

making work easy

SIMPLEX –

The 3D filament printing system



www.forestadent.com

FORESTADENT[®]
GERMAN PRECISION IN ORTHODONTICS

The straightforward entry

to professional 3D filament printing

The SIMPLEX 3D filament printer

SIMPLEX is a 3D filament printer specifically designed for „Plug&Print“ of dental models. The SIMPLEX slicer software was especially developed to allow for easy and reliable printing of your models which on top are biologically absolutely uncritical. The SIMPLEX 3D filament printing system covers the whole range of orthodontic model fabrication and the models require no post-processing.

The SIMPLEX 3D filament printer system is a system solution (modified 3D filament printer, dental specific sliceware and organic filaments) for filament printing of orthodontic models in constantly reproducible high quality.

Advantages

- Plug&Print – Easy to install and with simple handling – even without previous knowledge of 3D printing
- Sliceware adjusted to printer, filament and dental model types
- Intuitive operation via touch screen
- Intuitive sliceware with preset parameters for different model types
- Filament monitoring system with messenger function and automatic troubleshooting
- Enclosed build space with exhauster for constant print quality and operational safety
- Removable, heated print bed for perfect adhesion and easy cleaning



Filaments

to fabricate orthodontic models

Special filaments

The premium quality filaments are matching the specific requirements for the orthodontic field: Consistency, high dimensional stability and outstanding mechanical and physical properties enable prints of high quality and detail.

In addition, all filaments are biologically harmless, free of irritating components and do not cause unpleasant vapors during the printing process.

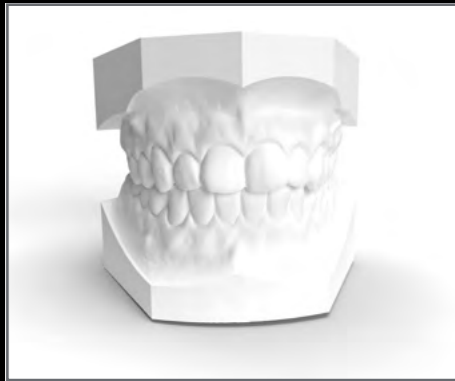
Advantages

- The filaments are adjusted to their respective use and additionally pre-calibrated on printer and in the sliceware. This allows for process capable printing on a high level.
- PLA filaments are ecologically uncritical and they are made to a large share from renewable raw materials (e.g. corn starch).
- FFF (Fused Filament Fabrication) does not require any post-processing in terms of washing, curing or polishing.
- Low printing cost compared to resin printers.
- Color fast and UV-resistant
- Made in Germany



The 4 Filaments

at a glance



SIMPLEX Study Model

The organic filament SIMPLEX Study Model offers a high level of detail reproduction and is industrially compostable. Especially suitable for the digital production of planning models/diagnostic models. Printing temperature: 190 – 230 °C.



SIMPLEX Aligner Model

SIMPLEX Aligner Model is a special filament meeting the particular requirements for models used for thermoforming and therefore aligner fabrication. It is temperature resistant and dimensionally stable up to 230 °C. Tempering or cooling of the models is not necessary. Printing temperature: 235 – 255 °C.



SIMPLEX Working Model

The organic filament SIMPLEX Working Model is adjusted to digitally planned working models and offers a high level of detail reproduction. The material is industrially compostable. Printing temperature: 190 – 230 °C.



SIMPLEX Multi-use Model

The organic SIMPLEX Multi-use Model with its large share of hard plaster ensures a natural surface effect and offers a high level of detail reproduction. The models can be optimally processed with rotary instruments or a scalpel. Printing temperature: 205 – 220 °C.

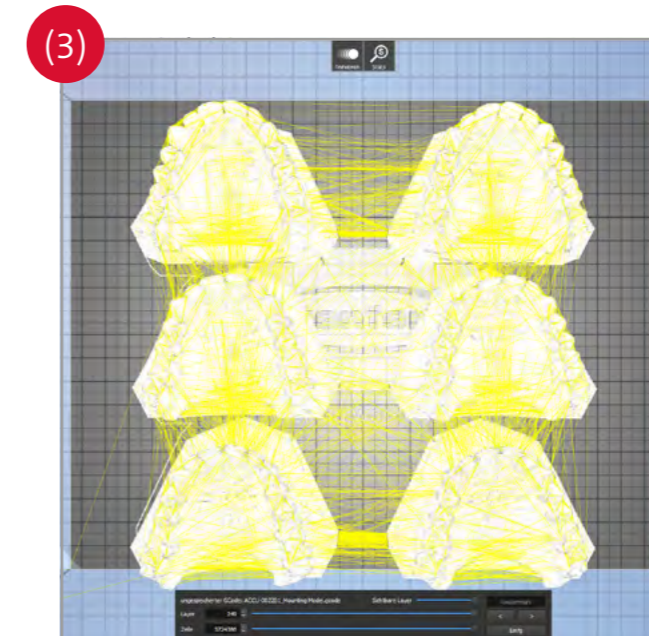
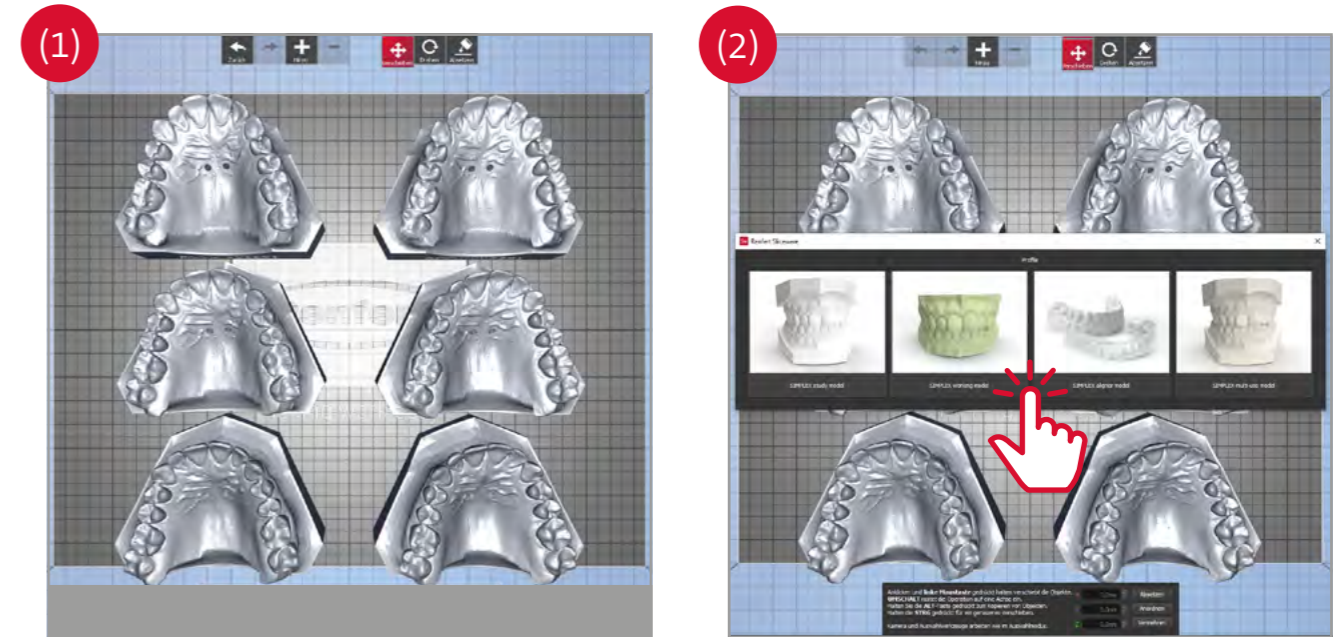
The SIMPLEX Sliceware

The easy and frustration-free path to 3D-printing

„Slicing“ – the process of breaking down a 3D object into individual layers – is sometimes the most challenging task in 3D printing. Particularly in the Fused Filament Fabrication (FFF) process, the models are hollowed out to save printing time and material. For this purpose, wall thicknesses and internal support structures have to be defined, which ensure the stability of the model during printing and further processing. Often, it is a lengthy and frustrating trial & error process to define the necessary parameters.

SIMPLEX Sliceware takes this task off your hands. It has four predefined print modes (Study, Working, Aligner and Multi-use) which are adapted to the respective filaments and applications. Thanks to the corresponding preset wall thicknesses and support structures, process-reliable reproducibility is guaranteed at all times.

All you have to do is load the data model into Sliceware (1), determine whether it is a study, working, aligner or multi-use model (2), and then the software will create the necessary print data with a simple mouse click. (3).



Technical Data

and other parameters

Printer type	Fused-Filament-Fabrication (FFF)
Operating mode	Plug & Print; Autonomous operation without ethernet/PC possible (cable, flash drive, WiFi)
Permitted mains voltage	90–264 V
Permitted mains frequency	4.7/63 Hz
Temperature range (nozzle)	180–260 °C
Temperature range (print bed)	50–110 °C
Print bed	Special tempered glass with Kapton film
Extruder	Single
Extruder type	All-Metal Hotend
Diameter (Nozzle)	0,4 mm
Diameter (Filament)	1,75 mm
Layer resolution	≥50 µm
Print speed	50–200 mm/s
Positioning accuracy	4x4x2 µm
Weight (empty)	16,5 kg
Dimensions (L x H x W) (Build space)	250x200x200 mm
Dimensions (L x H x W) (Casing)	406x350x385 mm
Outer dimensions (L x H x W)	415x500x635 mm
Software package	SIMPLEX sliceware
File types	OBJ STL CWPRJ
Operating system	Windows 7 and higher OS X Linux

Your advantages

at a glance



Made in Germany
Machine and service
from Germany



Optimal supplement
to the FORESTADENT
Accusmile® Aligner
System



No license fees



**Environmentally
friendly**
Use of ecologically
harmless filaments



Simple
in installation and
use without prior
knowledge



Profitability
through value
generation in practice



Attractively priced
due to low acquisition,
printing and
operating costs



Operational safety
no harmful fumes, no
handling of chemicals



Customer service
Free of charge



Time saving
Model production with-
out post-processing (e.g.
washing, hardening)



**Process reliability
and precision**
through preset
parameters

Step by step

to the printed model using
the Accusmile aligner as an example



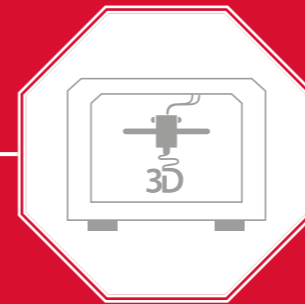
**Intraoral scan of maxilla
and mandible**
with scanners from our partners
Medit or 3shape



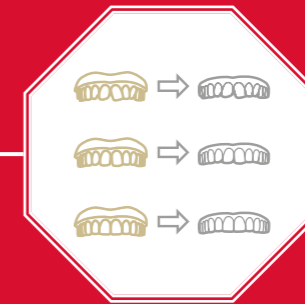
**Create an Accusmile order
in the portal**
www.forestadent-portal.com



**Accusmile-
Treatment proposal**
and provision of print data
by FORESTADENT



**Printing of aligner
models**
with SIMPLEX 3D filament
printer



**Thermoforming
of aligners**
with TRACK® V /
TRACK® P ci / TRACK® P
machines and TRACK® foils



Finished

How it works:

Operation of the SIMPLEX 3D Filament Printer System



Unboxing and installation

The printer is unboxed, set up and ready to use in just a few minutes. Necessary tools are included in the set.



Print bed leveling

To ensure optimum print results, the print bed must be leveled during startup. This can be done quickly and without prior knowledge in a guided process.



Filament loading

In just a few steps, you load the desired filament in the printer.



Installation of SIMPLEX Sliceware

Install the latest version of SIMPLEX Sliceware which you can download via the Renfert CONNECT app.



Printing

As soon as you have edited your models in SIMPLEX Sliceware, you can immediately transfer them to the SIMPLEX 3D printer via cable, WLAN or flash drive.

Renfert CONNECT App

The 24/7/365 support



In addition to the Customer Success Program, Renfert provides you with a comprehensive support package free of charge.

At www.renfert.com/simplex Renfert offers the following support:

- Self-help videos and support videos
- repair manuals
- user manuals
- spare parts lists
- drawings
- FAQs
- Latest version of SIMPLEX Sliceware

Warranty and service

from Renfert



3 years Renfert Workflow Warranty

What you can count on: 3 years warranty on Renfert equipment!*

10 years spare parts warranty

All Renfert products are very durable. Therefore, also the availability of spare parts is set to match this durability. Renfert guarantees that original spare parts will be available for a period of at least ten years after purchase.

Activity warranty

As your first point of contact, together with Renfert we form a strong team that ensures with passion and competence that your printer is up and running and thus minimizing downtime in your laboratory as far as possible. In this way, we help to ensure that capacity and cost-effectiveness are guaranteed.

Maintenance service






Optimal product performance increases the service life and reduces the risk of failure considerably. Ask for the attractive Renfert service offers!

Loan unit service

Here, too, we are together with Renfert reliably at your side. Benefit from Renfert's loan unit service to avoid downtime. Contact us!

*Wear parts excluded

Order details

Order No.		Description	Quantity
999-3000		SIMPLEX 3D filament printer consisting of: SIMPLEX sliceware and SIMPLEX print, filament sensor, hood with exhauster, lockable Plexiglas door, SIMPLEX study model filament, USB flash drive, filament spool holder, Bowden (filament guide tube), service set, power cord with Schuko plug, travel adapter, USB A-B cable, distance card, quick start guide, operating instructions	1
999-3010		Filament SIMPLEX Study Model for planning and diagnostic models PLA. white, 800 g	1
999-3011		Filament SIMPLEX Working Model for working models in the laboratory PLA, green, 800 g	1
999-3012		Filament SIMPLEX Aligner Model for models for aligner production temperature and pressure resistant filament, white, 800 g	1
999-3013		Filament SIMPLEX Multi-use Model for detailed models with plaster-like surface PLA with hard plaster content, white, 800 g	1



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