

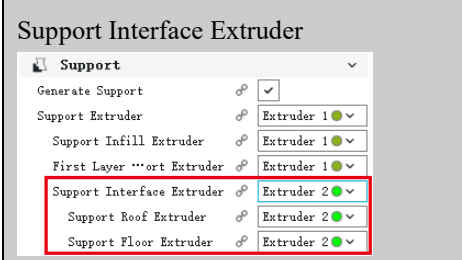
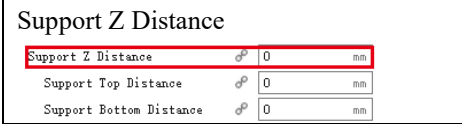
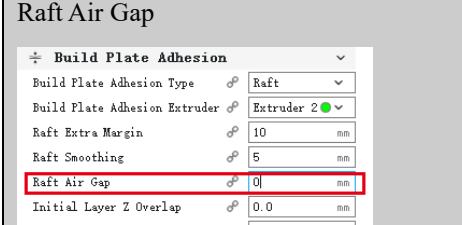
# Printing Process Guide For Funmat PRO 310

	PLA	ABS	ABS+	ASA	PC	PC/ABS	PA6/66	PA6-CF	PA12-CF	HIPS	SP3030	SP3050
Nozzle temp.(°C)	210	250	270	250	250	270	250	260	280	250	220	280
Build plate temp. (°C)	55	80	80	90	100	90	45	65	90	90	50	90
Chamber temp.(°C)	45	80	80	90	100	95	45	60	70	70	50	40
Cooling fan speed (%)	100	100	100	100	100	100	100	100	100	100	25	50
Build plate	PC sheet	PC sheet	PC sheet	PC sheet	PC sheet	PC sheet	PC sheet	PC sheet	PC sheet	PC sheet	PC sheet	PC sheet
Filament dry condition	50°C/8h	80°C/8h	80°C/8h	80°C/8h	80°C/8h	80°C/8h	80°C/12h	80°C/12h	100°C/12h	50°C/8h	60°C/12h	100°C/8h
Support Materials	SP3030	HIPS	HIPS SP3030	HIPS	HIPS	HIPS	SP3030	SP3030	SP3050 SP3030	--	--	--
Layer thickness (mm)	0.25~0.75*nozzle diameter (0.1~0.3mm layer height for 0.4mm nozzle, 0.15~0.2mm is recommended).											
Build plate leveling	Build plate leveling is very important. After completed leveling, user may proceed with printing. There are two methods of bed leveling: Manual Leveling and Auto Leveling. It is recommended to use manual leveling first, and then perform automatic leveling on the basis of manual leveling.											
Build plate adhesion type	Raft is recommended to get better first layer adhesion.											
Print part remove	Once your 3D print is completed, it is recommended to remove the print after cooling.											
Nozzle separately use	PA12-CF and PA6-CF are recommended to use INTAMSYS FUNMAT PRO 310 special hardened steel nozzle for printing. For other materials, please use the original INTAMSYS FUNMAT PRO 310 nozzle for printing.											
Filament care	A convection or vacuum oven should be used to dry filaments before printing. If the filament is not sufficiently dry, the extrudate will be foamy with bubbles. Please dry the filaments according to the recommended temperature and time, and avoid drying the filaments for too long. Thread the filament into the small holes in the side of the spool after removing from the printer to avoid twisting. And ensure the filament is not twisted before printing. It is strongly recommended to use INTAMSYS special drying bin and use molecular sieve desiccant to assist drying to ensure that the filament is dry during the printing.											
Support material solution	Please refer to Annex 1 for the supporting material solution. Please refer to Annex 2 for instructions on the use of water-soluble support. When two support materials are available, the first material is recommended.											
Others	Please wear high temperature protective gloves when taking out the printing plate from high temperature chamber. All printing process instructions above are for use on FUNMAT PRO 310 printers using INTAMSYS filament only.											

# Annex 1

## Support Material Solution

### 1. Support & Raft Settings In Slicing Software

	Single-nozzle print	Dual-nozzle print
		Support material
	0.1mm/one layer height	0
	0~Initial Layer Height	0

The Support Pattern “Zig Zag” is recommended because it is more easily to remove.

### 2. Support Material Treatment (after printing)

Support Material	Type	For model material	Treatment process and others
SP3030	Water soluble support	PLA, PA6/66, PA6-CF, ABS+, PA12-CF	Immerse the print part in tap water until all support dissolved. It is highly recommended to store the filament in the resealable bag because its strong hygroscopicity.
HIPS	Breakaway support	ABS, ASA, PC, PC/ABS, ABS+	Manually breakaway.
SP3050	Breakaway support	PA12-CF	Manually breakaway.

Notice: Always wear safety glasses and safety gloves when removing support material by hand and operating chemical solvent; Inaccurate “Z calibration” and “XY calibration” may cause the two materials to embed each other or poor bonding, which results in model printing defects or even printing failures, please check it and redo the calibrations of the printer.

## Annex 2

# Water soluble support Print Guide

## 1. Filament Drying

Water soluble support materials is vital to keep the filaments away from moisture before and during printing. Prior to printing, We recommend that the filament should be fully dried in accordance with the recommended drying method before use to prevent foamy extrudate. An air circulating oven can be used to dry filaments before printing. Please ensure several bags of desiccant are placed inside the filament chamber when printing.

## 2. Separation between model and support

The printing part should be kept in water (35-40°C warm water would be better) for 4-10 hours, then the model and support could be easily separated.