SprintRay

Crown Design Guidelines

A guide for settings and parameters when exporting crowns for 3D printing

You can produce aesthetic, long-lasting definitive crowns with the SprintRay 3D printing ecosystem and revolutionary SprintRay Ceramic Crown resin. For a simple workflow, we recommend using SprintRay Cloud Design to quickly upload your files and receive designs back in as little as a few minutes.

For those who want to design themselves, there are a few key settings that must be adjusted.

Warning The settings used for 3D printed crowns are different from milling. If you export your design with settings meant for a mill, you will likely experience fitment issues.

For best results, follow these parameters when designing and exporting a crown from your design software:

Exocad Settings

Settings	Value
Minimum thickness	0.5 mm
Cement gap	0.12 mm
Additional spacer	0.02 mm
Margin ramp (angulation)	45 degrees
Margin distance (overhang from margin)	0.2 mm
Smoothing distance	Default
Check 'Anticipate Milling' and set the diameter	**Pro95 S:** 0.2 mm **Pro55 S:** 0.11 mm
Proximal offset	-0.02 mm

inLab Settings

Settings	Value
Radial spacer	140 µm
Occlusal spacer	140 µm
Proximal contacts strength	25 µm
Occlusal contacts strength	-150 µm
Dynamic Contact Strength	-150 µm
Minimal radial thickness	1000 µm
Minimal occlusal thickness	1000 µm
Margin thickness	120 µm
Width of ramp	80 µm
Angle of ramp	60 degrees

3Shape Settings

Fig.	Settings	Value	
A	Minimum thickness	0.5 mm	
B	Extra cement gap	0.12 mm	
C	Cement gap	0.04 mm	
D	Distance to margin line	0.8 mm	
E	Smooth distance	0.2 mm	
F	Drill radius	0.65 mm	
G	Drill compensation offset	0.66 mm	
H	Margin line offset	0.08 mm	
I	Extension offset	0.1 mm	
J	Offset angle	55 degrees	