

General Tolerance

ISO 2768 1 & 2

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ISO 2768-1: LINEAR AND ANGULAR DIMENSIONS

Table 1 – Linear Dimensions

Permissible deviations in mm for ranges in nominal lengths	Tolerance Class Designation (Description)			
	f (fine)	m (medium)	c (coarse)	v (very coarse)
0.5 up to 3	±0.05	±0.1	±0.2	–
over 3 up to 6	±0.05	±0.1	±0.3	±0.5
over 6 up to 30	±0.1	±0.2	±0.5	±1.0
over 30 up to 120	±0.15	±0.3	±0.8	±1.5
over 120 up to 400	±0.2	±0.5	±1.2	±2.5
over 400 up to 1000	±0.3	±0.8	±2.0	±4.0
over 1000 up to 2000	±0.5	±1.2	±3.0	±6.0
over 2000 up to 4000	–	±2.0	±4.0	±8.0

*For nominal sizes below 0.5 mm, the deviations shall be indicated adjacent to the relevant nominal size(s).

Table 2 – External Radii and Chamfer Heights

Permissible deviations in mm for ranges in nominal lengths	Tolerance Class Designation (Description)			
	f (fine)	m (medium)	c (coarse)	v (very coarse)
0.5 up to 3	±0.2	±0.2	±0.4	±0.4
over 3 up to 6	±0.5	±0.5	±1.0	±1.0
over 6	±1.0	±1.0	±2.0	±2.0

*For nominal sizes below 0.5 mm, the deviations shall be indicated adjacent to the relevant nominal size(s).

Table 3 – Angular Dimensions

Permissible deviations in mm for ranges in nominal lengths	Tolerance Class Designation (Description)			
	f (fine)	m (medium)	c (coarse)	v (very coarse)
up to 10	±1°	±1°	±1°30'	±3°
over 10 up to 50	±0°30'	±0°30'	±1°	±2°
over 50 up to 120	±0°20'	±0°20'	±0°30'	±1°
over 120 up to 400	±0°10'	±0°10'	±0°15'	±0°30'
over 400	±0°5'	±0°5'	±0°10'	±0°20'

ISO 2768-2: GEOMETRICAL TOLERANCES FOR FEATURES

Table 4 – General Tolerances on Straightness and Flatness

Ranges of nominal lengths in mm	Tolerance Class		
	H	K	L
up to 10	0.02	0.05	0.1
above 10 to 30	0.05	0.1	0.2
above 30 to 100	0.1	0.2	0.4
above 100 to 300	0.2	0.4	0.8
above 300 to 1000	0.3	0.6	1.2
above 1000 to 3000	0.4	0.8	1.6

Table 5 – General Tolerances on Perpendicularity

Ranges of nominal lengths in mm	Tolerance Class		
	H	K	L
up to 100	0.2	0.4	0.6
above 100 to 300	0.3	0.6	1.0
above 300 to 1000	0.4	0.8	1.5
above 1000 to 3000	0.5	1.0	2.0

Table 6 – General Tolerances on Symmetry

Ranges of nominal lengths in mm	Tolerance Class		
	H	K	L
up to 100	0.5	0.6	0.6
above 100 to 300	0.5	0.6	1.0
above 300 to 1000	0.5	0.8	1.5
above 1000 to 3000	0.5	1.0	2.0

Table 7 – General Tolerances on Circular Run-Out

Ranges of nominal lengths in mm	Tolerance Class		
	H	K	L
	0.1	0.2	0.5

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[What is ISO 2768? A Guide to CNC Machining Tolerance Standards](#)