

(Technical Data) General Dimensional Tolerance

Excerpt from JIS B
0405/0419 (1991)

1. General dimensional tolerance of cutting JIS B 0405 - 1991

Length dimensional tolerance (excluding chamfered parts)

Unit: mm

Degree		Standard dimension							
Symbol	Explanation	0.5 ⁽¹⁾ to 3 incl.	Over 3 to 6 incl.	Over 6 to 30 incl.	Over 30 to 120 incl.	Over 120 to 400 incl.	Over 400 to 1000 incl.	Over 1000 to 2000 incl.	Over 2000 to 4000 incl.
		Tolerance							
f	Fine	±0.05	±0.05	±0.1	±0.15	±0.2	±0.3	±0.5	-
m	Medium	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
c	Coarse	±0.2	±0.3	±0.5	±0.8	±1.2	±2	±3	±4
v	Very coarse	-	±0.5	±1	±1.5	±2.5	±4	±6	±8

Note⁽¹⁾: Tolerance for standard dimensions of less than 0.5mm shall be specified individually.

2. Length dimensional tolerance in chamfered parts (corner roundness or chamfer dimension)

Unit: mm

Degree		Standard dimension		
Symbol	Explanation	0.5 ⁽¹⁾ to 3 incl.	Over 3 to 6 incl.	Over 6
		Tolerance		
f	Fine	±0.2	±0.5	±1
m	Medium			
c	Coarse	±0.4	±1	±2
v	Very coarse			

Note⁽¹⁾: Tolerance for standard dimensions of less than 0.5mm shall be specified individually.

3. Tolerance of angle dimension

Unit: mm

Degree		Shorter side of corner				
Symbol	Explanation	10 or less	Over 10 to 50 incl.	Over 50 to 120 incl.	Over 120 to 400 incl.	Over 400
		Tolerance				
f	Fine	±1°	±30	±20	±10	±5
m	Medium					
c	Coarse	±1°30'	±1°	±30	±15	±10
v	Very coarse	±3°	±2°	±1°	±30	±20

4. General tolerance of perpendicularity

JIS B 0419 - 1991 Unit: mm

Degree	Nominal length on shorter side			
	100 or less	Over 100 to 300 incl.	Over 300 to 1000 incl.	Over 1000 to 3000 incl.
Squareness tolerance				
H	0.2	0.3	0.4	0.5
K	0.4	0.6	0.8	1
L	0.6	1	1.5	2

5. General tolerance of straightness and flatness

JIS B 0419 - 1991 Unit: mm

Degree	Nominal area					
	10 or less	Over 10 to 30 incl.	Over 30 to 100 incl.	Over 100 to 300 incl.	Over 300 to 1000 incl.	Over 1000 to 3000 incl.
Straightness and flatness tolerance						
H	0.02	0.05	0.1	0.2	0.3	0.4
K	0.05	0.1	0.2	0.4	0.6	0.8
L	0.1	0.2	0.4	0.8	1.2	1.6