

Annex 1

Digital light Processing (DLP) printer, operation software and parameter

Model (Picture)	Printer Manufacturer, Model	Light source	Pixel size x,y	Light intensity	Operation Software	Parameter data set*	Curing time	Slicing	Recommended orientation angle (degree)
	Asiga Max	385 nm	±62 µm	6.1 mW/cm²	Composer 1.2.11	Detax_Freeprint temp UV_3.3	1.8 s	50 µm	0-90
	Asiga Max 2	385 nm	±62 µm	7.0 mW/cm²	Composer 2.0.8	Detax_Freeprint temp 385_5	1.5 s	50 µm	0-90
	Asiga Pico 2	385 nm	±39 µm	20 mW/cm²	Composer 1.2.11	Detax_Freeprint temp UV_3.3	0.6 s	50 µm	0-90
	Asiga PRO 2	385 nm	±39 µm	5.7 mW/cm²	Composer 1.2.11	Detax_Freeprint temp 385_5	2.0 s	50 µm	0-90
	Asiga PRO 4K	385 nm	±65 µm	7.0 mW/cm²	Composer 1.2.11	Detax_Freeprint temp 385_5	1.5 s	50 µm	0-90
	Asiga Ultra	385 nm	±50 µm	6.6 mW/cm²	Composer 2.0.8	Detax_Freeprint temp 385_5	1.6 s	50 µm	0-90
	Heygears UltraCraft A2D	385 nm	±75 µm	2.1 mW/cm²	Materialise Magic Version 23	Detax Temp UV	1.7 s	50 µm	0-90
	Ivoclar PrograPrint PR5	385 nm	±49 µm	16 mW/cm²	PrograPrint CAM 1.1.10.1	Detax FREEPRINT temp	0.6 s	50 µm	0-90
	Microlay Versus	385 nm	±65 µm	4.3 mW/cm²	Microform 1.0.3.7	DETAX Freeprint Temp 385 50 microns v5.3	2.0 s	50 µm	0-90
	Miicraft Alpha	385 nm	±68 µm	6.0 mW/cm²	Utility 6.4.4	DETAX Freeprint temp	2.0 s	50 µm	0-90
	Miicraft Ultra Series	385 nm	±65 µm	5.7 mW/cm²	Utility 6.3.0	Detax_Freeprint temp UV_50	1.0 s	50 µm	0-90
	Rapidshape D10+/D20+/ D30+/D40+	385 nm	±34 µm	2.0 mW/cm²	Netfabb 2020	Detax freeprint-temp uv	2.8 s	50 µm	0-90
	Rapidshape D70+/D90+	385 nm	±23 µm	5.0 mW/cm²	Netfabb 2020	Detax freeprint-temp uv	1.8 s	50 µm	0-90
	Way2Production SolFlex Series	385 nm	±50 µm	8.0 mW/cm²	Netfabb 2020	Freeprint temp 385	1.2 s	50 µm	0-90

*The set of parameters includes all relevant material- and printer specific information

Cleaning Equipment

Cleaning unit Manufacturer, Model	Cleaning process
Ivoclar PrograPrint Clean	Clean the parts with isopropyl alcohol (purity $\geq 98\%$) for 3 minutes. Then thoroughly clean the openings, cavities and gap areas with compressed air. The main cleaning is performed in a separate vessel with fresh isopropyl alcohol (purity $\geq 98\%$) for 3 minutes. Prior to post-exposure, check the openings, cavities and gap areas for residues. Then blow off with compressed air.
Rapidshape RS wash	Use the following settings: DETAX Freeprint-temp uv Prior to post-exposure, check the openings, cavities and gap areas for residues. Then blow off with compressed air.
Ultrasonic bath Bandelin Sonorex	Clean the parts with isopropyl alcohol (purity $\geq 98\%$) for 3 minutes. Then thoroughly clean the openings, cavities and gap areas with compressed air. The main cleaning is performed in a separate vessel with fresh isopropyl alcohol (purity $\geq 98\%$) for 3 minutes. Prior to post-exposure, check the openings, cavities and gap areas for residues. Then blow off with compressed air.

Light curing Equipment

Light Curing unit Manufacturer, Model	Curing process
Dentalfarm Photopol	2 x 3 min, progressive + N ₂ , turn around components after 3 min
Heygears UltraCraft PCU 3.0	5 min under water
Ivoclar PrograPrint Cure	Post curing A: Wavelength = 405 nm; Intensity = 100 %; Duration = 120 s Post curing B: Wavelength = 460 nm; Intensity = 100 %; Duration = 120 s
NK Optik Otoflash G171	2 x 2000 flashes under inert gas, turn around components after 2000 flashes
NK Optik Otoflash 250/500	4000 flashes under inert gas @15 Hz
Rapidshape RS cure	Use the following settings: DETAX Freeprint-temp uv
Rapidshape RS cure XL	Use the following settings: DETAX Freeprint-temp uv

