PrograPrint Cure

Operating Instructions

ivoclardigital.com

ivoclar digital®

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1 About this Document

These Operating Instructions will familiarize you with the PrograPrint Cure features.

PrograPrint Cure is a state-of-the-art light-curing unit with LED technology (405 nm and 460 nm) for use in the dental field. This unit has been developed and produced based on state-of-the-art technology.

Improper use can be dangerous. Please observe the relevant safety information and read the Operating Instructions carefully.

These Instructions are an integral part of the device and are valid for all machine versions indicated.

The Operating Instructions describe the safe and correct use in all phases of operation.

Should you lose these Operating Instructions, you can download them from www.ivoclarvivadent.com.

For all types of technical questions, please contact your authorized service partner.

1.1 Target groups

Target group	Duties
Operator	• Keep these Operating Instructions available at the place where the device is used, also for future use. • Request personnel read and observe these Operating Instructions and the documents of equal applicability, in particular the safety instructions and warnings (“Safety”, page 10). • Observe additional device-related stipulations and regulations.
Dental technician	• Read and observe these Operating Instructions and the documents of equal applicability, in particular the safety instructions and warnings (“Safety”, page 10).
Qualified dental staff members	
Authorized Ivoclar Vivadent service partner	

1.2 Signs and symbols

1.2.1 Warnings

Warnings are used in these Operating Instructions to warn you of a risk of injury to persons and/or damage to property.

1. Please always read and observe these warnings.
2. Follow all measures marked with the warning symbol and warning word.

Depending on the severity and probability of the danger, the following warning levels are distinguished:

Warning symbol	Warning word	Danger level	Consequences resulting from non-observance
⚠	DANGER	Immediate imminent danger	Death, severe personal injury
⚠	WARNING	Potential danger	Death, severe personal injury
⚠	CAUTION	Potential danger	Slight personal injury
-	NOTICE	Potential danger	Damage to property

Explanation of the structure of a warning:

⚠ **WARNING WORD! Name of source of danger, cause of hazard or type of risk.**

Consequences of non-compliance with instructions.

▶ Action in order to avoid danger.

Example of a warning:

⚠ **DANGER! Cleaning work during operation. Contact with voltage-carrying components.**

Danger of electric shock.

Damage to the device.

▶ Perform cleaning work only when the device is switched off and disconnected from the power supply.

1.2.2 Signs and symbols

Symbol	Meaning
	Additional information, e.g. for better understanding, for simplifying workflows or for further information
☑	Prerequisite which must be followed before the subsequent actions can be performed.
▸	Individual steps which you must perform
1., 2.	Several steps that you must perform in the given order
➡	The result indication of an operation step or several steps, for success control

1.3 Abbreviations

Abbreviations	Meaning
CAM	Computer-Aided Manufacturing Describes the use of an independent software which creates the NC code
EMC	Electromagnetic Compatibility Describes the interference compatibility of electrical or electronic devices in their environment
IVAG C+B	Dental laboratory composites from Ivoclar Vivadent
IVAG SL	Ivoclar Digital PrograPrint materials for the Ivoclar Digital system solution

1.4 Revisions and validity

Version	Date	Amendments to the previous version
1.0	2019-08	First production
2.0	2019-10	Revision
3.0	2019-11	Revision

1.5 Documents of equal applicability

For details on the documents of equal applicability, please contact your local trade partner or go to the download section of Ivoclar Vivadent at http://www.ivoclarvivadent.com.

Document	Explanation
Instructions for Use for the different materials	Information about the use of the materials to be processed
Operating Instructions on the use the 3D printer PrograPrint PR5	Information about requirements that must be observed for the transportation, set-up and use of PrograPrint PR5
Operating Instructions for the cleaning unit PrograPrintClean	Information about requirements that must be observed for the transport, set-up and use of PrograPrint Clean
PrograPrint Workflow Manual	Short instructions on the entire workflow of the PrograPrint system
Instructions for Use for CAMbridge	Manual for the CAM software "CAMbridge"
Short Instructions for: • PrograPrint PR5 • PrograPrint Clean • PrograPrint Cure	Excerpt of operation-relevant topics from the respective Operating Instructions

2 Safety

WARNING! Improper use of the device.

Hazard to the user.

▶ The safety chapter contains important information on the safety of the device: Please read it thoroughly prior to installation and operation.

The device is built according to state-of-the-art technology and recognized safety regulations. Nevertheless, operation bears the risk of injury to the user or third parties. Moreover, impairments of the device and other property are possible.

2.1 Intended use

PrograPrint Cure has been designed for use in dental technology for curing and post-curing of the following materials:

- Ivoclar Digital PrograPrint materials:
  - ProArt Print Wax (burn-out material for the press technique)
  - ProArt Print Model (material for the fabrication of dental working models)
  - ProArt Print Splint (material for the fabrication of dental drilling templates and splints)
- Light-curing dental laboratory composites (e.g. SR Nexco)
- Light-curing dental laboratory materials

Use PrograPrint Cure exclusively for this purpose.

In the case of damage caused by improper use or failure to observe the Operating Instructions, all liability and guarantee claims are void.

Please note that only the materials and cleaning agents approved by the manufacturer ensure processing without damage to the machine.

All information regarding material and application extensions corresponds to the state of knowledge at the time of printing. For additional details, go to http://www.ivoclarvivadent.com.

The post-curing of 3D printed materials from other manufacturers is not recommended due to the lack of coordination with this procedure.

2.1.1 Potential improper use

The device is not suitable for post-curing procedures outside of the dental field.

The following is considered as misuse of the system:

- Non-compliance with the specified intended use, intended user specifications or intended environment
- Modifications, maintenance and repairs without prior authorization by Ivoclar Vivadent
- Operation with inappropriate parameters

Improper use of the device can lead to the following:

- Danger for patients and operating personnel
- Impairment of the operability of the device

Ivoclar Vivadent assumes no liability for damage resulting from improper use.

Typical misapplications of the device to be avoided:

Improper use	Consequences
Post-curing of non-approved materials	Insufficient material properties in terms of mechanics, colour, precision, biocompatibility
Post-curing of printed objects in an articulator	• Articulator does not fit into the chamber, door cannot be closed • Device cannot be used • Damage to the device
Post-curing of non-dental objects	Insufficient material properties in terms of mechanics, colour, precision, biocompatibility due to different volume, weight, layer thicknesses, materials, etc. of the objects
Incorrect cleaning and disposal	• Skin irritations • Environmental damage • Damage to the device
Switching off the device by the user during operation or opening the door whilst a program is in progress	• Interruption or cancellation of the curing process/program • Objects not completely cured • Insufficient material properties in terms of mechanics, colour, precision, biocompatibility **Note:** If a curing job in progress is cancelled, it cannot be continued. It is not possible to perform a post-curing procedure after a program cancellation as this would lead to an undesirable change in the material properties.

2.1.2 Intended user

The device may only be operated by dental technicians and qualified dental staff for the fabrication of dental objects for dental applications.

The user is responsible for selecting the correct device settings.

2.1.3 Intended environment

The device is only permitted for use in closed rooms within the specified ambient conditions (“Permitted ambient conditions for operation”, page 98) and in compliance with the requirements for safe installation (“Choosing the location site”, page 28).

2.2 Operator's obligations

The operator is responsible for the safe operation of the device.

- Ensure compliance and control:
  - **a.** Intended use
  - **b.** Statutory or other safety and accident prevention regulations
- Only operate the device in a technically perfect condition, in a proper, safety-conscious and risk-conscious manner and while observing these Operating Instructions.
- Keep these instructions and all documents of equal applicability complete, legible and accessible to the personnel at all times.

2.3 Personnel qualifications

- Ensure that the personnel assigned to work with the device have read and understood these instructions and all documents of equal applicability, in particular safety, maintenance and repair information, before starting work.
- Ensure that the personnel is aware of hazards and safety equipment (“Working areas, potential hazards and safety measures on the device”, page 14).
- Manage the responsibilities, competence and monitoring of staff.
- All work must be carried out by qualified technical staff only.
- Personnel to be trained should only be working with the device under the supervision of qualified technical staff.

2.4 Staff obligations

- Only operate the device in a technically perfect condition, in a proper, safety-conscious and risk-conscious manner and while observing these Operating Instructions.
- Refrain from any process that could endanger staff or third parties.
- In the case of safety-related malfunctions, switch off the device immediately and allow the fault to be rectified by an authorized service partner.
- In all cases of doubt regarding the safety of the device, switch off the device and prevent further use.
- In addition to the overall documentation, legal or other safety and accident prevention regulations including applicable standards and guidelines of the country in which the device is operated must be complied with.
- Do not wear jewellery such as rings, bracelets or watches when working on the device, especially when cleaning the curing chamber. Risk of crushing or cutting injuries.

2.5 Personal protective equipment

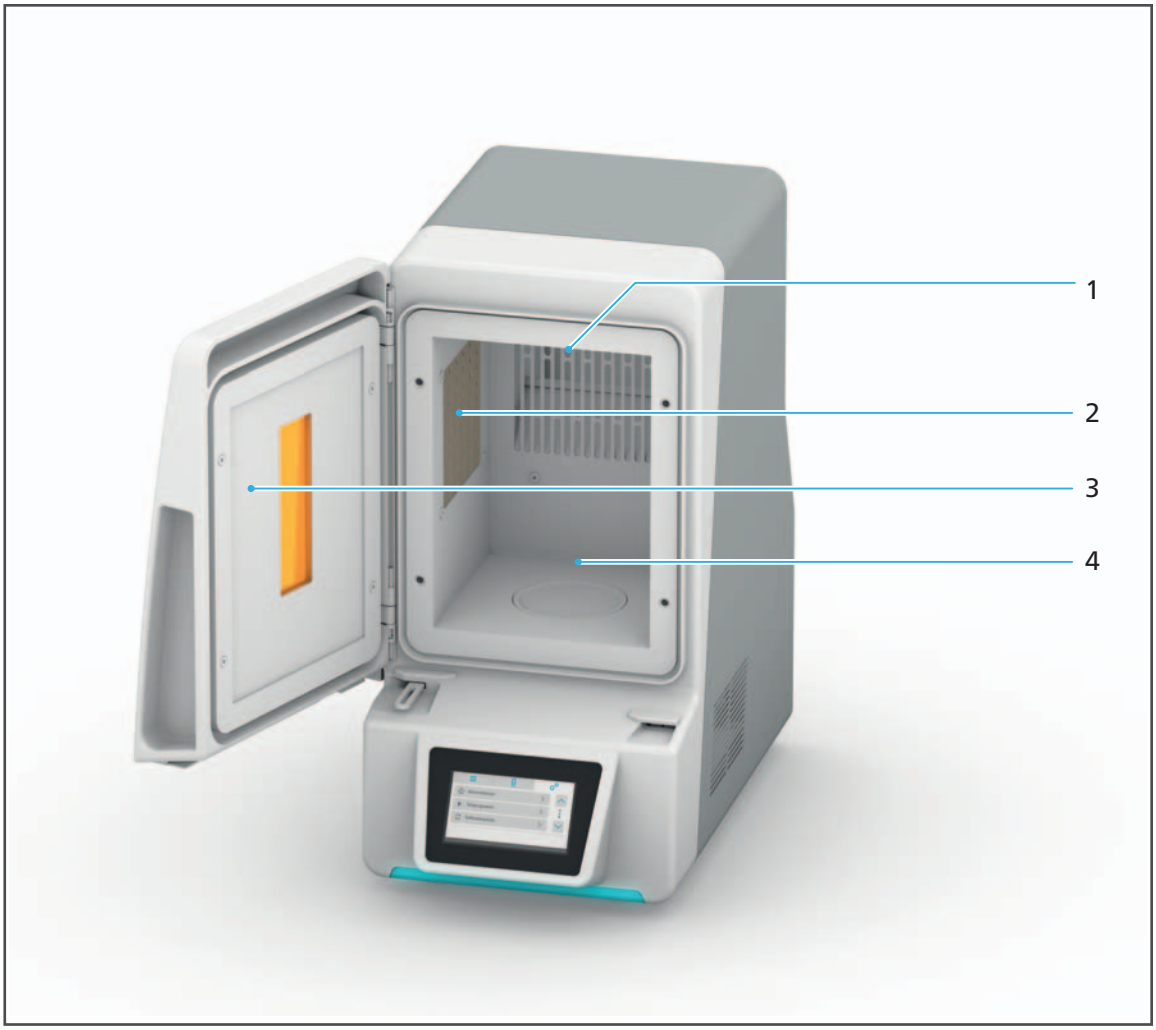
- For the protection against material and cleaning agent vapours or other dental material particles while working with the build platform and dental objects or during cleaning, wear protective masks (half mask with protection class FFP3), gloves and protective gear suitable for the respective material (see also Instructions for Use or the materials, “Documents of equal applicability”, page 9).

2.6 Working areas, potential hazards and safety measures on the device

As an operator, you are working at the areas described below.

The device is built according to state-of-the-art technology and recognized technical safety regulations. Hazardous areas, which cannot be avoided by design, are equipped with appropriate protective devices. Nevertheless, if the machine is used improperly, there is a danger to life or risk of injury to the user or third parties. In addition, the devices or printed dental objects may become damaged.

The working areas, their potential hazards and applicable safety measures are shown below:



No.	Working area	Tasks / Work	Type of hazard	Safety equipment	Protective effect
1	LEDs (top side)	Curing the materials	Light output	• Tinted viewing window in the door • Safety switch: When the door is opened, the program will switch off • When the door is open, the program stops or the program cannot be started	Protection against eye injuries
2	LED (left side)				
3	Door	Access to the curing chamber	Mechanical hazards		• Protection against burns • Protection against crushing
4	Curing chamber	• Inserting the build platform or the material • Cleaning when the device stands still	Hot surfaces		

2.7 Safety instructions for potential hazard areas

2.7.1 Electromagnetic waves

Even though the valid standards are observed, it is possible that the device reacts to radio frequency interference or the operation of other devices in the immediate vicinity.

- ▶ Do not operate devices that generate electromagnetic waves in the same room as this device.
- ▶ Take appropriate measures in the case of radio interference, e.g. a new orientation, a new device position or electromagnetic shielding.
- ▶ Only use the original accessories recommended and supplied by the manufacturer. Failure to do so can result in increased interference emissions or decreased immunity of the device.

2.7.2 Light emissions

Looking straight into LEDs or reflective surfaces is unpleasant for the eye. Prolonged exposure can cause injury to the eyes.

This applies in particular to people who work with this device or in its vicinity for long periods of time, and to people who have undergone eye surgery.

- ▶ Make sure that people who are generally sensitive to light or take medication for light sensitivity or photosensitizing drugs are not exposed to the device light.
- ▶ Only view the objects in the curing chamber through the tinted viewing window of the device.

2.7.3 Electrical safety

If covers are opened or parts are removed which are only accessible with tools, voltage-carrying components may be exposed. The plugs may also be under voltage. There is a risk of electric shock.

- ▶ Electrical work must only be carried out by your authorized service partner.
- ▶ Before connecting the device, check that the supply voltage and frequency are correct at the point of installation (Information on the type plate, see “Identification and labelling”, page 22).
- ▶ To avoid injury to the user and for cooling reasons and fire protection, never remove the housing covers.
- ▶ For installation, observe the requirements of the manufacturer for house installation (“Documents of equal applicability”, page 9).
- ▶ To prevent the risk of electric shock, connect the device only to a power supply with a protective conductor. If the protective conductor is interrupted either inside or outside of the device or the protective conductor connection is loose, the device may be dangerous for the operator in the event of a fault or an error. Intentional interruption is not permitted.
- ▶ The mains plug is used as a supply circuit disconnecting means. Always connect the mains plug to an easily accessible protective contact socket.
- ▶ Connect the grounded and freely accessible protective contact socket to a separately secured circuit.

- ▶ Make sure that the protective contact socket is equipped with a residual current circuit breaker (FI).
- ▶ Connect the device to a separately secured circuit or make sure that no devices are connected that cause severe supply voltage fluctuations when switched on. These fluctuations interfere with the electronic controls and may cause failure of the system.
- ▶ Disconnect the device from the power supply before cleaning and maintenance work approved to be performed by the user.
- ▶ If you need to disconnect the unit from the power supply at a later time: Disconnect the plug from the protective-contact mains socket, not from the device.

2.7.4 Hazardous materials

Incorrect handling of the device, the accessories or non-compliance with the processes described in these Operating Instructions may lead to contact of the user with uncured material or the cleaning agent isopropanol (isopropyl alcohol). This can be detrimental to health.

Without appropriate safety precautions, there is a risk of skin irritation, allergic reactions and respiratory diseases.

If the cleaning agent isopropanol is used incorrectly, there is also a risk of explosion and fire.

- ▶ Observe the Instructions for Use of the materials used (“Documents of equal applicability”, page 9).
- ▶ Wear protective gear (“Personal protective equipment”, page 13).
- ▶ Make sure that the room is sufficiently ventilated when working with the materials.
- ▶ Only use mild, pH neutral cleaning agents for cleaning.

2.8 Safety information for the individual operating phases

2.8.1 Transport

- Only transport the device according to the description in these Operating Instructions (“Transporting and Setting Up the Device”, page 28).
- Transport and store the device only within the permissible temperatures and environmental conditions (“Ambient conditions”, page 98).

2.8.2 Initial operation

- Ensure that this device is only operated by authorized and trained specialists.
- If the device has been stored in a cold environment or at high humidity, maintain a drying or temperature adjustment time of approx. 1 hour (without voltage) at room temperature before initial operation.
- Before connecting the device, check that the supply voltage and frequency are correct at the point of installation (“Electrical data”, page 98).
- The requirements regarding the location site (“Choosing the location site”, page 28) and the ambient conditions (“Ambient conditions”, page 98) must be observed.

2.8.3 Operation

- The device may only be operated by authorized and trained technical personnel.
- Keep unauthorized persons, such as patients, children and animals, away from the device.
- In all cases of doubt regarding the safety of the appliance, switch off the device and take suitable measures to prevent further use.
- Prior to connecting power or operation, check the device, the accessories and protective equipment for any damage.
- Do not use damaged, non-functioning equipment or accessories; instead notify your authorized service partner.
- In order to ensure the product safety and warranty services, the device must be exclusively operated with the original accessories from Ivoclar Vivadent, particularly the original power cord. The user bears the risk when using non-approved accessories.
- To ensure process reliability, Ivoclar Vivadent recommends using only approved materials.
- Never bypass the safety equipment of the device or set it out of operation (“Working areas, potential hazards and safety measures on the device”, page 14).
- Do not open the curing chamber whilst a program is in operation.
- Always place the build platform or object tray on the designated rotary plate.
- To avoid the risk of electric shock, ensure that no liquids or objects enter the ventilation slots.
- To prevent damage to the device and a reduction of the device performance, observe the cleaning specifications and cycles (“Cleaning by the user”, page 19 and “Cleaning and Maintenance Work for the User”, page 85).
- Only operate the device unsupervised if the operating conditions for unsupervised operation described below are fulfilled.

Unsupervised operation:

The device may be operated unsupervised, provided the national and local laws and provisions allow for such action and provided that they are observed. Furthermore, the requirements of the respective insurance company must be met.

- ▶ Never use the device if the curing chamber is heavily soiled.
- ▶ Protect the device against unauthorized access.

2.8.4 Cleaning by the user

- ▶ Only clean as specified in these Operating Instructions and observe the related safety regulations (“Cleaning and Maintenance Work for the User”, page 85)

2.8.5 Improper maintenance, modifications and repairs

Improper service and improper repairs or modifications will endanger patients and users and result in damage to the device and the final products.

Should you carry out any repairs or maintenance of the device or modifications or remove the housing without prior written consent by an authorized service partner, all warranty claims are void.

Unauthorized opening and removal of components can expose voltage-carrying components. The plugs may also be under voltage. There is a risk of electric shock!

- ▶ Maintenance as well as repairs of damaged safety equipment or machine parts must only be carried out by a service partner authorized by Ivoclar Vivadent.

3 Design and Function

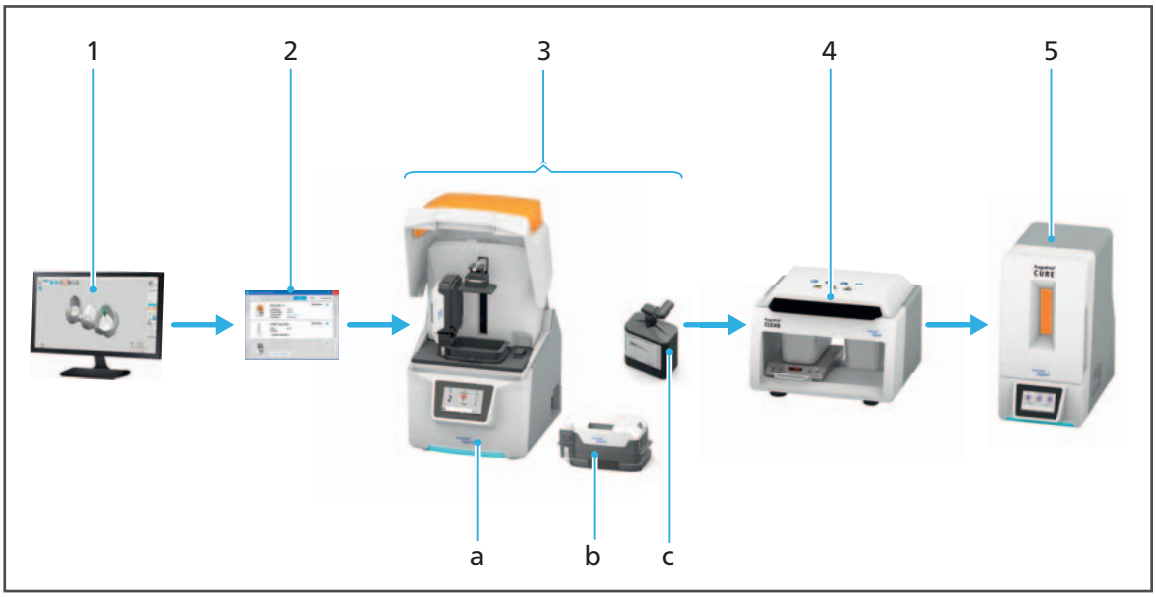
The PrograPrint Cure is a light-curing unit for the curing and post-curing of dental objects (e.g. models, splints, etc.).

PrograPrint Cure has been designed in such a way that various materials can be processed:

- Ivoclar Digital PrograPrint materials
- Light-curing dental laboratory composites (e.g. SR Nexco)
- Light-curing dental laboratory materials

Ivoclar Digital PrograPrint system solution

When used in connection with the Ivoclar Digital PrograPrint system solution, PrograPrint Cure is not a stand-alone component, but an integral part of the PrograPrint 3D printing system. The process for creating dental objects with the Ivoclar Digital PrograPrint systems solution is divided into several process steps:



Step	Component	Task
1	CAM software “CAMbridge”	• CAM preparation • Alignment of the dental object on the virtual build platform • If necessary, addition of support structures
2	Software “PrograPrint Manager”	Transfer of the print job to PrograPrint PR5

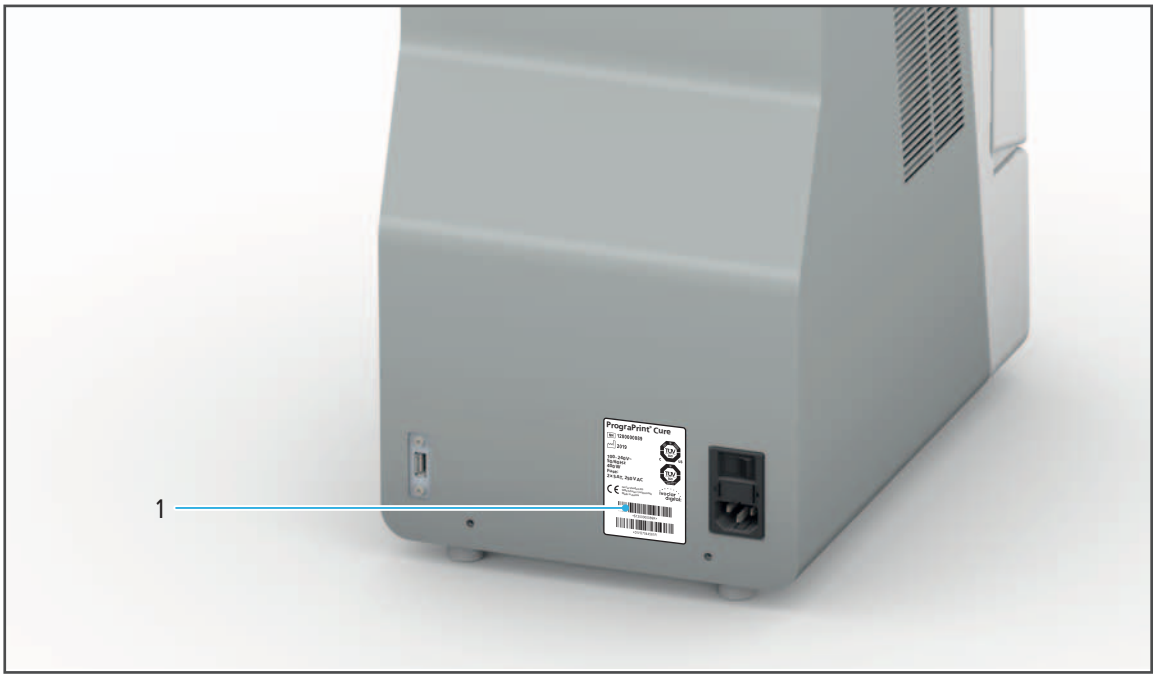
Step	Component	Task
3	PrograPrint PR5 (a) with cartridge (b) and material bottle (c). All components can be ordered separately.	3D printing of the dental object
	Cartridge (Pos. b, 1 separate cartridge per material)	• Holding the material for the printing process • During storage: Protection of the material from harmful environmental influences, such as light or dust
	Material bottle with valve (Pos. c, bottle content 1000 ml)	Provision of the material in the cartridge (b)
4	PrograPrint Clean (to be ordered separately)	Cleaning of the dental object after the printing process
5	PrograPrint Cure	Final polymerization of the dental object after cleaning

For information on the range of components that can be ordered separately, please refer to the respective Operating Instructions of the component (“Documents of equal applicability”, page 9).

3.1 Identification and labelling

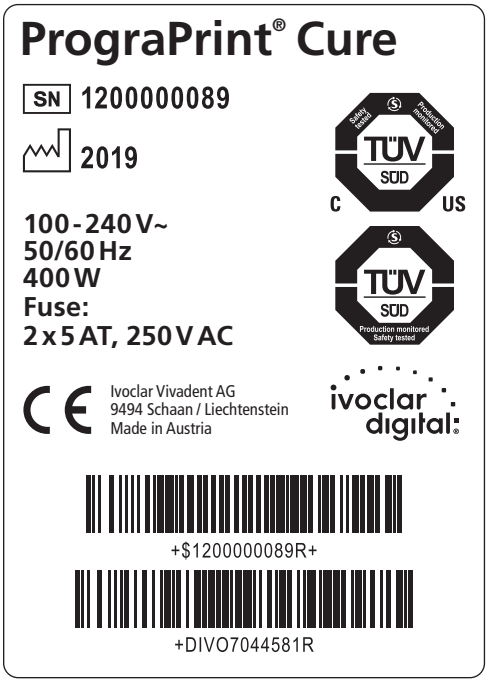
PrograPrint Cure has the product name “PrograPrint Cure” and the Ivoclar Digital logo imprinted on the front side.

The back has a type plate attached:



No.	Description
1	Position type plate

Example:

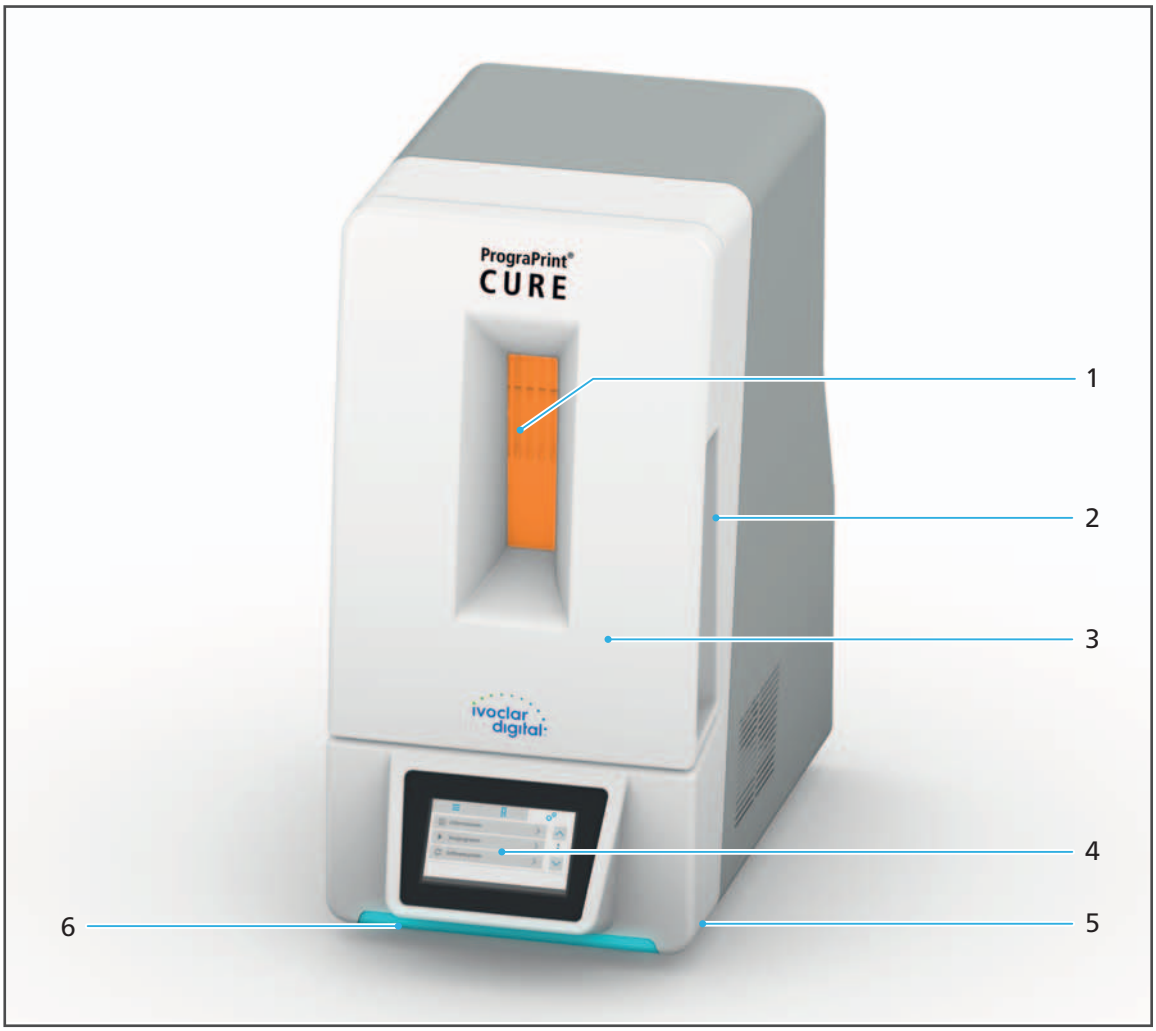


Symbols on the type plate:

Symbol	Meaning
ivoclar digital	Manufacturer
SN	Serial number
	Manufacturer / Year of manufacture (format YYYY, e.g. 2019)
100 - 240 V~ **50/60 Hz** **400 W** **Fuse:** **2 x 5 AT, 250 V AC**	Permitted supply voltage and supply frequency (depending on the country)
CE	This product meets the requirements of the applicable EU directives

3.2 Design of PrograPrint Cure

3.2.1 Front



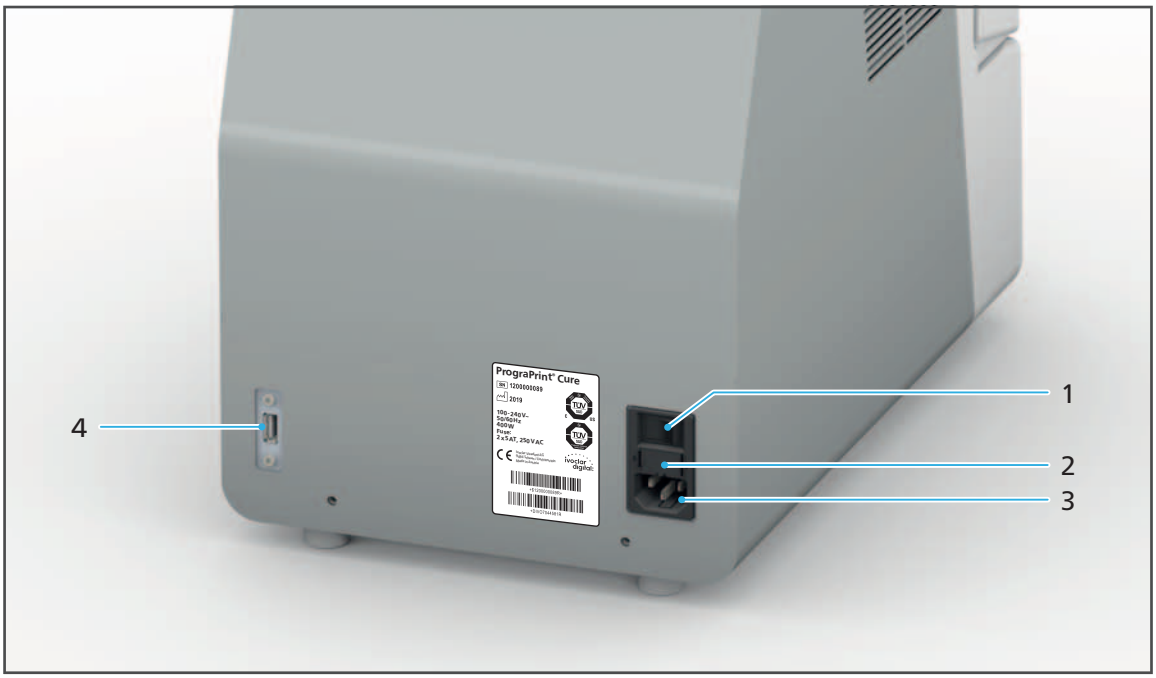
No.	Description	Function
1	Viewing window	• Checking of the post-curing procedure • Protection against light emissions
2	Door with grip recess	• Access to the curing chamber • Placement within the curing chamber
3	Curing chamber (inside)	Polymerization of dental objects
4	Touch screen with user interface	Operation / control of the device
5	Machine feet (4 x at the base of the unit)	Secure position of the device
6	Operating Status Display	Indication of the device status

WARNING! Damaged viewing window. Light is emitted from the curing chamber.

Eye injuries.

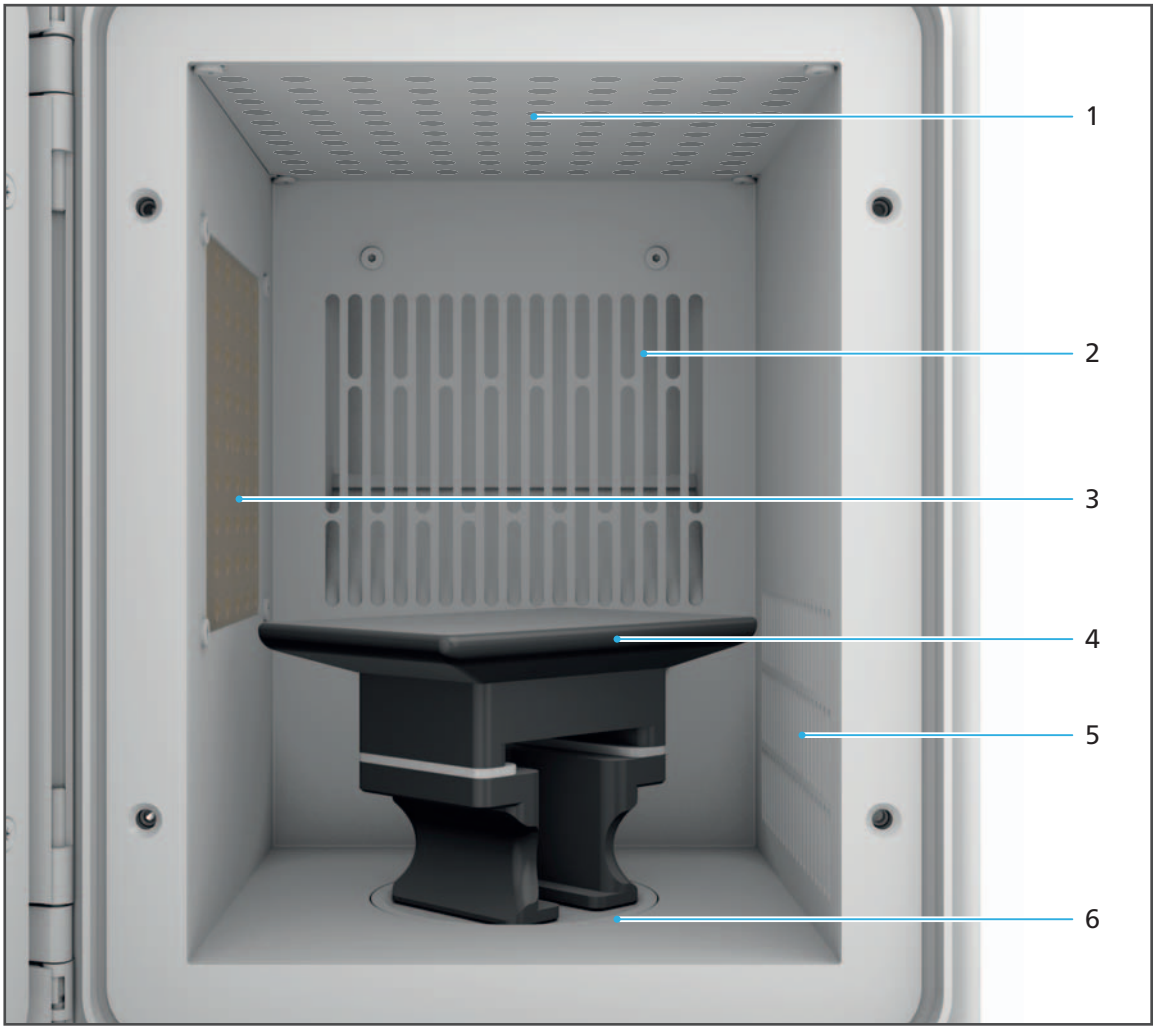
- ▶ Check the viewing window regularly for damage (“Cleaning and maintenance table”, page 87).
- ▶ In the case of damage, set the device immediately out of operation.
- ▶ Contact your authorized service partner.

3.2.2 Connections on the back



No.	Description	Function
1	On/off switch / main switch	Switching the device on/off Note: Switching off the device with the on/off switch does not disconnect the device from the power supply. To fully disconnect from the power supply, unplug the power cable from the wall socket.
2	Safety switch with main protection switch	“Changing the fuses”, page 84
3	Power supply / voltage supply	Connection to the power supply
4	USB connections	Connection of external USB flash drives

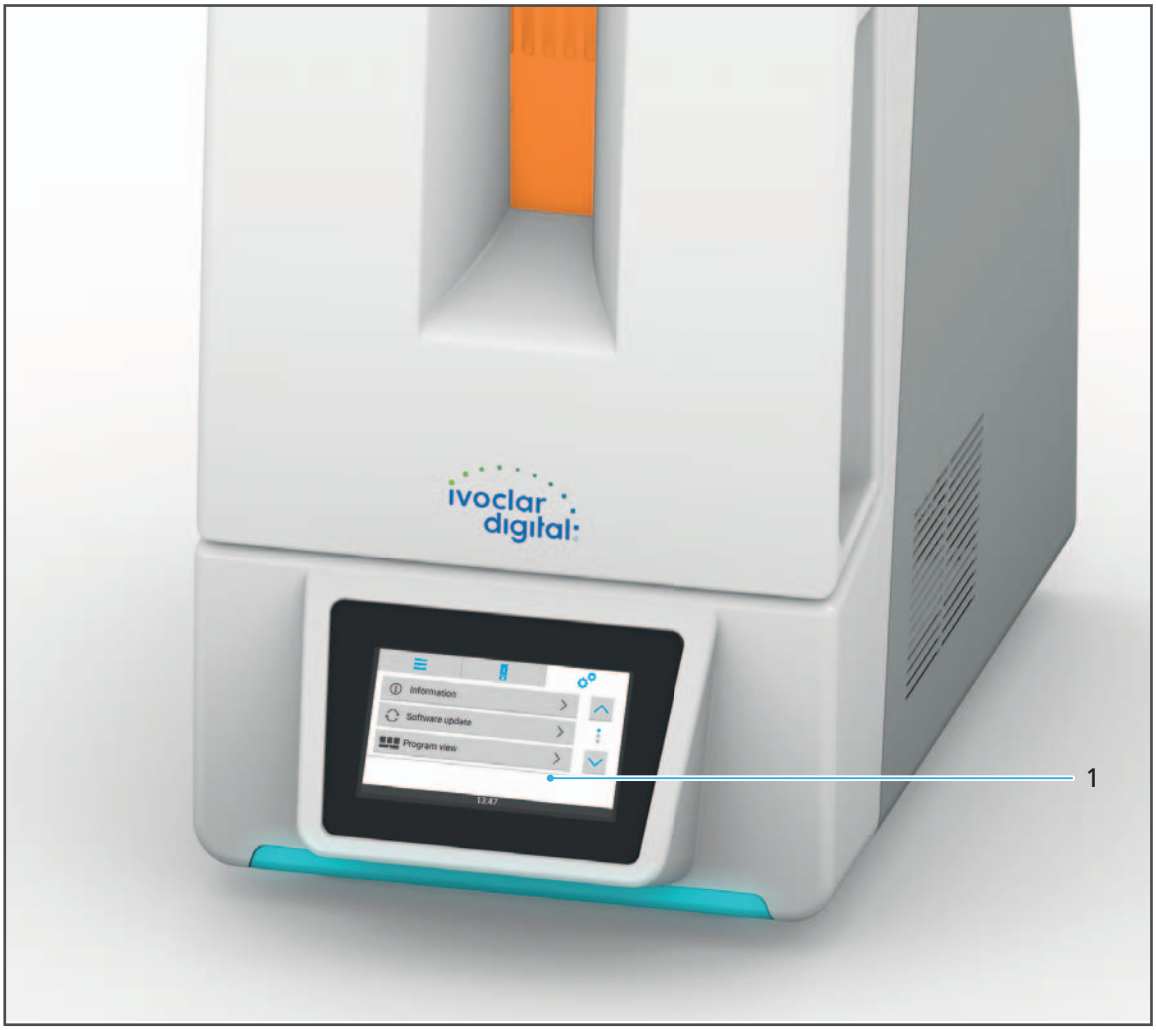
3.2.3 Curing chamber



No.	Description	Function
1	LEDs (top)	Post-curing of dental objects
2	Ventilation slits (back)	Ventilating of the device
3	LEDs (left)	Post-curing of dental objects
4	Build platform	Removable platform with the dental objects for post-curing. Note: For objects, which were not produced with the 3D printer, use the object tray instead of the build platform.
5	Air vents (right)	Ventilating of the device
6	Rotary plate	Platform support

3.2.4 Touch screen with user interface

You may operate your device via the user interface on the integrated touch screen (1).



Information about the operation can be found in section “Working with the User Interface”, page 34.

4 Transporting and Setting Up the Device

4.1 Choosing the location site

Before setting up your device, select a suitable site of operation.

Make sure the following requirements are observed:

- Do not use in rooms with combustible anaesthetics or other flammable gases and substances.
- Do not place or operate the device in a potentially explosive environment.
- In order to avoid overheating or corrosion of the device, only operate the device within the permissible temperature range and ambient conditions (“Ambient conditions”, page 98).
- Protect the device from moisture and heat (direct sunlight, radiators or other sources of heat).
- Operate the device at room temperature.
- Operate the device in as clean and dust-free an environment as possible.
- Position the device on a non-flammable, stable, even, non-slip and clean surface (loading capacity at least 30 kg). Note that the machine feet can leave marks on sensitive surfaces.
- Ensure that the device is free-standing and easily accessible.
  - **a.** Do not fix the device to cabinets or shelves.
  - **b.** Do not operate the device on or under other equipment.
  - **c.** Maintain a distance to other devices and walls.
  - **d.** Do not cover or block the air vents of the device.
- Risk of stumbling and falling! Avoid clutter in the workplace, keep the workplace clean, safely store cables and peripheral equipment.
- Avoid constant lopsided posture, set the workplace up ergonomically and ensure optimal seat height, device position and lighting.

4.2 Transporting the device to the place of operation

WARNING! Risk of injury from the device tipping over or falling down.

Crushing of extremities.

Damage to the device.

- ▶ Use only suitable means of transportation (e.g. fork lift trucks, capacity at least 40 kg).
- ▶ Use suitable transport safety equipment (e.g. tie-down straps) to prevent the device from falling down.
- ▶ Avoid impact, jerky movements and vibration during transportation.
- ▶ Stay well clear of suspended loads or raised parts.
- ▶ Always hold the device by the bottom.
- ▶ Transportation at a later stage: Close the door before transportation.

WARNING! Risk of injury due to heavy lifting.

Injuries to the back due to overloading.

- ▶ The device must be transported and lifted by at least two people.
- ▶ Unpack the device only at the place where it is operated.

- ▶ Transport the device in its original packaging to the defined place of operation.

4.3 Unpacking and setting up the device

WARNING! Risk of injury due to heavy lifting or the device falling down.

Injuries to the back due to overloading.

Crushing of extremities.

Damage to the device.

- ▶ The device must be lifted by at least two people.
- ▶ Always hold the device by the bottom.
- ▶ Position the device with care.

☑ Location site is selected (“Choosing the location site”, page 28).

☑ Location site is freely accessible.

1. Open transport box.

NOTICE! Overloading the door when unpacking the device incorrectly.

Damage to the device, particularly the door.

- ▶ Please follow the instructions for removing from the box correctly.

The device is on its side in the box.

2. Hold the device with at least 2 people on the side facing downwards and carefully lift it out of the transport box.
3. After removing it from the transport box, immediately turn the device so that the top points upwards. Hold on to the base of the device.
4. Lower the device onto the site of installation.
5. Position the device is such a way that the user can see all optical signals of the Optical Status Display and has access to all elements, components and connections at all times.
6. Position the device in such a way that it rests safely on the machine feet, that there is no interference from other devices and that it does not interfere with other devices (“Choosing the location site”, page 28).

We recommend that you keep the packaging for possible maintenance and correct transportation.

4.4 Checking delivery contents and condition

WARNING! Damaged viewing window. Light is emitted from the curing chamber.

Eye injuries.

- ▶ Check the viewing window after unpacking for damage.
- ▶ In the case of damage, set the device immediately out of operation.
- ▶ Contact your authorized service partner.

1. Unpack the device at the place where it is to be operated (“Unpacking and setting up the device”, page 30).
2. Check if all contents are complete (“Delivery form”, page 99).
3. Check all components for transport damage.
4. Report any transport damage or missing components to the transport company immediately.

5 Initial Operation

5.1 Connecting the device to the power supply

Only use the supplied original power cord or an equivalent replacement power cord from Ivoclar Vivadent.

☑ The requirements for the power supply are met (“Electrical data”, page 98, “Electrical safety”, page 16 and type plate, see “Identification and labelling”, page 22).

1. Connect the power cord to the power connection (1) of the device.
2. Connect the power cord to the mains socket.

➡ Mains voltage is present on the device.

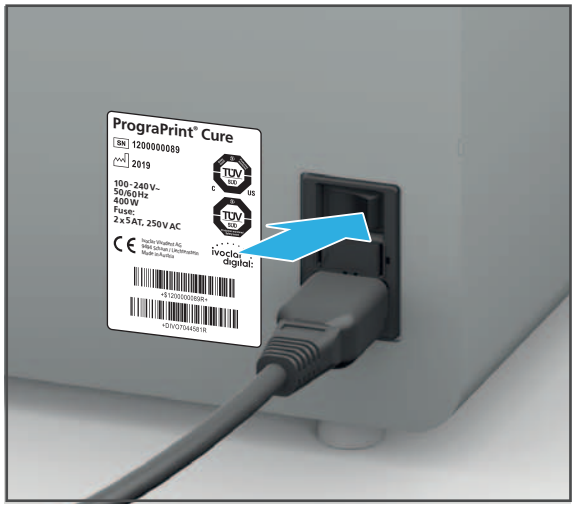
5.2 Switching the device on for the first time

Initial start-up of the device during installation is the same as any other time you switch on the device.

☑ The device is connected to the power supply (“Connecting the device to the power supply”, page 32).

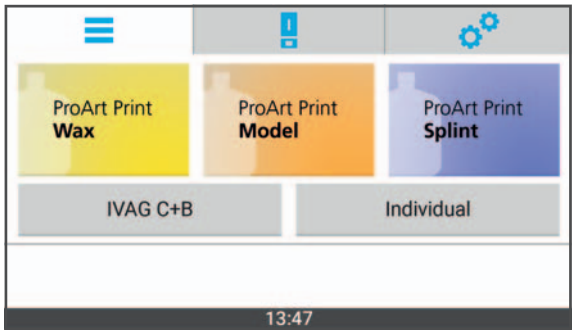
☑ The door of the device is locked.

▶ Switch the on/off switch from **0** to **I**.



The device is switched on.

➡ The start screen is displayed.



6 Working with the User Interface

The device is controlled exclusively via the user interface on the touch screen.

The following illustrations may differ slightly from the software version installed on your device.

In order to ensure safe operation of your device, carry out the necessary software updates on a regular basis (“Showing the software version and performing a software update”, page 51).

NOTICE! Connection of a virus-infected USB flash drive to the device.

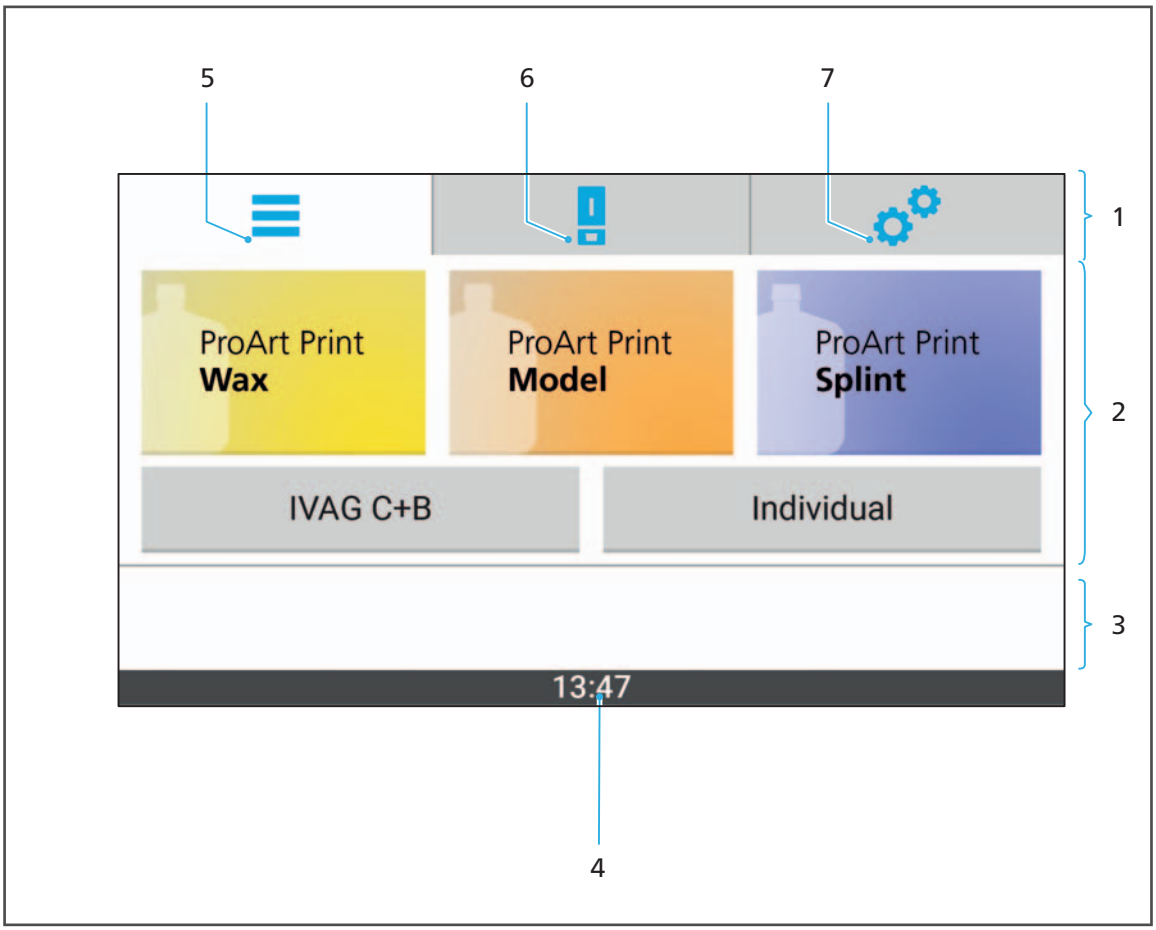
Damage to the device.

Data loss.

- ▶ Check the USB flash drives on a separate computer with a suitable anti-virus software before connecting them to the device.

6.1 Overview of the user interface

The user interface consists of the following functions:



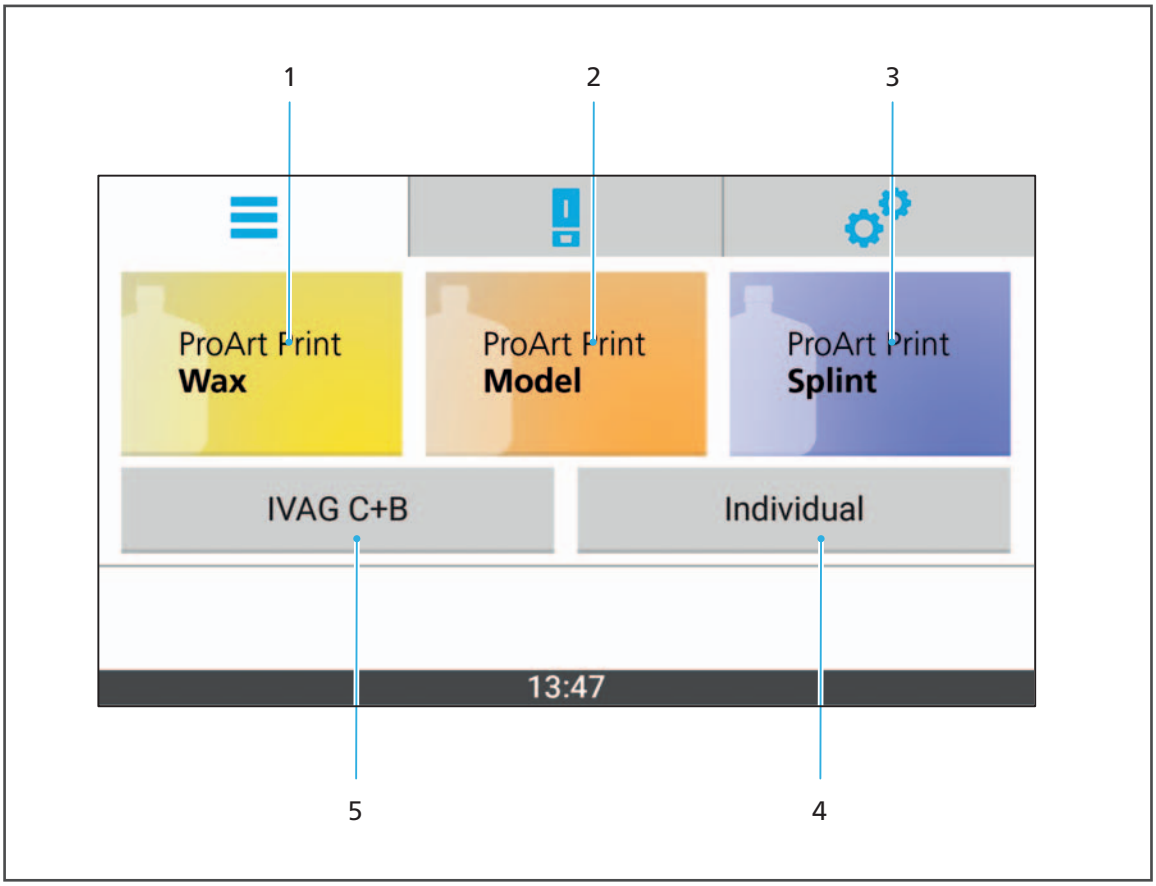
No.	Element	Description	Reference
1	Menu bar	• In the main menu: Shows the active menu • Sub-menu: Display of the active main menu and sub-menu	-
2	Main area	Main display area of the active menu	-
3	Navigation bar	• Menu-specific functions / buttons • Sub-menu: Option to return to the superordinate menu	-
4	Time	Current time	-
5	Main menu [Programs]	Overview of the available programs	“Main menu [Programs]”, page 37

No.	Element	Description	Reference
6	Main menu [Status] 	Status overview of the running program	“Main menu [Status]”, page 42
7	Main menu [Settings] 	Enter device settings	“Main menu [Settings]”, page 49

6.2 Main menu [Programs]

In the main menu [Programs], you can see all programs available for the different types of materials and select them for processing.

It is also possible to create, configure and use your own individual programs.



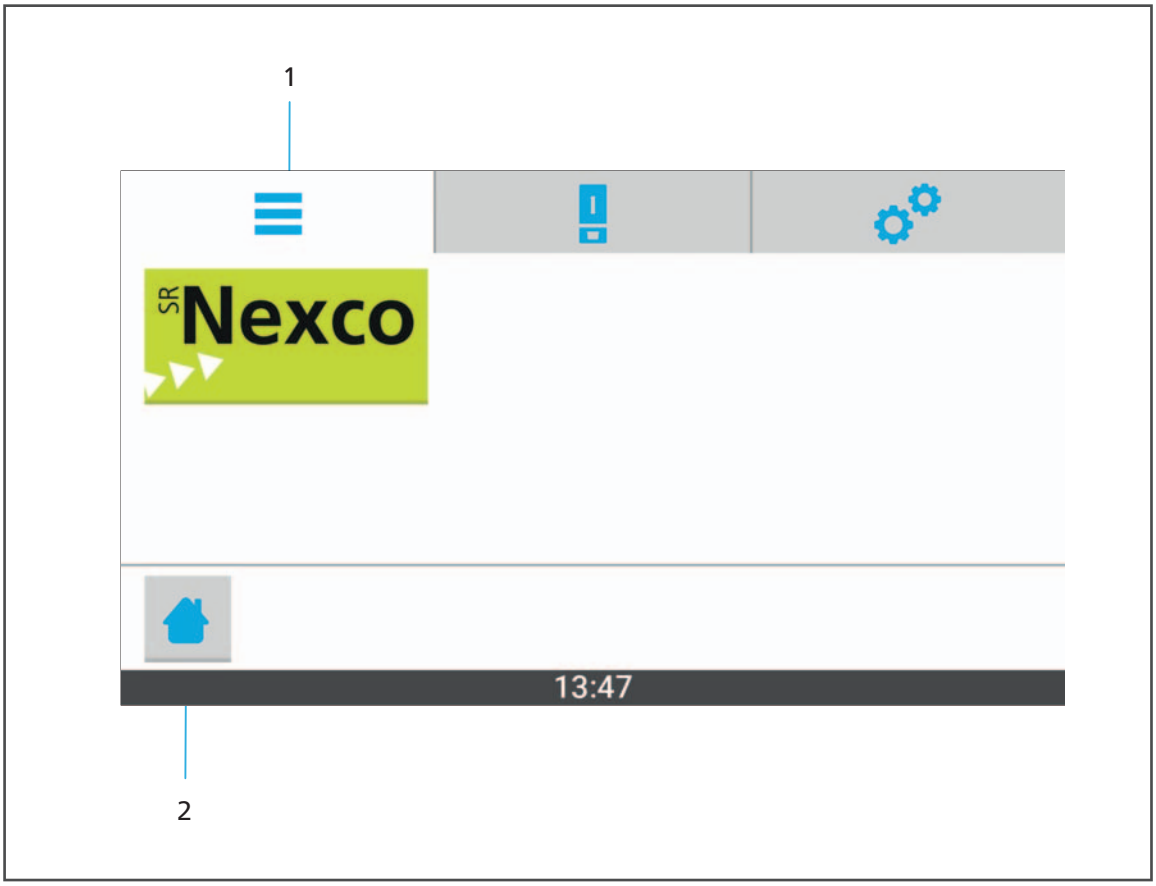
No.	Element	Description	Reference
1	ProArt Print Wax	Program for ProArt Print Wax (burn-out material for the press technique)	Note: When this is selected, the screen will change directly to the detailed view: "Detailed views of the programs [ProArt Print Wax], [ProArt Print Model] and [ProArt Print Splint] for the Ivoclar Digital PrograPrint materials", page 42
2	ProArt Print Model	Program for ProArt Print Model (material for the fabrication of the dental working models)	
3	ProArt Print Splint	Program for ProArt Print Splint (material for the fabrication of dental drilling templates and splints)	

No.	Element	Description	Reference
4	Individual	Programs free for configuration	Note: When this is selected, the screen will switch to the sub-menu so that the selection can be refined: “Sub-menu of the individual programs [Individual]”, page 40
5	IVAG C+B	Programs for dental laboratory composites	Note: When this is selected, the screen will switch to the sub-menu so that the selection can be refined: “Program sub-menu for dental laboratory composites [IVAG C+B]”, page 39

6.2.1 Program sub-menu for dental laboratory composites [IVAG C+B]

In the sub-menu, you can see all programs for dental laboratory composites and select them for processing.

The program parameters have been optimally configured for each different area of application and cannot be changed.

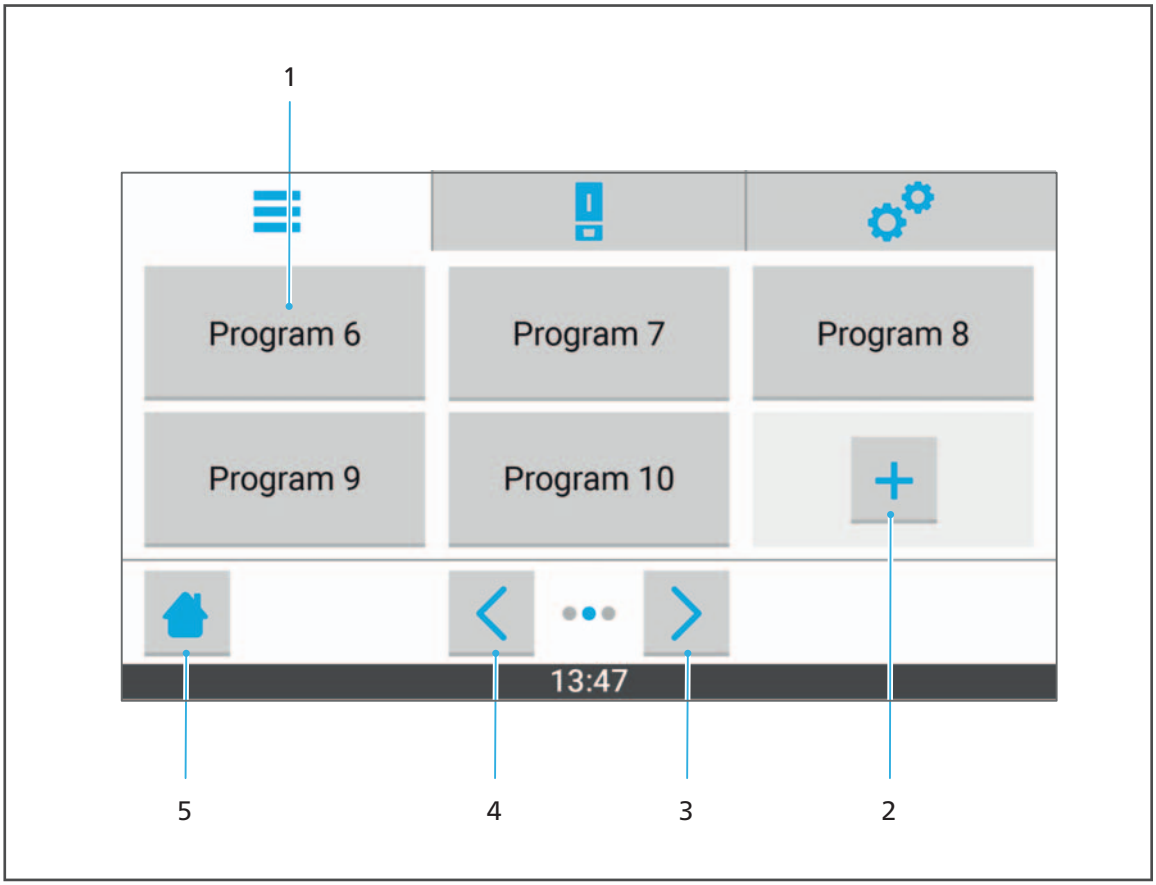


No.	Element	Description	Reference
1	Program	• Description or number of the program • Tap on the program: Show detailed view of the program	“Starting a program”, page 71
2		Go back to the main menu [Programs].	-

Tap on a program to open the detailed view, in which the program can be started (“Detailed view of the programs for dental laboratory composites”, page 44).

6.2.2 Sub-menu of the individual programs [Individual]

In this sub-menu, you can see the individual programs, which are free for configuration, create and configure new programs and select them for processing.



No.	Element	Description	Reference
1	Program	• Description or number of the program • Tap on the program: Show detailed view of the program	• “Starting a program”, page 71 • “Creating a new program”, page 57 • “Editing an existing program”, page 61
2	+	Add new program	“Creating a new program”, page 57
3	>	In the list of programs, continue to next page	-
4	<	In the list of programs, return to previous page	-
5		Go back to the main menu [Programs].	-

Tap on a program to open the detailed view, in which the program can be configured and started (“Detailed view of the individual programs”, page 46).

6.3 Main menu [Status]

In the main menu [Status], you can view the status of a program selected in the main menu [Programs] and start that program.

The view is different according to the selected program type:

- Ivoclar Digital PrograPrint materials, page 42
- Dental laboratory composites, page 44
- Individual programs, page 46

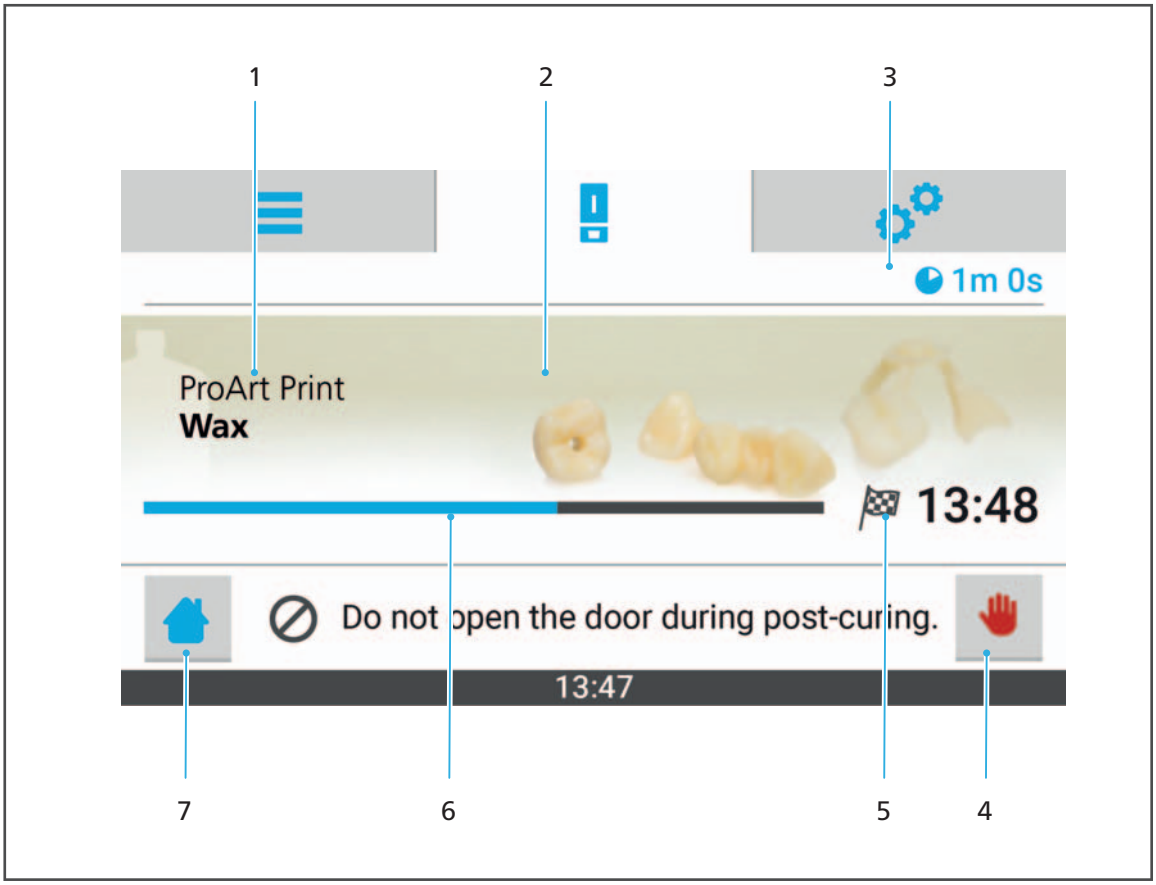
6.3.1 Detailed views of the programs [ProArt Print Wax], [ProArt Print Model] and [ProArt Print Splint] for the Ivoclar Digital PrograPrint materials

In these detailed views you can see the programs [ProArt Print Wax], [ProArt Print Model] and [ProArt Print Splint] for the Ivoclar Digital PrograPrint system solution and select them for processing.

The detailed views of each individual program are organized as follows.

The program parameters have been optimally configured for each different area of application and cannot be changed.

Example: [ProArt Print Wax]



No.	Element	Description	Reference
1	Program	Designation of the selected program	-
2	Program icon	Program icon to differentiate individual programs	-
3	Program duration	Total duration of the program	-
4	Before the procedure: 	Start program	“Starting a program”, page 71
	During the procedure: 	Abort program	“Cancelling a program”, page 77
5		Job complete (time)	-
6	Status bar	During the procedure: Processing progress	-
7		Go back to the main menu [Programs].	-

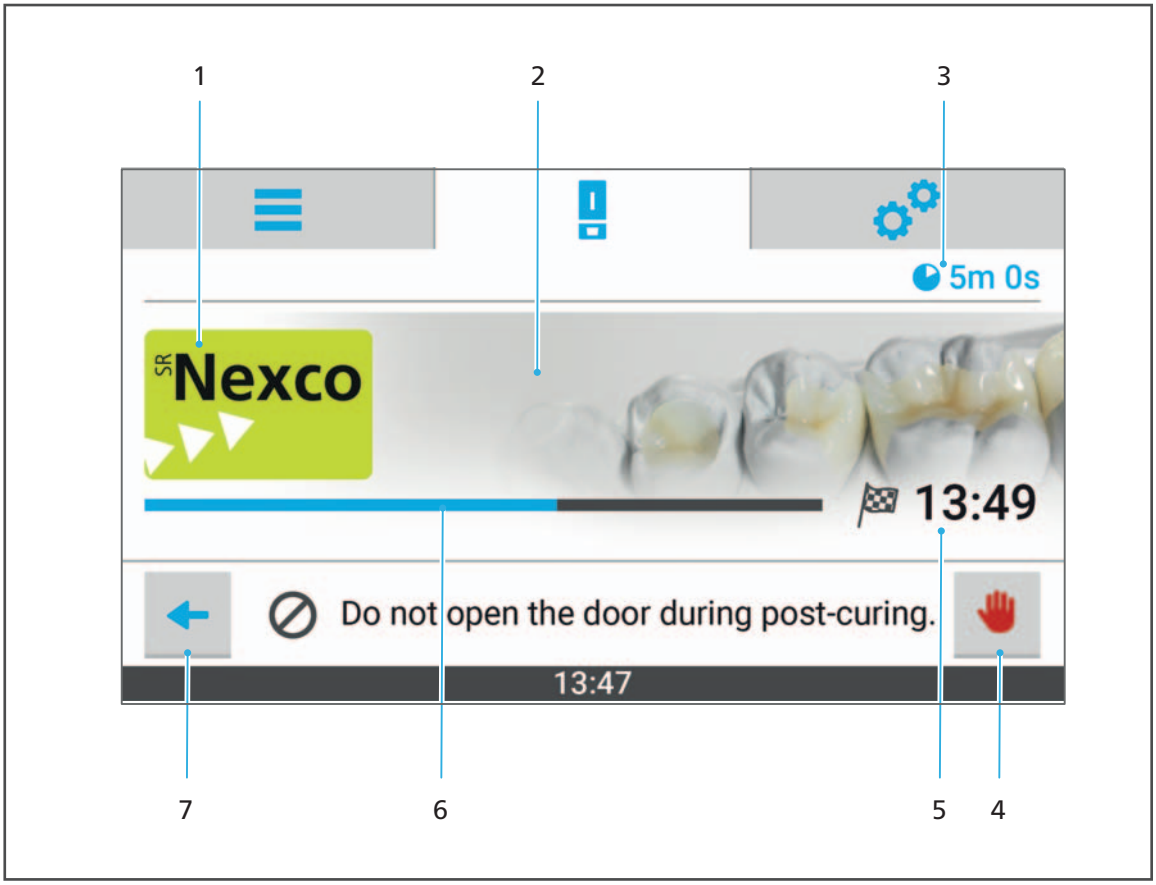
6.3.2 Detailed view of the programs for dental laboratory composites

In this detailed view, you can see the programs for dental laboratory composites and select them for processing.

The detailed views of the programs are organized as follows.

The program parameters have been optimally configured for each different area of application and cannot be changed.

Example: [SR Nexco]



No.	Element	Description	Reference
1	Program	Designation of the selected program	-
2	Program icon	Program icon to differentiate individual programs	-
3	Program duration	Total duration of the program	-

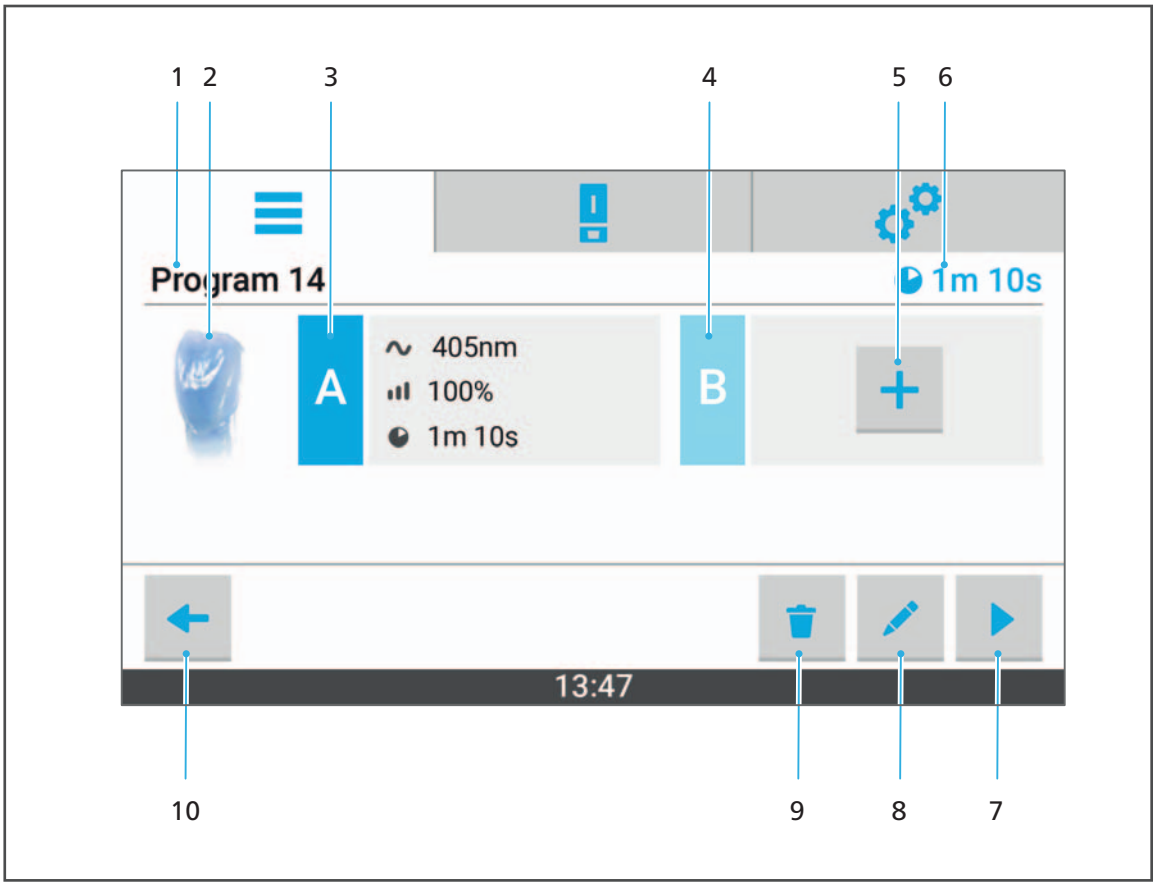
No.	Element	Description	Reference
4	Before the procedure: 	Start program	“Starting a program”, page 71
	During the procedure: 	Abort program	“Cancelling a program”, page 77
5		Job complete (time)	-
6	Status bar	During the procedure: Processing progress	-
7		Return to the superordinate menu.	-

6.3.3 Detailed view of the individual programs

In this detailed view, you can see the programs for dental laboratory composites and select them for processing.

The detailed views of the individual programs are organized as follows.

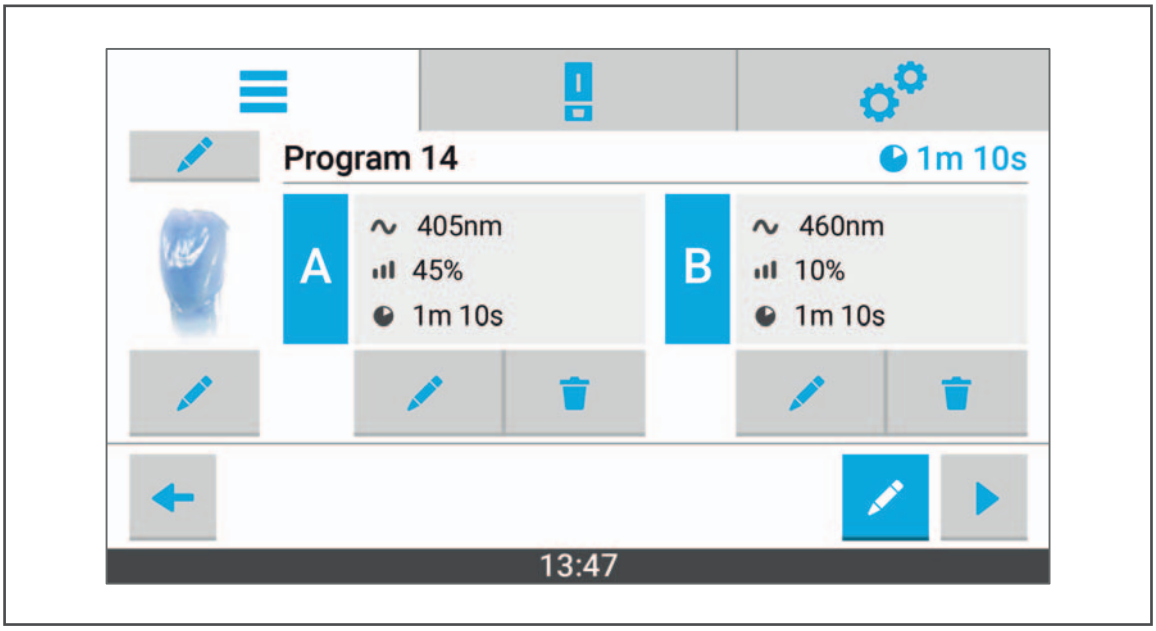
Example: [Program 14] before processing start



No.	Element	Description	Reference
1	Program	Designation or number of the program	“Entering a program name”, page 57
2	Program icon	Program icon to differentiate between individual programs	“Selecting a program icon”, page 58
3	Post-cure A (first wavelength)	Information on wavelength, intensity and duration of the first wavelength	“Configuring post-cure A”, page 59
4	Post-cure B (second wavelength, program-dependent)	Information on wavelength, intensity and duration of the second wavelength	“Configuring post-cure B”, page 60
5	+	Add post-cure B	
6	Program duration	Total duration of the program	-

No.	Element	Description	Reference
7		Start a program	“Starting a program”, page 71
8		Activate the edit mode	“Editing an existing program”, page 61
9		Delete a program	“Deleting a program”, page 64
10		Return to the superordinate menu	-

Tap the symbol to activate the edit mode for the program:

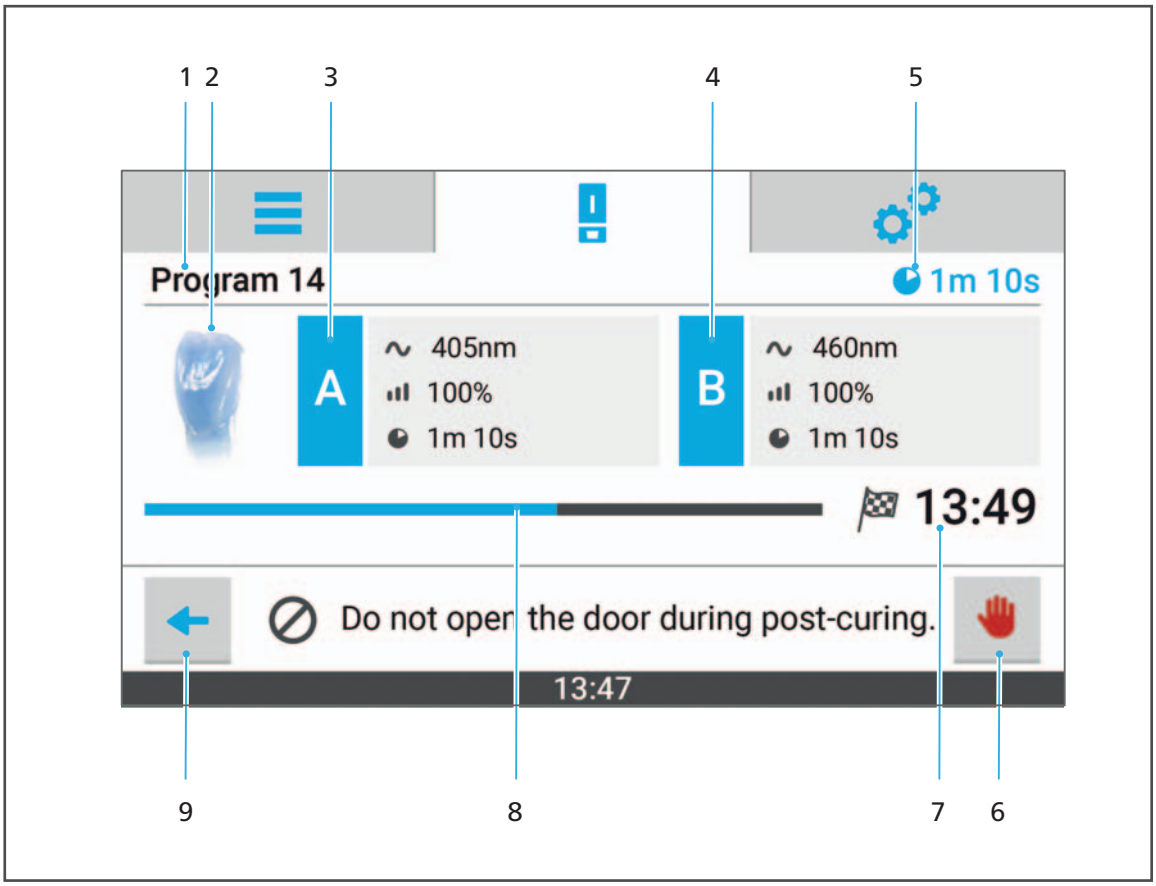


In this mode, it is possible to edit the program parameters and settings and / or delete them:

Symbol	Description
	Edit and / or save an element
	Delete an element
	Start a program

Once the process has been started, the display will change as follows:

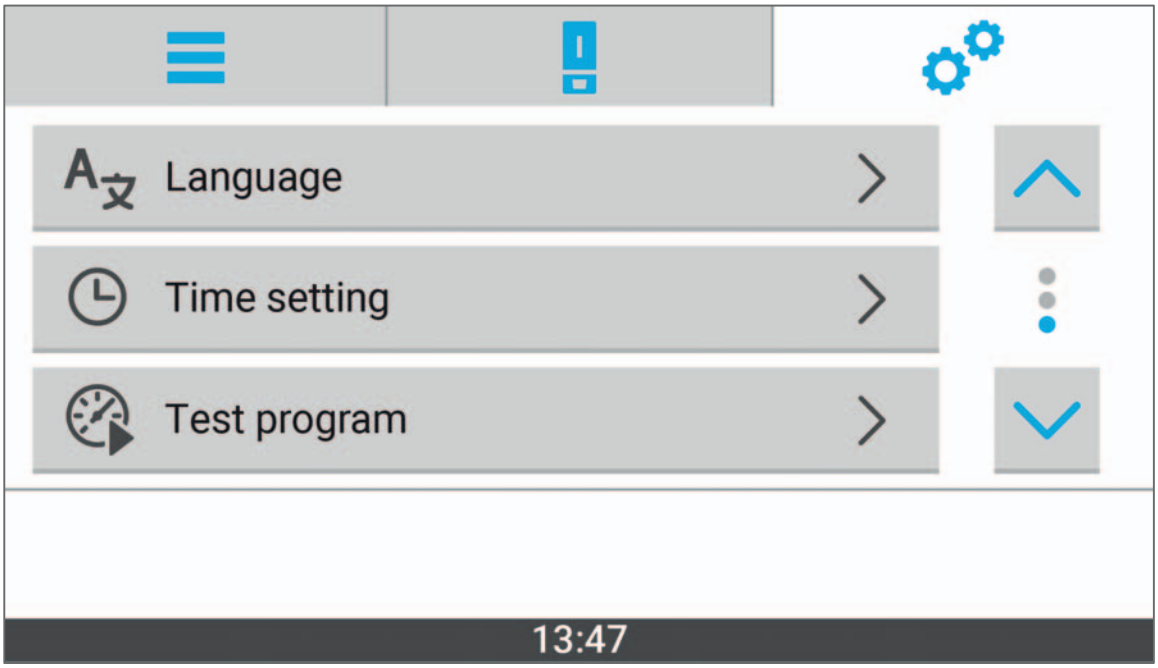
Example: [Program 14] during processing



No.	Element	Description	Reference
1	Program	Designation or number of the current program	Not editable during processing
2	Program icon	Program icon to differentiate between individual programs	
3	Post-cure A (first wavelength)	Information on wavelength, intensity and duration of the first wavelength	
4	Post-cure B (second wavelength, program-dependent)	Information on wavelength, intensity and duration of the second wavelength	Not editable during processing
5	Program duration	Total duration of the program	-
6		Abort program	-
7		Job complete (time)	-
8	Status bar	During the procedure: Processing progress	-
9		Return to the superordinate menu	-

6.4 Main menu [Settings]

In the main menu [Settings], you can perform various configurations and presettings for your device.



Menu	Description	Reference
Language	Set the user interface language	“Setting the user interface language”, page 54
Time setting	Set the time	-
Test program	Check light output	“Running the test program”, page 91
Information	Display information on the software version and the LED service life	“Showing the device information”, page 50
Software update	Show software version and perform software update	“Showing the software version and performing a software update”, page 51
Program view	Show/Hide program categories in the main menu [Programs]	“Setting the program view”, page 55
Screen brightness	Adjust the brightness of the touchscreen display	“Setting the screen brightness”, page 52
OSD brightness	Adjust the OSD brightness	Analogue “Setting the screen brightness”, page 52
Volume	Set the volume of the acoustic signal of the device	“Adjusting the volume”, page 53

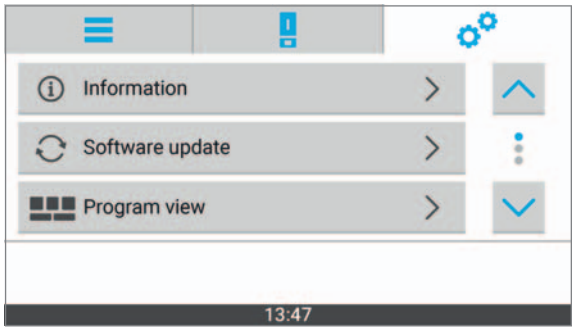
7 Performing General Settings in the User Interface

7.1 Showing the device information

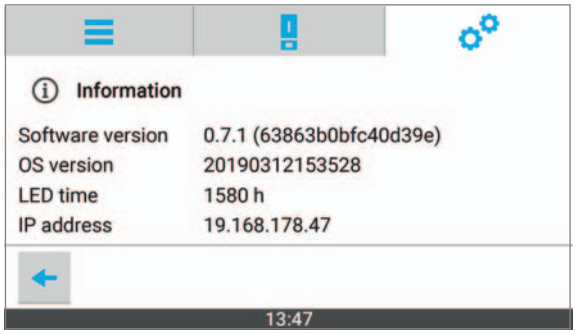
To show the current device information (software version, LED service life etc.), proceed as follows:

☑ You are in the main menu [Settings].

▶ Select [Information] in the menu.



➡ The device information is displayed.



7.2 Showing the software version and performing a software update

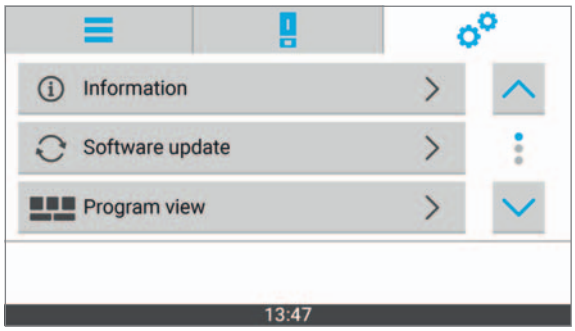
You can get the latest software updates from your authorized service partner or download them from the Internet: http://www.ivoclarvivadent.com/updates/.

To display the current version of the user interface and, if necessary, perform an update, proceed as follows:

☑ The data for the software update were stored on a suitable USB flash drive.

☑ You are in the main menu [Settings].

1. Select [Software update] in the menu.



   The software version will be displayed.

2. Connect USB flash drive containing the software update with the device.

   The software update is automatically recognized.

3. Tap on [Install].

   The software update will be installed.

   After successful installation, a corresponding message will appear.

After the installation, the device has to be restarted.

4. Carry out a restart when asked by the device to do so.

➡ The software update will take effect.

7.3 Setting the screen brightness

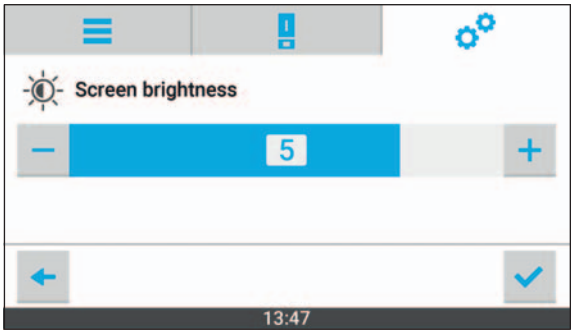
To set the screen brightness, proceed as follows:

☑ You are in the main menu [Settings].

1. Select [Screen brightness] in the menu.

2. Use the keys [+] and [–] to set the required screen brightness.
3. Confirm with a blue check mark:

4. Exit the sub-menu:



➡ The screen brightness is set.

7.4 Adjusting the volume

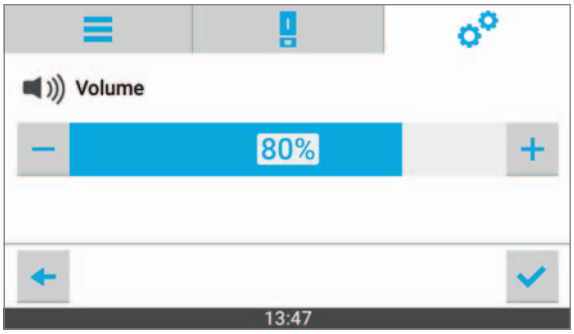
To set the acoustic signal volume on the device, proceed as follows:

☑ You are in the main menu [Settings].

1. Select [Volume] in the menu.

2. Use the keys [+] and [–] to set the acoustic signal volume.
3. Confirm with a blue check mark:

4. Exit the sub-menu:



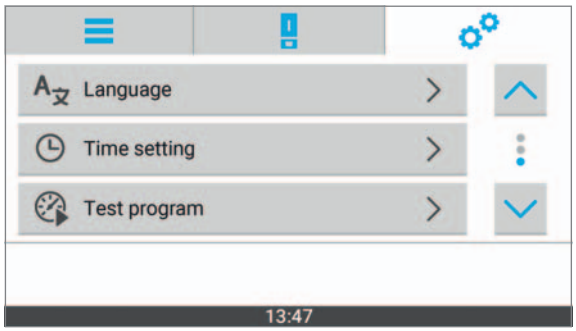
➡ The volume is set.

7.5 Setting the user interface language

To set the user interface language, proceed as follows:

☑ You are in the main menu [Settings].

1. Select [Language] in the menu.
   The list of available languages will be displayed.



2. Tap on the required language.
3. Exit the sub-menu:

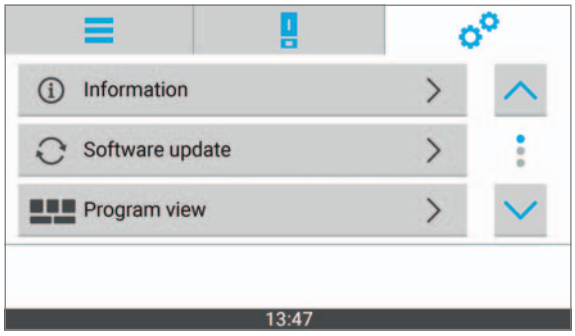
➡ The desired language is set.

7.6 Setting the program view

To specify which program categories appear in the [Programs] main menu, continue as follows:

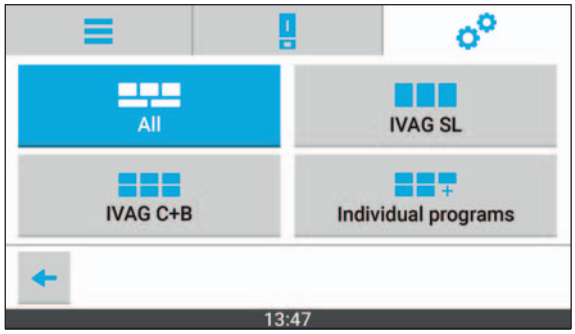
☑ You are in the main menu [Settings].

1. Select [Program view] in the menu.



The available options are shown:

- [All]: Show all programs
- [IVAG SL]: Show only Ivoclar Digital PrograPrint System Solution programs
- [IVAG C+B]: Show only programs for dental laboratory composites
- [Individual programs]: Show only individual programs



2. Tap on the required program view.
3. Exit the sub-menu:

➡ The required program view is set.

8 Configuring Programs (only for Individual Programs)

The device allows you the freedom to configure programs. With these individual programs, you can define the wavelength, intensity, and duration of the post-curing yourself.

You can add more programs or customize existing programs to meet your requirements.

The wavelength of the device (405 or 460 nm) must match the material to be cured.

If used incorrectly or in the case of incompatibility, the object will not cure properly or not at all. This has a negative effect on the material properties of the object (mechanics, colour, precision, biocompatibility).

Ivoclar Vivadent recommends that you contact the manufacturer of the third-party material beforehand, in order to check the suitability of the material.

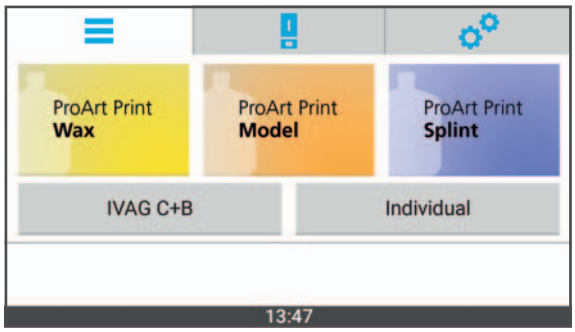
8.1 Creating a new program

8.1.1 Entering a program name

☑ No job is currently being processed by the device.

☑ You are in the main menu [Programs].

1. Tap on [Individual].



The sub-menu with the available programs will be shown.

2. Tap on the symbol:

A window to enter the program name is displayed.

3. Enter the program name via the keyboard.

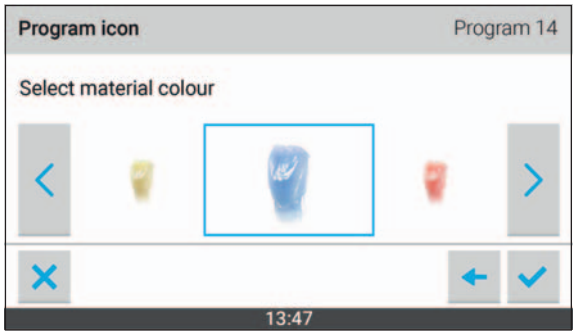
4. Confirm the program name with symbol: 

With the following symbol, you can cancel the program settings and return to the sub-menu of the individual programs:

➡ Now, you can select the program icon.

8.1.2 Selecting a program icon

1. Navigate to the desired program icon with the keys [<] and [>].



2. Confirm program icon with symbol: ✓

- With the following symbol, you can cancel the program settings and return to the sub-menu of the individual programs:

  ✕

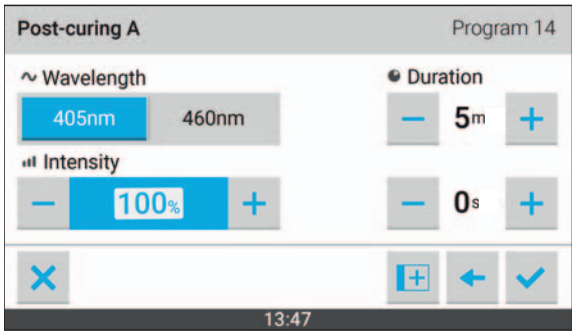
- Use the following symbol to return to the previous setting:

  ←

➡ Now, you can configure post-cure A.

8.1.3 Configuring post-cure A

1. Tap on [Wavelength] to change to the required wavelength (405 nm or 460 nm).
2. Under [Intensity] use the keys [+] and [–] to set the required intensity.
3. Under [Duration] use the keys [+] and [-] to set the required duration in minutes and seconds.



4. To add post-cure B immediately: Tap on the symbol: 

You can also add post-cure B later by changing the created program in edit mode and configuring the post-curing as described in the following section (“Configuring post-cure B”, page 60).

To complete the creation of new program without post-cure B and to display the detailed view of the new program: Confirm settings with the following symbol:

- With the following symbol, you can cancel the program settings and return to the sub-menu of the individual programs:

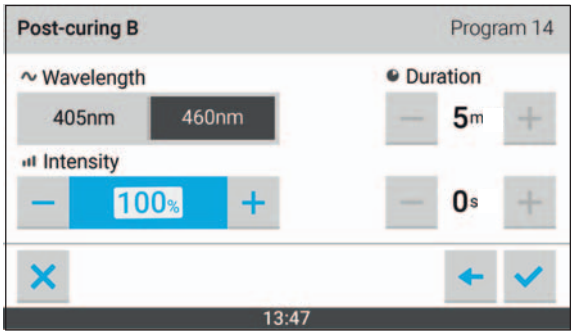
- Use the following symbol to return to the previous setting:

➡ Now, you can configure post-cure B.

8.1.4 Configuring post-cure B

1. Tap on [Wavelength] to change to the required wavelength (405 nm or 460 nm).
2. Under [Intensity] use the keys [+] and [–] to set the required intensity.
3. Confirm settings with symbol: ✔



➡ The program is now created.

➡ A detailed view of the program is displayed.

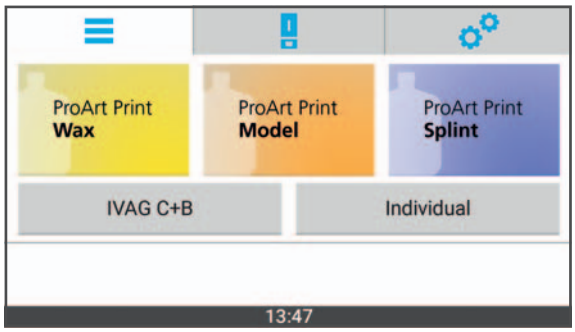
8.2 Editing an existing program

8.2.1 Activating the edit mode

☑ No job is currently being processed by the device.

☑ You are in the main menu [Programs].

1. Tap on [Individual].

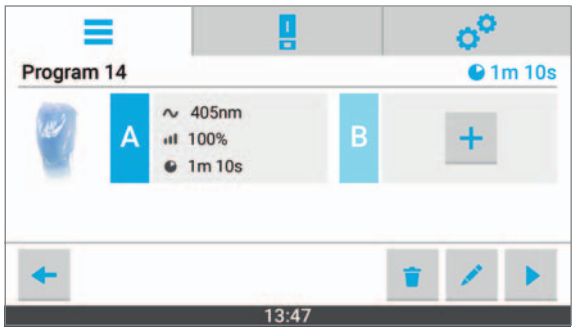


The sub-menu with the available programs will be shown.

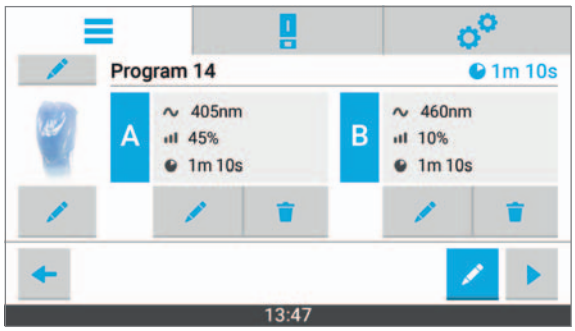
2. Tap on the desired program.

A detailed view of the program is displayed (example: [Program 14]).

3. Tap on the symbol: 



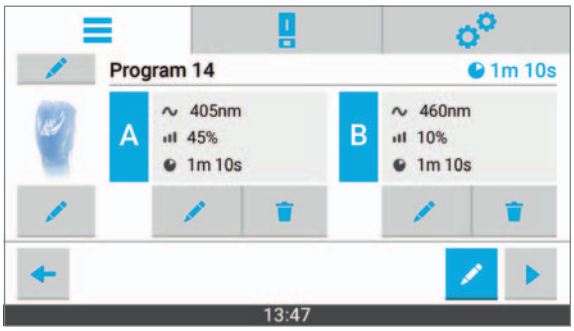
The edit mode is activated.



8.2.2 Editing settings

The procedure for editing the existing settings is essentially the same as creating a program. Therefore, this section refers to the relevant information in “Creating a new program”, page 57.

☑ The edit mode for the program is activated (“Activating the edit mode”, page 61).

1. Tap on the symbol below or next to the element you wish to change: 

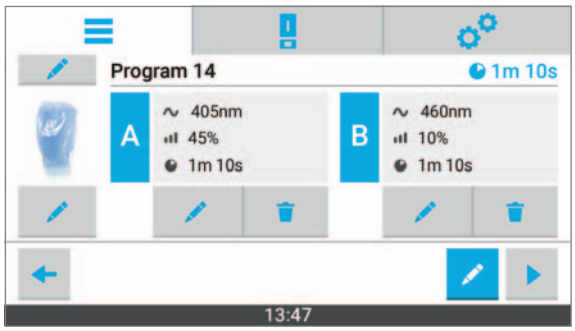
2. Enter settings:
   a. “Entering a program name”, page 57
   b. “Selecting a program icon”, page 58
   c. “Configuring post-cure A”, page 59
   d. “Configuring post-cure B”, page 60
3. Save the settings (“Saving the program and ending the edit mode”, page 63).

8.2.3 Deleting the settings of post-cure A or B

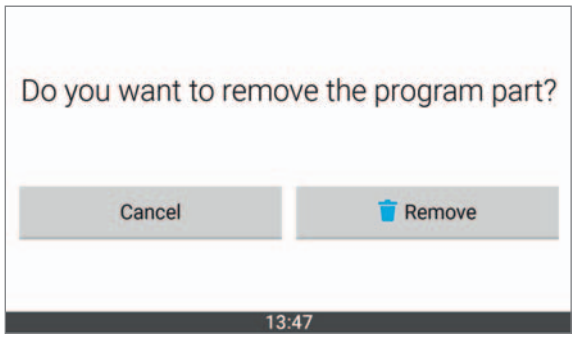
It is possible to delete post-cure A or B separately. In doing so, all post-cure settings will be deleted (wavelength, intensity and duration). If post-cure A is deleted, it will be replaced with post-cure B.

☑ The edit mode for the program is activated (“Activating the edit mode”, page 61).

1. Tap on the symbol under the post-cure element to be deleted: 



2. Remove the selected post-cure element via the [Remove] key.
   The post-cure element will be replaced or deleted.



3. Save the settings (“Saving the program and ending the edit mode”, page 63).

8.2.4 Saving the program and ending the edit mode

☑ The settings are changed.

▶ Confirm changes with symbol: 

➡ The changes will be applied.

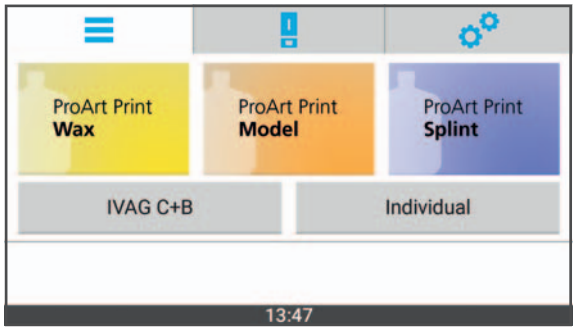
➡ The edit mode is deactivated.

8.3 Deleting a program

☑ No job is currently being processed by the device.

☑ You are in the main menu [Programs].

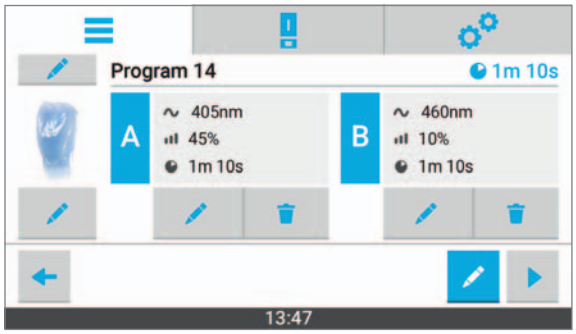
1. Tap on [Individual].



The sub-menu with the available programs will be shown.

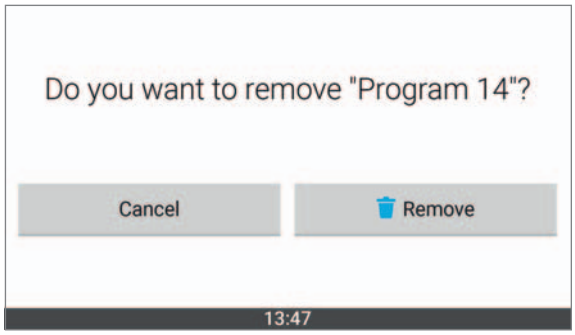
2. Tap on the required program.

A detailed view of the program is displayed (example: [Program 14]).



3. Tap on the symbol: 

4. Delete the program by confirming with [Remove].



➡ The program is deleted.

9 Preparing Dental Objects

Ivoclar Vivadent PrograPrint material

Once created with PrograPrint PR5, the dental object, which is still on the build platform, must be cleaned in the PrograPrint Clean before being post-cured with the PrograPrint Cure device.

Observe the Operating Instructions of the respective device (“Documents of equal applicability”, page 9).

10 Inserting Dental Objects

The procedure in conjunction with the Ivoclar Digital PrograPrint system solution is described below. When this system is used, the dental object is on a build platform, which is placed on the rotary plate of the curing chamber.

When other materials are processed, place the object onto an object tray instead.

10.1 Procedure using the build platform

CAUTION! Removal of dental objects before the cleaning and post-curing phase has been completed.

Damage to the printed dental object.

Distorted dental objects.

Insufficient material properties in terms of mechanics, colour, precision, biocompatibility.

- ▶ Only remove the dental objects from the build platform once post-processing has been completed (cleaning and post-curing).
- ▶ Ensure that there are no uncured material residues or isopropanol deposits left on the dental objects.
- ▶ Please follow the specifications in the PrograPrint PR5 and PrograPrint Clean Operating Instructions (“Documents of equal applicability”, page 9).

WARNING! Insufficient cleaning of the dental objects. Residues of cleaning agent are still on the dental objects. The patient absorbs the residues.

Nausea or allergic reactions.

Insufficient material properties in terms of mechanics, colour, precision, biocompatibility.

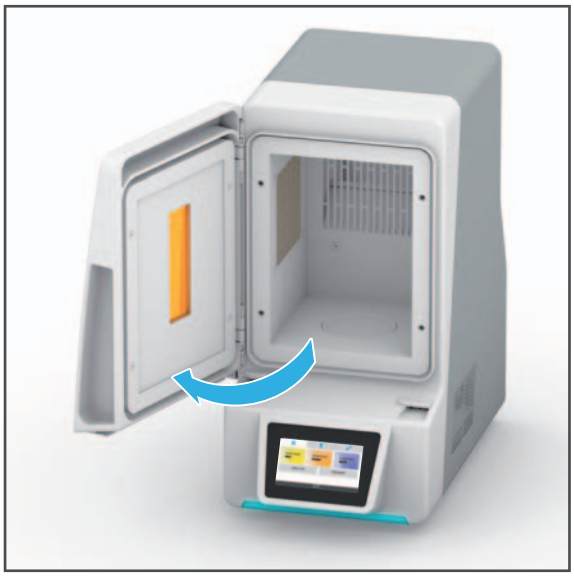
- ▶ Clean the build platform and the dental objects as described in the PrograPrint Clean Operating Instructions (“Documents of equal applicability”, page 9).

For dental objects produced with the 3D printer PrograPrint PR5, insert the build platform into the device as follows:

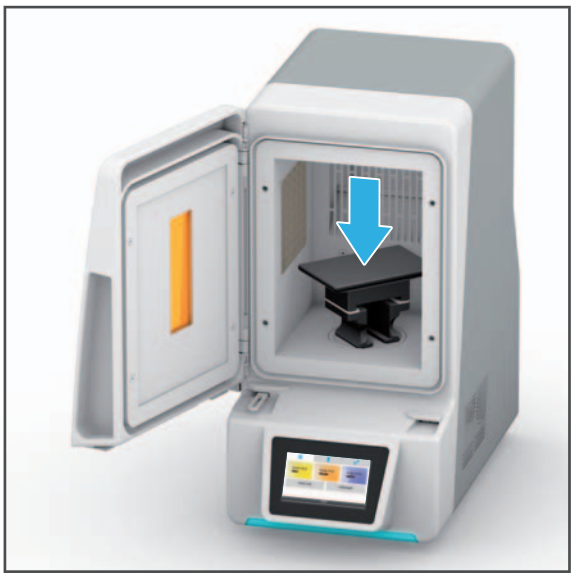
☑ The build platform and the dental objects have been cleaned.

☑ No program is currently being processed by the device.

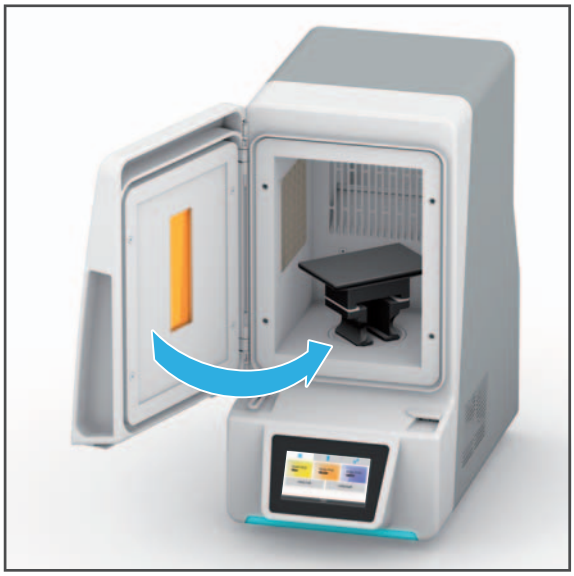
1. Open the door.



2. Place the build platform onto the rotary plate in the curing chamber.



3. Close the door.



10.2 Procedure using the object tray

The object tray has two sides:

- Side A made of plastic:

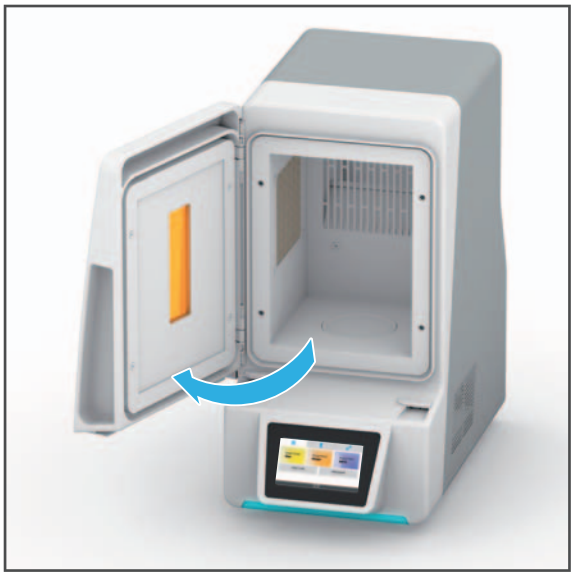
  Attach the dental objects made of resin with the pins supplied.
- Side B made of metal:

  Secure metal dental objects to the tray using a magnet.

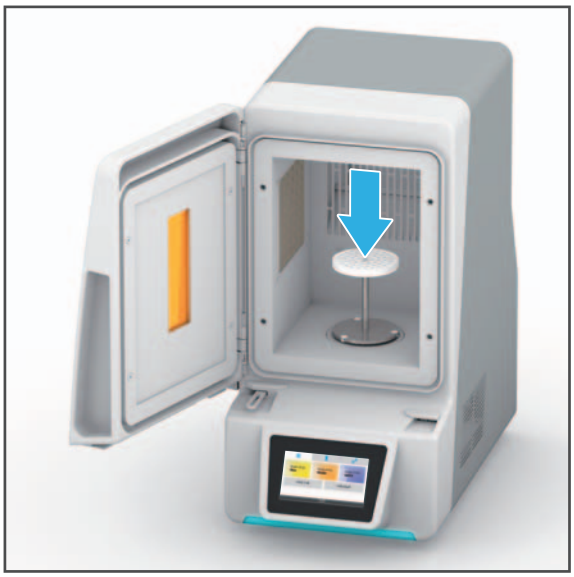
☑ The build platform and the dental objects have been cleaned.

☑ No program is currently being processed by the device.

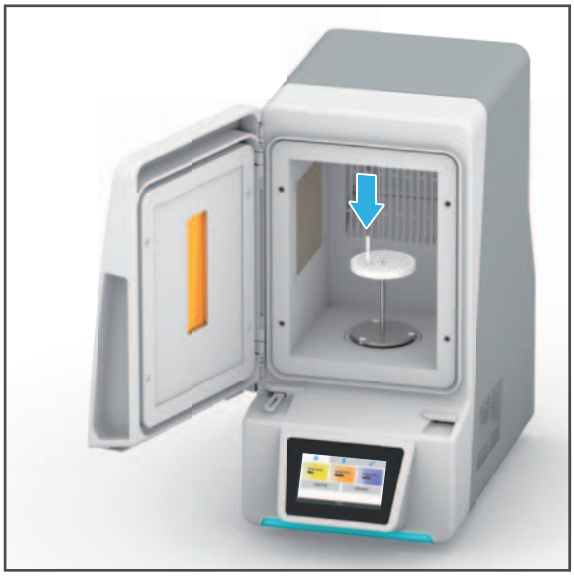
1. Open the door.



2. Place the object tray onto the rotary plate in the curing chamber in the correct position (side A or B facing upwards. This example shows side A).



3. When using side A: Use a sufficient number of pins and position them on the tray.

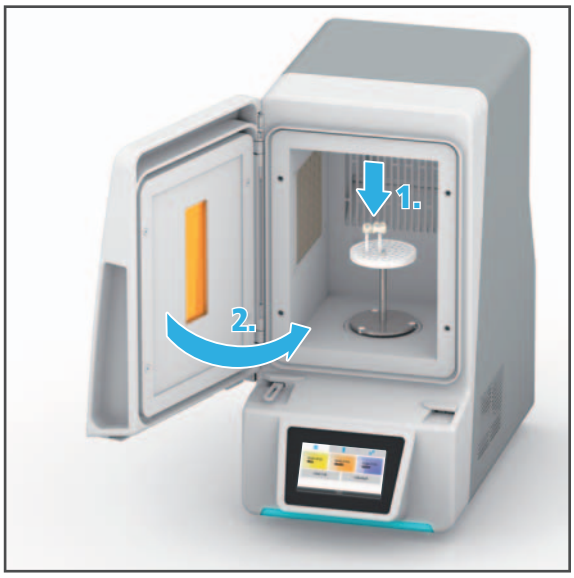


4. When using side A: Place the dental objects onto the pins (1).

   – or –

   When using side B: Place the dental objects and the magnet directly onto side B.

5. Close the door (2).



11 Running a Program

11.1 Starting a program

Only one program can be processed at a time.

11.1.1 Starting the program [ProArt Print Wax], [ProArt Print Model] or [ProArt Print Splint] for the Ivoclar Digital PrograPrint system solution

NOTICE! The door is opened during a running program. The program is cancelled.

Premature cancellation of the curing process/program.

Objects not completely cured.

Insufficient material properties in terms of mechanics, colour, precision, biocompatibility.

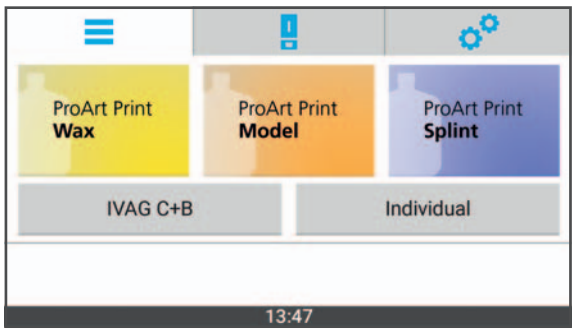
▶ Do not open the door whilst a program is in operation.

☑ The build platform or object tray is inserted (“Inserting Dental Objects”, page 66).

☑ The door is closed (“Inserting Dental Objects”, page 66).

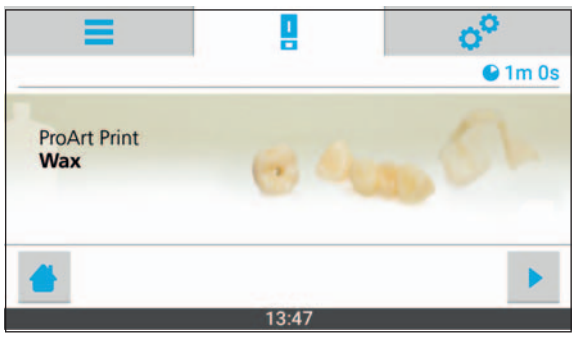
☑ You are in the main menu [Programs].

1. Tap on the required program (example: [ProArt Print Wax]).



The display will change to the main menu [Status].

A detailed view of the program is displayed.

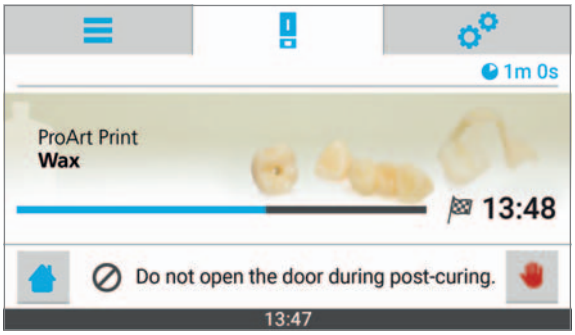


2. Tap on the symbol: 

➡ The program is started.

➡ The status bar shows the program progress.

➡ After the program is finished, you may remove the dental objects (“Removing Dental Objects”, page 78).



11.1.2 Starting the program for dental laboratory composites (IVAG C+B)

The intermediate curing of SR Nexco is possible in a program which can be individually set (“Starting an individually set program”, page 75). Intermediate curing takes 40 seconds.

The program is also suitable for curing the SR Nexco Flask.

NOTICE! The door is opened during a running program. The program is cancelled.

Premature cancellation of the curing process/program.

Objects not completely cured.

Insufficient material properties in terms of mechanics, colour, precision, biocompatibility.

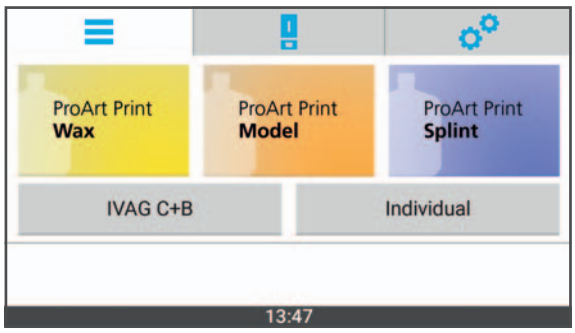
▶ Do not open the door whilst a program is in operation.

☑ The build platform or object tray is inserted (“Inserting Dental Objects”, page 66).

☑ The door is closed (“Inserting Dental Objects”, page 66).

☑ You are in the main menu [Programs].

1. Tap on [IVAG C+B].

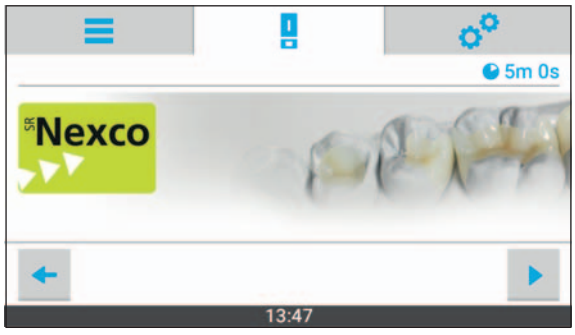


The sub menu with the available programs is displayed.

2. Tap on the required program (example: [SR Nexco]).

The display will change to the main menu [Status].

A detailed view of the program is displayed.



3. Tap on the symbol: 

➡ The program is started.

➡ The status bar shows the program progress.

➡ After the program is finished, you may remove the dental objects (“Removing Dental Objects”, page 78).

11.1.3 Starting an individually set program

NOTICE! The door is opened during a running program. The program is cancelled.

Premature cancellation of the curing process/program.

Objects not completely cured.

Insufficient material properties in terms of mechanics, colour, precision, biocompatibility.

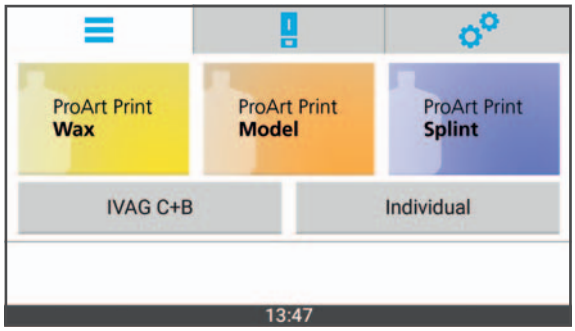
▶ Do not open the door whilst a program is in operation.

☑ The build platform or object tray is inserted (“Inserting Dental Objects”, page 66).

☑ The door is closed (“Inserting Dental Objects”, page 66).

☑ You are in the main menu [Programs].

1. Tap on [Individual].

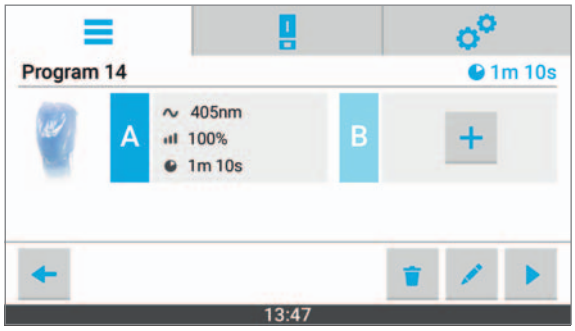


The sub menu with the available programs is displayed.

2. Tap on the required program (example: [Program 14]).

The display will change to the main menu [Status].

A detailed view of the program is displayed.

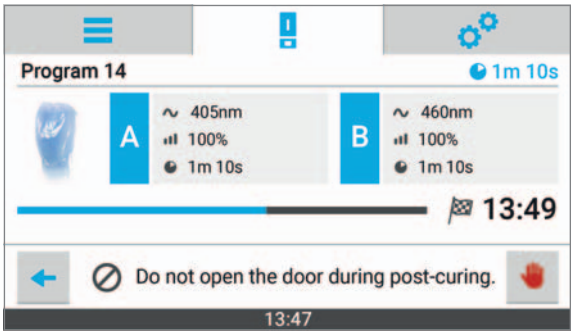


3. Tap on the symbol: 

➡ The program is started.

➡ The status bar shows the program progress.

➡ After the program is finished, you may remove the dental objects (“Removing Dental Objects”, page 78).



11.2 Cancelling a program

NOTICE! Cancelling a running program.

Premature cancellation of the curing process/program.

Objects not completely cured.

Insufficient material properties in terms of mechanics, colour, precision, biocompatibility.

▶ Only cancel the program in an emergency.

If a running job is cancelled, it cannot be continued.

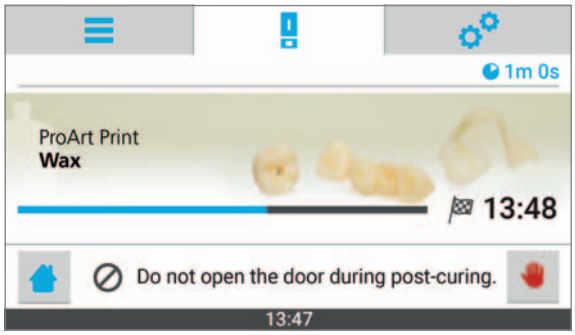
It is not possible to perform a post-curing procedure after a program cancellation as this leads to an undesirable change in the material properties.

The unfinished dental object must be removed from the build platform and remade.

☑ A curing job is being processed.

☑ You are in the main menu [Status].

1. Tap on the symbol to cancel: 



2. Confirm the cancellation of the program with [Cancel].
   The program is cancelled.

3. Remove the dental objects (“Removing Dental Objects”, page 78).

12 Removing Dental Objects

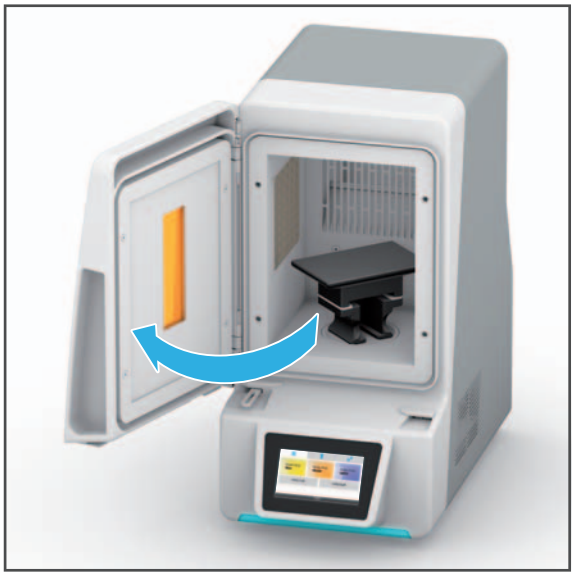
The procedure in conjunction with the Ivoclar Digital PrograPrint system solution is described below. When this system is used, the dental object is on a build platform, which is placed on the rotary plate of the curing chamber.

When other materials are processed, place the dental object onto an object tray instead.

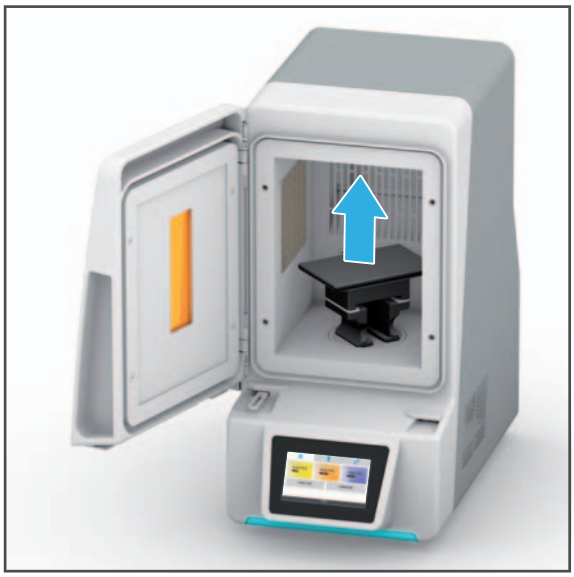
The following describes the procedure using the build platform.

☑ The current program has been successfully completed.

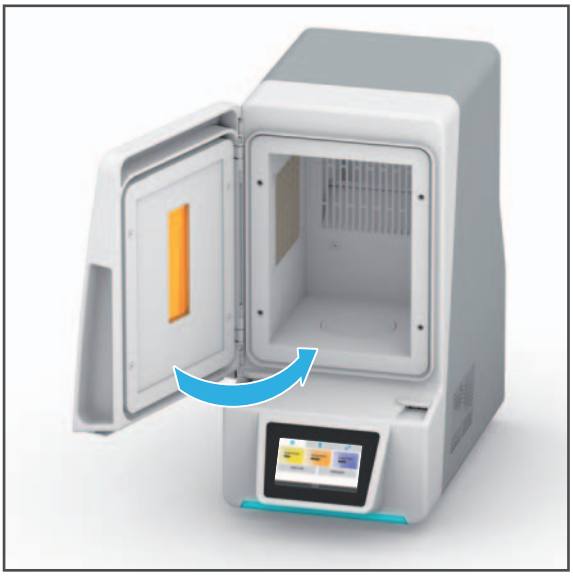
1. Open the door.



2. Lift the build platform or the object tray from the rotary plate in the curing chamber and remove it from the device.



3. Close the door.



➡ The dental object has been removed.

➡ If the post-curing procedure was successful, the dental object can be processed further.

➡ If the process was interrupted by the operator, then the post-curing procedure must be prepared again.

NOTICE! Aborting a program in progress.

Premature interruption or cancellation of the curing process/program.

Objects not completely cured.

Insufficient material properties in terms of mechanics, colour, precision, biocompatibility.

▶ Only interrupt the program in an emergency.

Once the build platform has been taken out of the device, the dental objects on it must be removed.

Please observe the PrograPrint PR5 Operating Instructions, section “Removing the dental object from the build platform and carrying out cleaning steps” (“Documents of equal applicability”, page 9).

---

13 Shutting the Device Down and Switching it Off

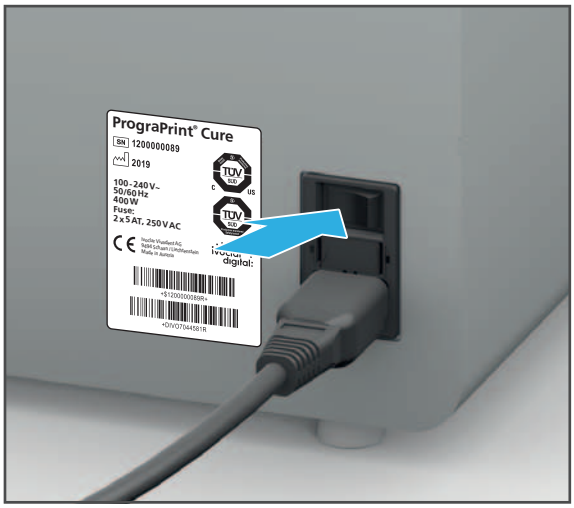
NOTICE! Switching the device off during a program in progress.

Damage to the dental object.

- ▶ Do not pull the power supply plug during active processing.
- ▶ Do not switch the device on or off via the main switch whilst a program is in progress.
- ▶ Wait until the program procedure is completed.

☑ The current program has been successfully completed.

▶ Switch the on/off switch from **I** to **0**.



➡ The device is switched off.

14 Device Messages and Troubleshooting

The device informs you about its status, pending tasks and problems with the help of the Operating Status Display and displays in the user interface. Moreover, errors are displayed in the form of pop-over windows with the corresponding warning symbols and notes on error rectification.

If you cannot solve problems with the help of the information in the user interface and the following sections, please contact your authorized service partner.

14.1 Messages and warnings in the user interface

The device informs you about the mode it is in as well as about any possible errors and warnings. They are displayed as messages in the user interface.

Always follow the instructions in the user interface which will guide you through the tasks to be carried out step by step.

In addition to the displayed messages, also observe the status of the Operating Status Display. (“Status of the OSD display”, page 81).

14.2 Status of the OSD display

Function	Colour	Meaning
Indication of the device status		
	Yellow	Warning or message
	Green	Device is ready for operation. A post-curing job can be started.
	Red	Post-curing failed. Post-curing was stopped or cannot be started (see “Troubleshooting / error table”, page 82).
	Blue	Post-curing in progress

14.3 Troubleshooting / error table

Error	Possible causes	Solution
Machine does not start.	Power supply is not connected or has been interrupted. Power failure.	• Check power supply and restore if necessary. • Switch machine on (again). • Check fuses and replace, if necessary (page 84). • If the problem continues: Contact your authorized service partner.
Switched on machine does not respond to input via the user interface.	Fault in the machine.	• Switch the light-curing unit off and on again. • If the problem continues: Contact your authorized service partner.
The device does not continue to work. Operating Status Display is no longer lit up.	Power supply has been interrupted. Power failure.	• Check power supply and restore if necessary. • Switch the light-curing unit off and on again. • Follow the instructions on the screen. • If the problem continues: Contact your authorized service partner.
	Fault in the machine.	• Contact your authorized service partner.
Post-curing does not start.	The door of the device is not closed.	• Close the door.
Post-curing job fails.	The door is opened whilst the program is in progress.	Note: If a program in progress is cancelled, it cannot be continued. A subsequent, additional post-curing procedure after program cancellation is not possible, as this also leads to an undesirable change in material properties. • Remove the build platform holder or object tray from the unit. • Create the object again. • Restart the program with a new object.

Error	Possible causes	Solution
The light output is too low.	Protective glass of the LEDs is soiled.	• "Running the test program", page 91 • "Cleaning the curing chamber", page 89
	LED defective or service life is exceeded.	• Contact your authorized service partner.
No light.	LED defective or service life is exceeded.	• Contact your authorized service partner.
	Light sensor or electrical equipment is defective.	
Temperature in the curing chamber is too high.	Fan is defective.	• Contact your authorized service partner.
	Unsuitable location for the device. Stipulations for ambient operating conditions were not observed.	• Change the location (page 28). • Check stipulations for ambient conditions (page 98).

14.4 Changing the fuses

DANGER! Changing the fuse during operation. Contact with voltage-carrying components.

Danger of electric shock.

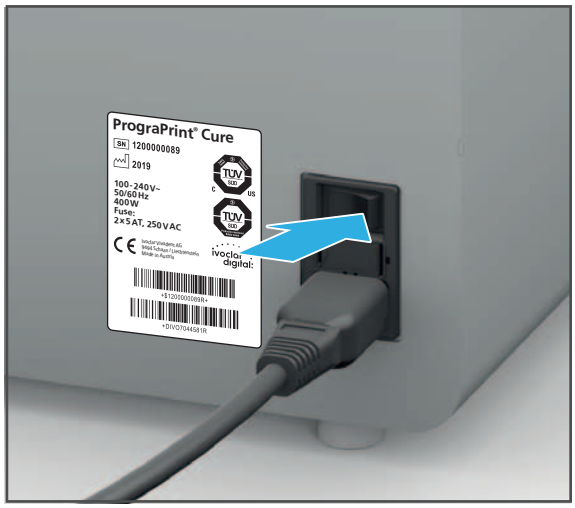
Damage to the device.

▶ Only change the fuse when the device is switched off and disconnected from the power supply.

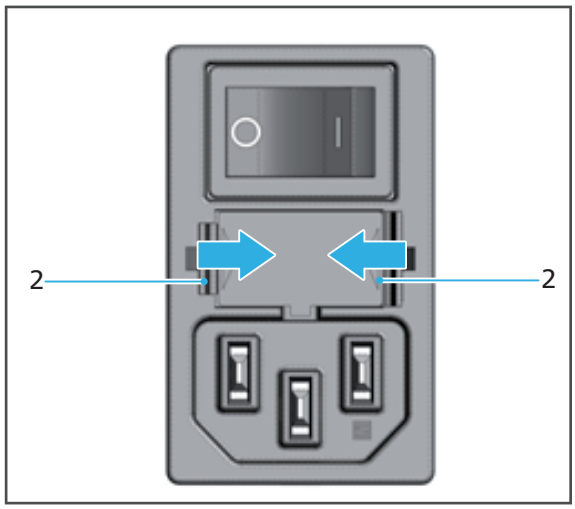
The fuse holder is on the back of the device (“Connections on the back”, page 25).

☑ The active program has been successfully completed.

1. Switch the on/off switch from **I** to **0**.
2. Disconnect the device from the power supply.
3. Remove the power cord.



4. Hold the straps (2) down at the safety holder in the direction of the arrows.
5. Remove the fuse holder
6. Replace defective fuses.
7. Reinsert the fuse holder.



The fuse type 5 AT, 250 V~ (2 pcs) must be used.

15 Cleaning and Maintenance Work for the User

This chapter deals exclusively with the cleaning of the device.

For information on cleaning the other system components, such as the PrograPrint PR5 or PrograPrint Clean, refer to the Operating Instructions of the relevant components (“Documents of equal applicability”, page 9).

DANGER! Flammable vapours during cleaning with isopropanol.

Risk of explosion.

Risk of burning.

- ▶ Only use mild, pH neutral cleaning agents.

DANGER! Improper cleaning and maintenance of the device. Failure to observe the specified cleaning intervals defined in these instructions.

Risk to the patient and the user.

Damage to the device.

- ▶ Only carry out work on the device described in this chapter and assigned to the user.
- ▶ Do not use any cleaning agents for components, for which no explicit cleaning agents are mentioned.
- ▶ Always carry out the cleaning tasks at the specified intervals.

WARNING! Insufficient cleaning of the dental objects. Uncured material residue is still on the dental objects. The patient absorbs the residues.

Nausea or allergic reactions.

Insufficient material properties in terms of mechanics, colour, precision, biocompatibility

- ▶ Clean the dental objects before further processing in the PrograPrint Clean unit (Operating Instructions PrograPrint Clean, “Documents of equal applicability”, page 9).
- ▶ Remove uncured material with isopropanol.

CAUTION! Cleaning fluid enters the water cycle.

Danger to the environment.

- Separately collect water mixed with cleaning fluid and dispose of according to country-specific specifications.

NOTICE! Improper cleaning of the device with unsuitable equipment and cleaning agents.

Damage to sensitive components.

Damage to / scratches on the device.

- Do not use any brushes, tools, sponges with metal components or cleaning equipment other than those specified in this chapter.
- Only use soft towels, paint brushes, brushes or small brooms.
- Do not use sharp, chlorine-containing cleaners. Only use mild, pH neutral cleaning agents.
- To avoid damaging the sensitive components in the curing chamber, avoid strong pressure, scrubbing, rubbing and wiping.
- To avoid scratching and therefore clouding of the viewing window, only clean the viewing window with a soft cloth dampened with tap water and a mild, pH-neutral cleaning agent.
- Do not wear jewellery such as rings, bracelets or watches when working on the device.

15.1 Cleaning and maintenance table

Compliance with the following cleaning and maintenance intervals is the sole responsibility of the operator!

Interval	Task	Responsible person	Action / Instructions
If soiling is visible	Clean the housing	User/operator	• "Cleaning the housing", page 88
	Clean the curing chamber, in particular the door seals, protective glass on the LEDs and air vents	User/operator	• "Cleaning the curing chamber", page 89
Daily	Check the viewing window regularly for damage	User/operator	• If damaged: Place the device out of operation immediately. • Contact your authorized service partner.
	Check the door seals regularly for damage	User/operator	
Weekly	Check the plug-in connections regularly for damage	User/operator	
	Check the automatic switch-off function by opening the curing chamber during operation. If the light does not switch off and no error is indicated, then the safety switch is defective.	User/operator	

15.2 Preparing for cleaning

DANGER! Cleaning work during operation. Contact with voltage-carrying components.

Danger of electric shock.

Damage to the device.

▶ Perform cleaning work only when the device is switched off and disconnected from the power supply.

For cleaning the device and its components, the device must be switched off.

☑ The active program has been successfully completed.

1. Switch the on/off switch from **I** to **0**.
2. Disconnect the device from the power supply.
3. Remove the power cord.

WARNING! Hot surfaces.

Risk of burning.

▶ Only clean the device when it is cool.

4. Wait until the device has cooled down (approx. 5 min).

➡ The door can be opened.

15.3 Cleaning the housing

WARNING! Improper cleaning of the device. Voltage-carrying components come into contact with moisture. Voltage-carrying components are exposed.

Danger of electric shock.

Damage to the device.

▶ Never remove the housing covers.

▶ Ensure that no liquids or objects enter the interior of the device during cleaning.

☑ The device is ready (“Preparing for cleaning”, page 88).

☑ The door is closed.

▶ Clean the housing with a soft cloth dampened with tap water and a mild, pH neutral cleaning agent.

➡ The housing is cleaned.

15.4 Cleaning the curing chamber

DANGER! Flammable vapours during cleaning with isopropanol.

Risk of explosion.

Risk of burning.

▶ Only use mild, pH neutral cleaning agents.

WARNING! Improper cleaning of the device. Voltage-carrying components come into contact with moisture.

Danger of electric shock.

Damage to the device.

▶ Ensure that no liquids or objects enter the interior of the device during cleaning.

The protective glass on the LEDs must be cleaned on a regular basis. If the protective glass is soiled, the light output may be reduced which will result in inadequate polymerization. This will lead to insufficient material properties in terms of mechanics, colour, precision, biocompatibility.

WARNING! Breakage of protective glass due to excess pressure during cleaning.

Cutting injuries.

Damage to the device.

▶ Clean the protective glass carefully without applying too much pressure.

NOTICE! Soiled, blocked air vents.

Damage to the device.

▶ Check the air vents regularly for soiling and clean if necessary.

NOTICE! Soiled door seals. Door does not close or opens during a running program.

Premature interruption or cancellation of the curing process/program.

Objects not completely cured.

Insufficient material properties in terms of mechanics, colour, precision, biocompatibility.

▶ Check the door seals regularly for soiling and clean if necessary.

☑ The device is ready (“Preparing for cleaning”, page 88).

☑ The door is open.

1. Clean the curing chamber, in particular the air vents, from dust residue with a soft brush.
2. Wipe the door seals, protective glass on the LEDs, air vents, bottom and walls of the curing chamber with a soft cloth dampened with tap water and a mild, pH-neutral cleaning agent.

➡ The curing chamber is cleaned.

15.5 Finishing the cleaning procedure

1. Connect the power cord (“Connecting the device to the power supply”, page 32).
2. Close the door.
3. If necessary, switch the device on (“Switching the device on for the first time”, page 33).

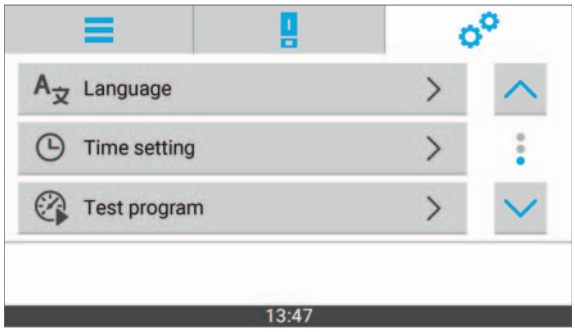
15.6 Running the test program

In order to check whether the PrograPrint Cure light output is sufficient, proceed with the test program as follows:

☑ No program is currently being processed by the device.

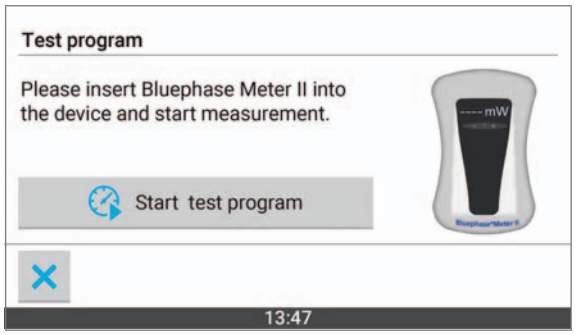
☑ You are in the main menu [Settings].

1. Tap on [Test program].

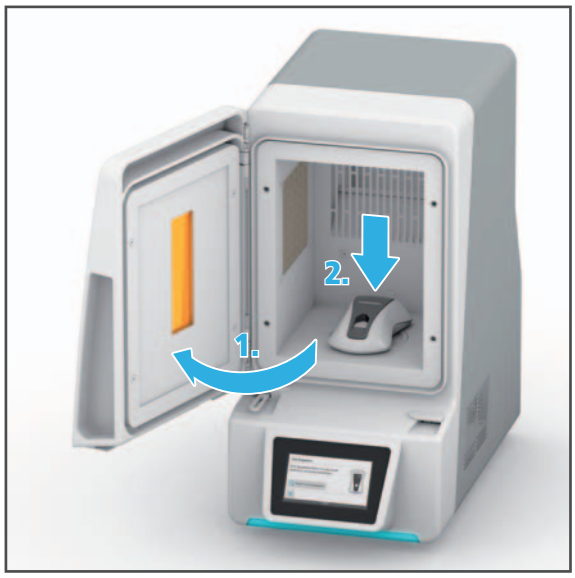


The test program opens.

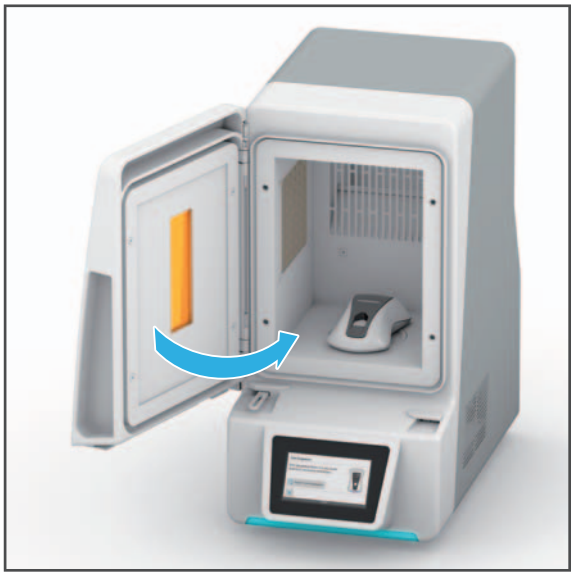
2. In order to switch the Bluephase Meter II on, press the [+/-] key on the Bluephase Meter II, until mW appears.



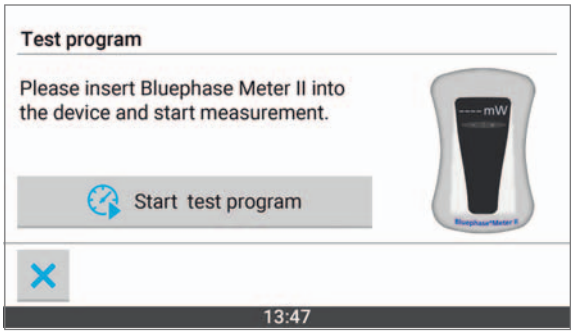
3. Open the door (1).
4. Place the Bluephase Meter II into the center of the rotary plate (2).



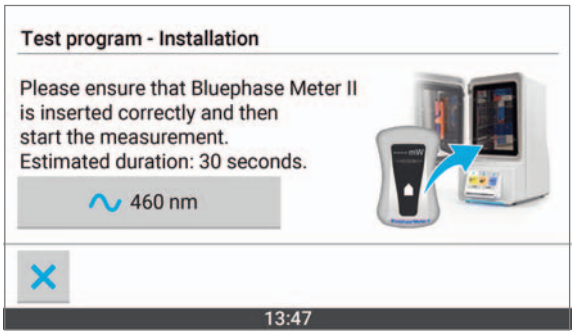
5. Close the door.



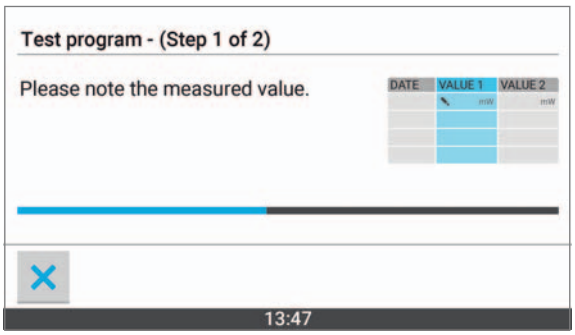
6. Tap on [Start test program]



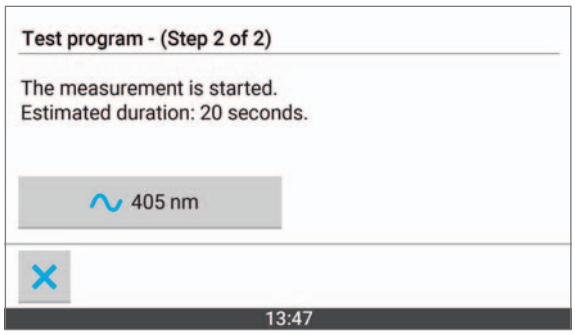
7. Tap on [~ 460 nm].
   The first measurement starts.



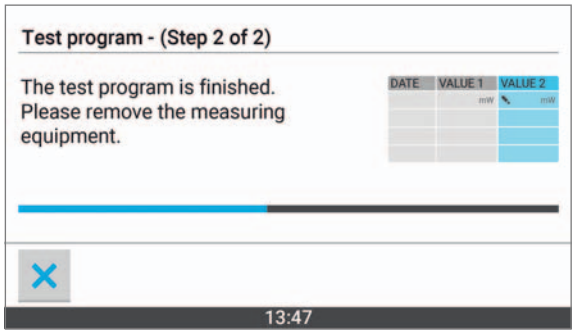
8. The first value can be read on the Bluephase Meter II and entered in the table (“Measured value table”, page 94).



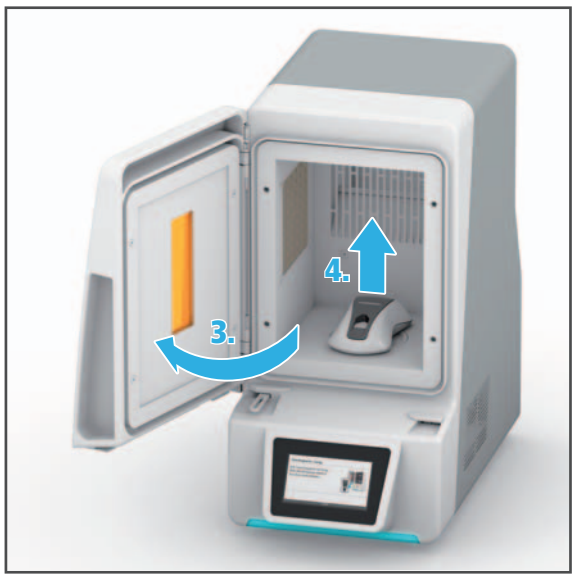
9. Tap on [~ 405 nm].
   The second measurement starts.



10. The second value can be read on the Bluephase Meter II and entered in the table (“Measured value table”, page 94).



11. Open the door (3).
12. Remove the Bluephase Meter II (4).



➡ The measurement is completed.

Check the measured results as follows: The light output at a wavelength of 460 nm must be higher than 120 mW, at 405 nm higher than 145 mW.

If the measured results do not match these reference values, contact your authorized service partner.

15.6.1 Measured value table

You can enter the measured values in this table.

Date	Value at 460 nm	Value at 405 nm

16 Decommissioning

If you want to decommission the device for a longer period time, send it in for maintenance and repair purposes or dispose of it, prepare the device as follows:

1. Remove build platform or object tray (“Removing Dental Objects”, page 78).
2. Clean the device (“Cleaning and maintenance table”, page 87).
3. Switch off the device and disconnect it from the power supply: Carry out the steps in reverse order as described in: “Connecting the device to the power supply”, page 32).
4. Remove the power cord.
5. Pack the device in the original packaging.

16.1 Storing the device

1. Ensure that the storage space meets the following requirements:
   - dry
   - vibration free
2. Ensure that the storage requirements are met (“Permitted ambient conditions for storage and transportation”, page 98).

16.2 Disposal of the device and materials

The operator is responsible for proper disposal.
The product must not be disposed of in the household waste. It must be collected separately from the household waste and disposed of according to local regulations for the disposal of electronic equipment in an environmentally safe manner or returned to Ivoclar Vivadent for disposal.

17 Repair

DANGER! Improper repairs/maintenance work.

Danger to the user and to the patient.

- ▶ Repairs on the device must only be carried out by service partners authorized by Ivoclar Vivadent using the valid version of the Service Manual.

17.1 Authorized service partners

For information about the authorized service partners in your country, contact your local distribution partner or Ivoclar Vivadent or go to: http://www.ivoclarvivadent.com.

17.2 Sending defective devices in for repair

Use only the original packaging together with the corresponding foam inserts for transportation purposes.

1. Decommission the device before returning it to the authorized service partner (“Decommissioning”, page 95).
2. Send the device to the authorized service partner in its original packaging.

18 Technical Data

The following technical data refer exclusively to the PrograPrint Cure.

For information on the technical data of the accessories or other components, please refer to the respective Operating Instructions (“Documents of equal applicability”, page 9).

18.1 Classifications

Characteristics	Value
Test standards	• IEC 61010-1:2010 • IEC 61326-1:2012 / EN 61326-1:2013 • EN 61010-1:2010 • UL 61010-1:2012-05 • CAN/CSA-C22.2 No. 61010-1:2012-05
Radio protection / electromagnetic compatibility	IEC 61326-1:2012 / EN 61326-1:2013
Noise emission	(Measuring conditions): 65 dB (A) All other operating conditions: 65 dB (A) (1 m distance) Measuring conditions: • Measuring distance to the sound source 1 m • Measurement according to ISO 3746, accuracy class 3

18.2 Measurements, weight

Characteristics	Value
Length x width x height (with door closed)	441 mm x 246 mm x 488 mm
Weight with power cord	16.84 kg

18.3 Ambient conditions

18.3.1 Permitted ambient conditions for storage and transportation

We recommend that you keep the packaging for possible maintenance and correct transportation.

Characteristics	Value
Ambient temperature	-20 °C to +60 °C
Humidity	30 to 80 %

18.3.2 Permitted ambient conditions for operation

Characteristics	Value
Ambient temperature	+5 °C to +40 °C
Humidity	Up to 80 %

When using 3D printing materials the following applies:

- Ambient temperature: +20 °C to +30 °C
- Humidity: up to 70%

18.4 Light output

Characteristics	Value
Lamp type	LED
Wavelength	405 and 460 nm
Light output	274 mW/cm^2 +- 10 %

18.5 Electrical data

Characteristics	Value
Network connection	100 to 240 V~ / 50/60 Hz

19 Appendix

19.1 Delivery form

Item description	Quantity
PrograPrint Cure	1
Power cord	1
Standard accessory set	1
Short Instructions PrograPrint Cure EN	1
Warranty Card	1

This product uses Open Source Software components. The complete list of components and their licenses can be obtained from Ivoclar Vivadent. The source code and patches can be obtained from Ivoclar Vivadent for components with licenses requiring disclosure of the source code. For the components for which the license requires an exchange option, instructions can be obtained from Ivoclar Vivadent. If the right to replace parts of the operating system is excercised, all warranty claims are void.

19.2 Ordering spare parts

1. When ordering spare parts, keep the following information ready:
   - Item number
   - Serial number
2. Contact your authorized service partner.

19.3 Recommended additional accessories

Item description	Quantity
PrograPrint PR5	1
PrograPrint Clean	1
CAM software “CAMbridge”	1

19.4 CE certification / declaration of conformity

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