

CNC Machining Tolerance Reference Table (Based on ISO 2768)

Linear Dimension Tolerances (Unit: mm)

Size Range	Fine (f)	Medium (m)	Coarse (c)	Very Coarse (v)
0.5 – 3	±0.05	±0.1	±0.2	—
>3 – 6	±0.05	±0.1	±0.3	±0.5
>6 – 30	±0.1	±0.2	±0.5	±1.0
>30 – 120	±0.15	±0.3	±0.8	±1.5
>120 – 400	±0.2	±0.5	±1.2	±2.5
>400 – 1000	±0.3	±0.8	±2.0	±4.0
>1000 – 2000	±0.5	±1.2	±3.0	±6.0
>2000 – 4000	—	±2.0	±4.0	±8.0

External Radius and Chamfer Height Tolerances

Size Range	Fine (f)	Medium (m)	Coarse (c)	Very Coarse (v)
0.5 – 3	±0.2	±0.2	±0.4	±0.4
>3 – 6	±0.5	±0.5	±1.0	±1.0
>6	±1.0	±1.0	±2.0	±2.0

Angular Dimension Tolerances (Unit: Degrees)

Length Range	Fine (f)	Medium (m)	Coarse (c)	Very Coarse (v)
≤10 mm	±1°	±1°	±1°30'	±3°
>10 – 50 mm	±0°30'	±0°30'	±1°	±2°
>50 – 120 mm	±0°20'	±0°20'	±0°30'	±1°
>120 – 400 mm	±0°10'	±0°10'	±0°15'	±0°30'
>400 mm	±0°5'	±0°5'	±0°10'	±0°20'

Form Tolerances – Straightness and Flatness

Length Range	High (H)	Medium (K)	Low (L)
≤10 mm	0.02	0.05	0.1
>10 – 30 mm	0.05	0.1	0.2
>30 – 100 mm	0.1	0.2	0.4
>100 – 300 mm	0.2	0.4	0.8
>300 – 1000 mm	0.3	0.6	1.2
>1000 – 3000 mm	0.4	0.8	1.6

Form Tolerances – Perpendicularity

Length Range	High (H)	Medium (K)	Low (L)
≤100 mm	0.2	0.4	0.6
>100 – 300 mm	0.3	0.6	1.0
>300 – 1000 mm	0.4	0.8	1.5

jeek rapid prototyping

