916
	7991		915 966

### Notes

Product grade A applies to sizes up to M24 and length not exceeding 10 x diameter or 150 mm, whatever is shorter.

Product grade B applies to the sizes above M24 and all sizes with lengths, greater than 10 x diameter or 150 mm, whichever is shorter.

Feature	Tolerance	
	s	*   **
<b>Hexagon Sockets</b> 	0.7	EF8
	0.9	JS9
	1.3	K9
	1.5	D9   D10
	2	
	2.5	D10   D11
	3	D11
	4	E11   E12
	5	
	6	
	8	
	10	
	12	E11   E12
	14	
>14	D12	

\*Tolerance zones for socket set screws

\*\*Tolerance zones for socket head cap screws

**Note:** For S 0.7 to 1.3 the actual allowance in the product standards has been slightly modified for technical reasons.