trotec®
laser. marking cutting engraving

setting new standards

Book of Parameters

Speedy 360, 80 watt

Content

1 General information 3
1.1 "Quality" vs. "Speed" optimized parameters 3
1.2 Machinery and job setup used for parameter finding 3
1.3 General recommendations 3
1.4 Individual parameter fine tuning 3

2 TroLase 4

3 TroLase Metallic Plus 4

4 TroLase Metallic 5

5 TroLase Reverse 5

6 TroLase Thins 6

7 TroLase ADA Signage 6

8 markSolid 7

9 TroGlass 7

10 Textures 7

11 Solid Wood 8

1 General information

JobControl® features new parameters for Trotec laser materials. The book of parameters is offering supplementary advice as to how these new parameters can be used.

Engraving and cutting results always depend on the equipment used, specific applications, as well as the requirements regarding quality and productivity. By providing two different parameter sets "Quality" and "Speed" we are covering a wide range of conditions. Feedback and suggestions will help us to further develop these parameters and are highly appreciated.

1.1 "Quality" vs. "Speed" optimized parameters

"Quality" parameter sets are recommended for applications where fine detail and strong contrast is required.

"Speed" parameters are for time-efficiency orientated applications, where a reduced degree of detail in engraving is acceptable.

1.2 Machinery and job setup used for parameter finding

- Speedy 360
- Atmos Duo exhaust system
- Black aluminium cutting grid table
- 2" lens
- Air assist
- Engraving over the whole working area with multiple rectangular engraving jobs
- "Speed" jobs are printed to JobControl® with 333 DPI; "Quality" jobs are printed to JobControl® with 600 DPI

1.3 General recommendations

- Engraving is recommended to be carried out from the bottom to the top, preventing residue from being pulled over freshly engraved parts on route to the exhaust, resulting in a cleaner engraving.
- Air assist is enabled ("On")
- Laser Correction (LC-value) is set to 10
- Accurate focus is prerequisite for good engraving and cutting results (controlled de-focus through Z-offset). Please make sure the material stays flat over the whole working area.

1.4 Individual parameter fine tuning

Depending on a specific application, minor adjustments of standard settings may allow for improved quality or reduced engraving time. For this, step-by-step adjustments in the range of +/- 10 % are recommended on power, speed and DPI.

Tips:

- Increasing the Z-Offset (controlled de-focus) can allow for an increased contrast and a darker engraving image. However, this may also result in a decrease of detail engraving.
- Increasing the laser pulse rate (Hz) when cutting can allow for a cleaned, flame polished edge, especially for transparent materials.

2 TroLase

Quality	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	65%	80%	600	1	On	+1 mm (0.04 ")
Cut 0,8mm (1/32 ")	25%	1,2%	1000	1	On	0
Cut 1,6mm (1/16 ")	60%	1,2%	1000	1	On	0
Cut 3,2mm (1/8 ")	75%	0,8%	1000	1	On	-1,6mm (0.06 ")

Print DPI: 600

Speed	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	100%	100%	500	1	On	+1 mm (0.04 ")
Cut 0,8mm (1/32 ")	95%	5%	1000	1	On	0
Cut 1,6mm (1/16 ")	100%	2%	1000	1	On	0
Cut 3,2mm (1/8 ")	100%	0,8%	1000	1	On	0

Print DPI: 333

3 TroLase Metallic Plus

Quality	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	40%	80%	600	1	On	+1 mm (0.04 ")
Cut 0,8mm (1/32 ")	25%	1,2%	1000	1	On	0
Cut 1,6mm (1/16 ")	60%	1,2%	1000	1	On	0
Cut 3,2mm (1/8 ")	70%	0,6%	1000	1	On	-1,6mm (0.06 ")

Print DPI: 600

Speed	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	65%	100%	500	1	On	+1 mm (0.04 ")
Cut 0,8mm (1/32 ")	95%	5%	1000	1	On	0
Cut 1,6mm (1/16 ")	100%	1,6%	1000	1	On	0
Cut 3,2mm (1/8 ")	100%	0,8%	1000	1	On	0

Print DPI: 333

4 TroLase Metallic

Quality	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	50%	80%	600	1	On	+1 mm (0.04 ")
Cut 0,8mm (1/32 ")	25%	1,2%	1000	1	On	0
Cut 1,6mm (1/16 ")	60%	1,2%	1000	1	On	0
Cut 3,2mm (1/8 ")	70%	0,6%	1000	1	On	-1,6mm (0.06 ")

Print DPI: 600

Speed	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	75%	100%	500	1	On	+1 mm (0.04 ")
Cut 0,8mm (1/32 ")	95%	5%	1000	1	On	0
Cut 1,6mm (1/16 ")	100%	1,6%	1000	1	On	0
Cut 3,2mm (1/8 ")	100%	0,8%	1000	1	On	0

Print DPI: 333

5 TroLase Reverse

Quality	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	100%	70%	600	1	On	2,5mm (0.1 ")
Cut 1,6mm (1/16 ")	40%	0,8%	1000	1	On	0

Print DPI: 600

Speed	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	100%	50%	500	1	On	2,5mm (0.1 ")
Cut 1,6mm (1/16 ")	100%	1,6%	1000	1	On	0

Print DPI: 333

6 TroLase Thins

→ Quality	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	60%	80%	600	1	On	+1 mm (0.04 ")
Cut 0,5mm (0.02 ")	30%	1,5%	1000	1	On	0

Print DPI: 600

→ Speed	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	90%	100%	500	1	On	+1 mm (0.04 ")
Cut 0,5mm (0.02 ")	100%	5%	1000	1	On	0

Print DPI: 333

7 TroLase ADA Signage

→ Quality	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Cut 0,8mm (1/32 ")	22%	0,8%	1000	1	On	0
Cut 1,0mm (0,04 ")	24%	0,8%	1000	1	On	0
Cut 1,6mm (1/16 ")	38%	0,8%	1000	1	On	0
Cut 3,2mm (1/8 ")	47%	0,4%	1000	1	On	0

Print DPI: 1000

→ Speed	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Cut 0,8mm (1/32 ")	47%	2%	1000	1	On	0
Cut 1,0mm (0,04 ")	57%	2%	1000	1	On	0
Cut 1,6mm (1/16 ")	95%	2%	1000	1	On	0
Cut 3,2mm (1/8 ")	95%	0,8%	1000	1	On	0

Print DPI: 1000

8 markSolid

Quality	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	40%	20%	500	1	On	0

Speed	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	80%	50%	500	1	On	0

Print DPI: 500

9 TroGlass

Quality	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	16%	20%	500	1	On	0
Cut 3mm (0,118 ")	50%	0,2%	5000	1	On	0

Print DPI: 500

Speed	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	18%	20%	500	1	On	0
Cut 3mm (0,118 ")	100%	0,9%	1000	1	On	0

Print DPI: 333

10 Textures

Quality	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	90%	30%	600	1	On	+4mm (0,167")
Cut 1,6mm (1/16 ")	60%	0,8%	1000	1	On	0
Cut 3,2mm (1/8 ")	100%	0,8%	1000	1	On	0

Print DPI: 600

Speed	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Engrave	100%	30%	333	1	On	+4mm (0,167")
Cut 1,6mm (1/16 ")	90%	2%	1000	1	On	0
Cut 3,2mm (1/8 ")	100%	0,8%	1000	1	On	0

Print DPI: 333

11 Solid Wood

Alder / Erle 3mm/5mm	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Detail Engraving	60%	50%	500	1	On	0
Black Engraving	65%	50%	500	1	On	+6mm (0,24")
Cutting 3mm (0,118")	100%	1,8%	1000	1	On	0
Cutting 5mm (0,2 ")	100%	1,2%	1000	1	On	0

Cherry/Kirsch 3mm	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Detail Engraving	50%	50%	500	1	On	0
Black Engraving	60%	50%	500	1	On	+6mm (0,24")
Cutting 3mm (0,118")	100%	1,2%	1000%	1	On	0

Maple / Ahorn 3mm	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Detail Engraving	55%	50%	500%	1	On	0
Black Engraving	65%	50%	500%	1	On	+6mm (0,24")
Cutting 3mm (0,118")	100%	1,4%	1000%	1	On	0

Oak / Eiche 3mm	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Detail Engraving	55%	50%	500	1	On	0
Black Engraving	60%	50%	500	1	On	+6mm (0,24")
Cutting 3mm (0,118")	100%	0,4%	1000	1	On	0

Walnut / Walnuss 3mm	Power	Speed	PPI / HZ	Passes	Air Assist	Z-Offset
Detail Engraving	50%	50%	500	1	On	0mm
Black Engraving	60%	50%	500	1	On	+6mm (0,24")
Cutting 3mm (0,118")	100%	0,8%	1000	1	On	0

Print DPI: 500