

Initial settings for 3D CNC program generation ...

The screenshot displays the initial settings for 3D CNC program generation. It features a 3D Free machining window with various tool and workspace parameters, and a Tool list window containing a table of tool specifications.

3D Free machining settings:

- Tools: End mill 1.5mm (Roughing), End mill 1.5mm (Finishing)
- Stepover: 80.0% (Roughing), 15.0% (Finishing)
- Allowance: 0.50mm (Roughing), 0.00mm (Finishing)
- Margin: 3.00mm
- Depth limit: 0.00mm
- Shift downwards: 0.00mm
- Computing precision: 0.10mm
- Strict machining order:

Tool list table:

No.	Name	Ø	Z+	α(z+)	F(xy)	F(z)	S	Z+	F(xy)	F(z)	S		
1	End mill 2.4mm	2.40mm	0.25mm	45.00°	1500mm/min	300mm/min	15000rpm					45.0%	2.00%	25.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
2	End mill 5mm	5.00mm	2.00mm	90.00°	1500mm/min	800mm/min	20000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
3	End mill 8mm	8.00mm	2.50mm	90.00°	1800mm/min	900mm/min	18000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
4	End mill 10mm	10.00mm	3.00mm	90.00°	1800mm/min	900mm/min	12000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
5	Engraving bit	20.00mm	10.00mm	90.00°	1200mm/min	1200mm/min	24000rpm					5.0%	0.00%	50.0%	0.05mm	90.00°	0.00mm	0.00mm	0.00mm
6	End mill 6mm	6.00mm	3.00mm	90.00°	1200mm/min	1200mm/min	24000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
7	Ball nose 3mm	3.00mm	0.25mm	45.00°	800mm/min	300mm/min	8000rpm					20.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	1.50mm
8	End mill 2mm	2.00mm	1.00mm	90.00°	1500mm/min	300mm/min	8000rpm					45.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
9	End mill 1.5mm	1.50mm	1.00mm	90.00°	1500mm/min	300mm/min	24000rpm					45.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
10	Ball nose 1.5mm	1.50mm	0.25mm	45.00°	800mm/min	300mm/min	8000rpm					20.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	0.75mm

CNC program generated but no holes ... ???

Machining time -00:03:21

Program start
Tool change: End mill 1.5mm
Linear roughing X
Linear finishing X

OK

No.	Name	Ø	Z+	α(z+)	F(xy)	F(z)	S	Z+	F(xy)	F(z)	S								
1	End mill 2.4mm	2.40mm	0.25mm	45.00°	1500mm/min	300mm/min	15000rpm					45.0%	2.00%	25.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
2	End mill 5mm	5.00mm	2.00mm	90.00°	1500mm/min	900mm/min	20000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
3	End mill 8mm	8.00mm	2.50mm	90.00°	1800mm/min	900mm/min	18000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
4	End mill 10mm	10.00mm	3.00mm	90.00°	1800mm/min	900mm/min	12000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
5	Engraving bit	20.00mm	10.00mm	90.00°	1200mm/min	1200mm/min	24000rpm					5.0%	0.00%	50.0%	0.05mm	90.00°	0.00mm	0.00mm	0.00mm
6	End mill 6mm	6.00mm	3.00mm	90.00°	1200mm/min	1200mm/min	24000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
7	Ball nose 3mm	3.00mm	0.25mm	45.00°	800mm/min	300mm/min	8000rpm					20.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	1.50mm
8	End mill 2mm	2.00mm	1.00mm	90.00°	1500mm/min	300mm/min	8000rpm					45.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
9	End mill 1.5mm	1.50mm	1.00mm	90.00°	1500mm/min	300mm/min	24000rpm					45.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
10	Ball nose 1.5mm	1.50mm	0.25mm	45.00°	800mm/min	300mm/min	8000rpm					20.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	0.75mm

However, if I use a waterline setting for the mill finishing there is something that - looks - like a hole but then again not really ...

The screenshot displays a CAD/CAM software interface. On the left, a 'Machining list' dialog box is open, showing 'Program start', 'Tool change: End mill 1.5mm', 'Linear roughing X', and 'Waterline finishing'. The main window shows a 3D model of a part with blue machining paths. A 'Tool list' window is open, displaying a table of tool parameters. The table includes columns for tool number, name, diameter, Z+, alpha(z+), F(xy), F(z), S, and various feed and speed settings. The tool list is as follows:

No.	Name	Ø	Z+	α(z+)	F(xy)	F(z)	S	Z+	F(xy)	F(z)	S								
1	End mill 2.4mm	2.40mm	0.25mm	45.00°	1500mm/min	300mm/min	15000rpm					45.0%	2.00%	25.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
2	End mill 5mm	5.00mm	2.00mm	90.00°	1500mm/min	900mm/min	20000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
3	End mill 8mm	8.00mm	2.50mm	90.00°	1800mm/min	900mm/min	18000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
4	End mill 10mm	10.00mm	3.00mm	90.00°	1800mm/min	900mm/min	12000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
5	Engraving bit	20.00mm	10.00mm	90.00°	1200mm/min	1200mm/min	24000rpm					5.0%	0.00%	50.0%	0.05mm	90.00°	0.00mm	0.00mm	0.00mm
6	End mill 6mm	6.00mm	3.00mm	90.00°	1200mm/min	1200mm/min	24000rpm					90.0%	0.00%	50.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
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9	End mill 1.5mm	1.50mm	1.00mm	90.00°	1500mm/min	300mm/min	24000rpm					45.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	0.00mm
10	Ball nose 1.5mm	1.50mm	0.25mm	45.00°	800mm/min	300mm/min	8000rpm					20.0%	0.00%	10.0%	0.05mm	180.00°	0.00mm	0.00mm	0.75mm