amt

postpro SFX

USER MANUAL



SUBJECT TO CHANGE

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2 // RISKS AND SAFETY WARNINGS

⚠ DANGER Danger indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.

⚠ WARNING Warning indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

⚠ CAUTION Caution indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.

⚠ WARNING Chemical Hazard: Causes skin irritation and serious eye irritation, please refer to the MSDS for more information.

⚠ CAUTION Chemical Hazard: Ensure that all PostPro SFX process steps are concluded to the manufacturer's instructions before touching any processed parts with bare hands.

⚠ CAUTION Chemical Hazard: If an operator gets chemicals in their eye, immediately flush it out with water using the safety eye wash. Consult the MSDS for more information about treating eye exposure.

⚠ CAUTION Chemical Hazard: If an operator gets chemicals on their skin, immediately rinse with water. Consult the MSDS for more information about treating skin exposure.

⚠ CAUTION Chemical Hazard: If a processed part is sticky, even after full processing, something may have gone wrong with the processing steps, or the part may be partially processed. Do not handle the part with bare hands and avoid any inhalation of fumes by using an appropriate mask with a filter.

⚠ DANGER Chemical Hazard: Always keep the PostPro SFX machine closed when not processing to ensure no fumes are inhaled by operators. Keep waste containers closed at all times.

⚠ CAUTION Pinch Hazard: The door of the processing chamber is heavy. Close the door carefully to avoid pinching fingers or hands.

⚠ CAUTION Electrical Hazard: Do not open any doors or panels on the machine's body, as there is a risk of electric shock. These doors are for service entry only and must only be accessed by the AMT Support team.

⚠ DANGER Tipping Hazard: Always use at least three people to move PostPro SFX and follow local manual handling guidelines.

3 // OPERATING THE POSTPRO SFX SAFELY

AMT recommends that the client studies this section carefully. If there are any questions about how to create a safe operating environment or how to operate the PostPro SFX safely, contact AMT or your Authorised AMT Reseller.

Before the installation of the machine, we recommend that the client puts all safety equipment and procedures in place. Advice on this can be provided by AMT or your Authorised AMT Reseller.

The PostPro SFX uses potentially hazardous consumables if handled incorrectly. Safety Data Sheets (termed MSDS) are available for all consumables used. The client's safety procedures should rely solely on the information on the MSDS on handling chemicals, what to do if there is a spill and what to do if the chemical comes in contact with skin, etc.

3.1 SAFETY DATA SHEETS (MSDS)

The client should read and understand the chemical MSDS for each chemical used by PostPro SFX. A copy of the MSDS can be found in the AMT Knowledge Base or by contacting your Authorised AMT Reseller.

The client should ensure they place paper and electronic copies of the MSDS where machine operatives and visitors can access them quickly in the PostPro SFX machine room.

3.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

While operating the PostPro SFX the following PPE must be used:

- Disposable nitrile gloves.
- Heat-resistant gloves, suitable for temperatures up to 170 degrees Celsius.
- Closed-toed safety shoes.
- Laboratory Spill resistant coat.
- Close-fitting chemical eye protection.
- Half face mask with A2 Organic vapour filter cartridges, suitable for protecting against organic vapours with a boiling point above 65 degrees Celsius.

3.3 GENERAL LAB SAFETY PRECAUTIONS

- Change disposable gloves often.
- Wash hands between glove changes and at the end of the processing.
- Always keep lab coats inside the lab area until they are sealed in a bag and removed by a laundry service.
- Tie long hair back to avoid catching it in mechanical parts or brushing it against chemicals on the lab bench.
- Remove jewellery, such as necklaces and rings, to avoid catching them in mechanical parts or trapping chemicals under them.
- No food or drink should be brought into or consumed in the processing room.
- Make sure the processing room has a well-maintained eye-wash station and safety shower.
- Never work alone in the lab.

3 // OPERATING THE POSTPRO SFX SAFELY

3.4 FORCED SAFETY DRYING CYCLE

- If the machine shuts down or stops during a process, it will enter a Safety Drying Cycle when the machine resumes.
- The aim of this cycle is to extract any potential solvent from the chamber.
- If this is interrupted it will continue to attempt the Safety Drying Cycle until it is completed.
- The entire cycle lasts around 1 hour but this depends on the process which was used prior.





4 // TRAINING

Before the installation takes place, users of the PostPro SFX are recommended to undertake the online training modules provided to them by AMT. These modules can be found on the AMT Knowledge Base.

Optionally, additional training can be provided by AMT or your Authorised AMT Reseller once the machine has been installed.

All users of the PostPro SFX should complete the entirety of the training as it is essential to understand how to operate the machine safely and how to achieve the best results from the system.



5 // EQUIPMENT DESCRIPTION

5.1 OVERVIEW

The PostPro SFX offers a controllable surface finish which reduces surface roughness (Ra values) of 3D printed polymer without the loss of detail and definition. In addition, the smoothing process seals the surface of the part, which significantly reduces water absorption and improves its mechanical properties.

The machine has been successfully tested with a range of polymers including Polyamide (PA)-12 from multiple printing technologies such as Multi Jet Fusion (MJF), Selective Laser Sintered (SLS) and High Speed Sintered (HSS).

The PostPro SFX can be supplied with or without an external extractor depending on the client's requirements.

5.2 ITEMS SUPPLIED

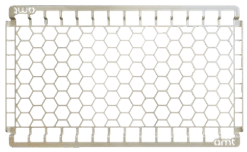
The PostPro SFX is supplied with the following items (including optional extras):



1x PostPro SFX



1x Machine Stand



3 - 6 x Processing Racks



1x Preparation Stand



1x Storage Stand



1x Diffuser



1x USB Drive



1x Power Cable



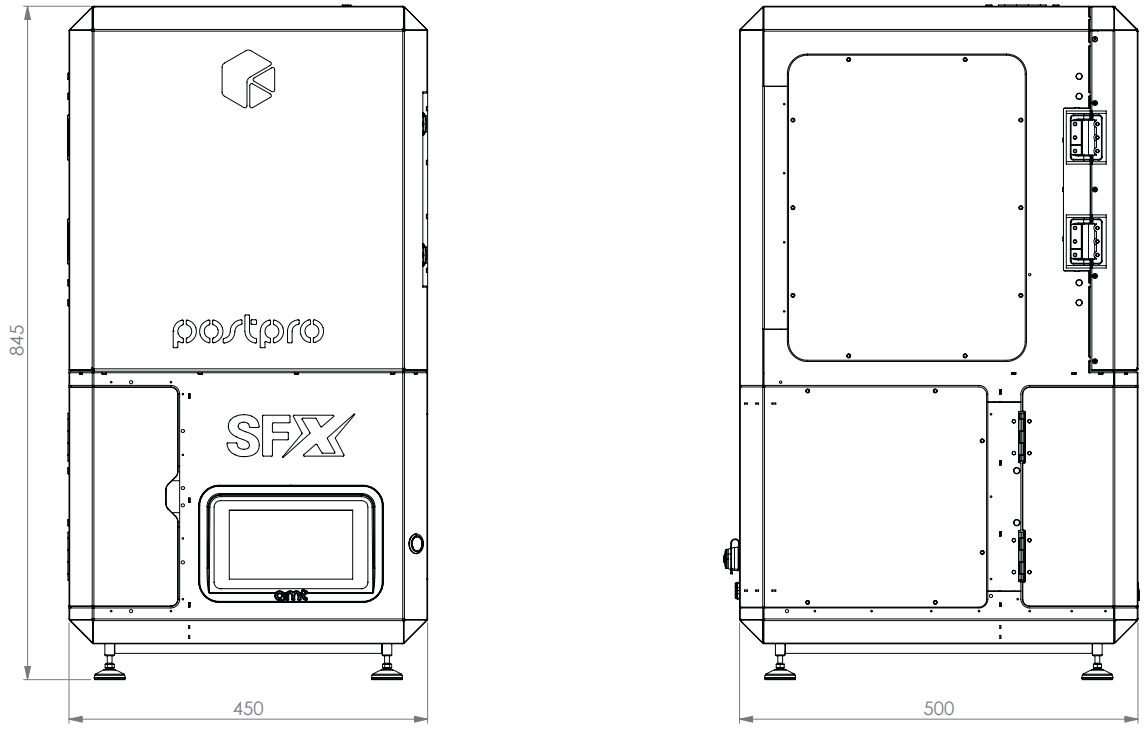
1x Stylus Pen

6 // MACHINE SPECIFICATION

6.1 MACHINE SUMMARY

Description	EU	US
External Dimensions (WDH)	450 x 500 x 845 mm	17.7 x 19.7 x 33.3 in
Weight	82 kg	181 lb
Capacity		
Process Chamber Dimensions (WDH)	190 x 320 x 190 mm	7.5 x 12.6 x 7.5 in
Process Chamber Volume	11.5 litres	11.5 litres
Power		
Electrical Configuration	230V / Single Phase / 16A or 13A (UK)	120V / Single Phase / 15A

6.2 MACHINE DIMENSIONS (MM)



6.3 MACHINE STAND DIMENSIONS (MM)

Description	EU	US
External Dimensions (WDH)	550 x 600 x 850 mm	21.6 x 23.6 x 33.5 in
Weight	30 kg	66 lb

6.4 CONNECTION LAYOUT



6.5 ELECTRICAL POWER REQUIREMENTS

The client is responsible for connecting all supplied equipment to the building's power supply prior to machine installation.

6.5.1 POSTPRO SFX

The PostPro SFX is available in multiple electrical configurations to suit different electrical supplies and must be specified at the point of sale. The table below shows the electrical supply specifications for each configuration.

Specifications	Option 1	Option 2	Option 3
Phases	Single Phase	Single Phase	Single Phase
Voltage	1 x 230V	1 x 230V	1 x 120V
Frequency	50/60Hz	50/60Hz	50/60Hz
Mains Fuse Protection	16A	13A	15A
Connection	L + N + PE	L + N + PE	L + N + PE

For additional information please consult the AMT or you Authorised AMT Reseller.

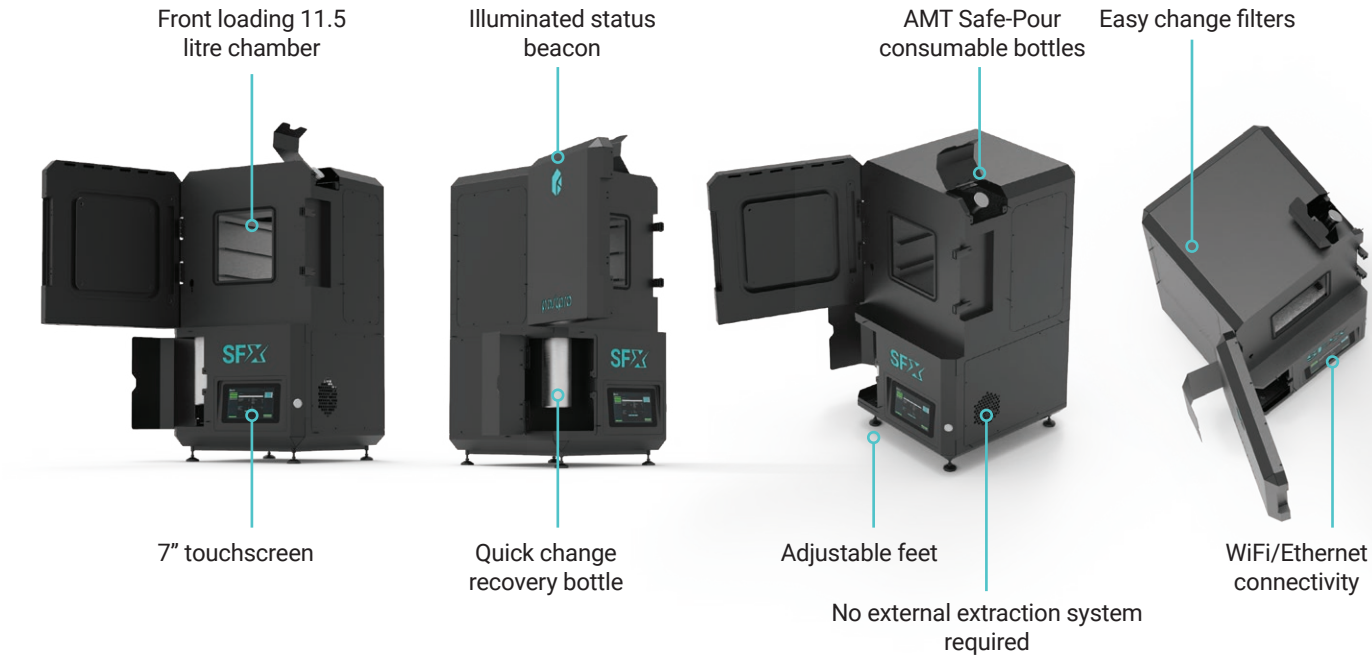
6.5.2 EXTRACTOR (Optional)

Specifications	Option 1	Option 2
Phases	Single Phase	Single Phase
Voltage	230V	115V
Frequency	50/60Hz	50/60Hz
Mains Fuse Protection	0.9A	1.2A
Connection	L + N + PE	L + N + PE



ALWAYS CHECK THE MACHINE PLATE BEFORE CONNECTION!

7 // MACHINE OVERVIEW



7.1 POSTPRO PURE BOTTLE AND CONNECTIONS



PostPro Pure Bottle: Holds 1 litre of FA5802 consumable used for processing parts.

Consumable Tank Inlet: Location where PostPro Pure is poured into the machine.

Recovery Outlet: Location where the used consumable is collected.



The PostPro SFX is only compatible with the PostPro Pure (FA5802) provided by AMT, the use of any other consumables is prohibited and voids any warranty on the machine. The PostPro SFX is a semi-closed-loop system so waste and unused consumable from the process are recovered. It is the responsibility of the client to dispose of the waste consumable according to local legislation.

PostPro Pure bottles must be stored in a suitable location that meets the machine`s environmental specifications as outlined in the PostPro SFX Site Preparation Guide.

7 // MACHINE OVERVIEW



7.1.1 UNPACKAGING A BOTTLE

Bottles are supplied in dedicated packaging to ensure the integrity of the consumable is maintained. The packaging includes an LDPE zip lock bag and padded packaging which can be disposed of once the bottle is removed.

Ensure the recommended PPE is worn when handling PostPro Pure.

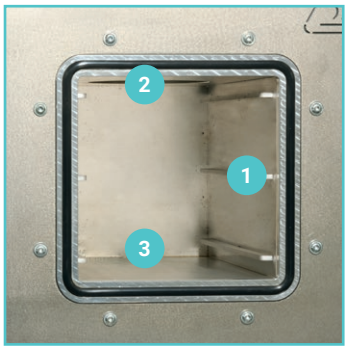
7.1.2 DISPOSING OF RECOVERED CONSUMABLE



It is the responsibility of the client to dispose of the recovered consumable as per local legislation using guidance in the Material Safety Data Sheet (MSDS).

Ensure the recommended PPE is worn when handling PostPro Pure.

7.2 PROCESSING CHAMBER



1. **Processing Rack Hanging Slides:** These slides are used to load processing racks in the chamber.
2. **Air/Solvent Injection Port and Impeller:** Air and solvent are introduced into the chamber through the injection port and the impeller helps to circulate the vapor.
3. **Solvent Drain and Filter:** Drain and solvent filter used to recover liquid solvent.

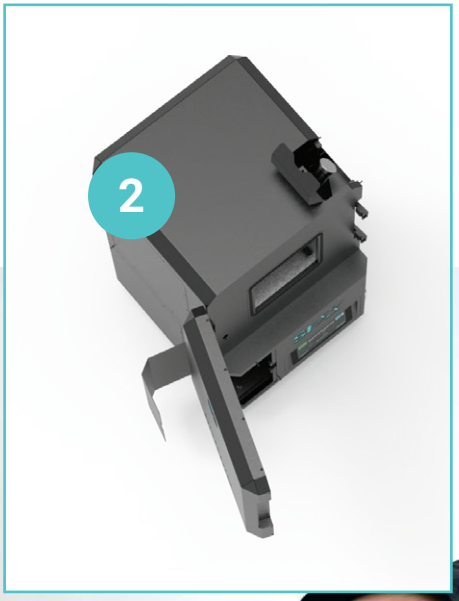
7 // MACHINE OVERVIEW



7.3 CARBON FILTER LOCATION

Located at the top of the machine in the back left corner.

1. **Carbon Filter** – Consumable filter used to capture any residual solvent in the exhaust air.
2. **Filter Connection** – Carbon filter connection point on the PostPro SFX.



8 // POSTPRO SFX SCREENS

8.1 USER INTERFACE

The PostPro SFX is controlled via the touchscreen user interface located on the front of the machine.



8 // POSTPRO SFX SCREENS

8.2 HOME SCREEN

When the PostPro SFX is powered on, the following screen is displayed:



1. **Processing:** This will load the FLEX Recipe menu to allow processes to be started.
2. **Settings:** This takes you to the settings menu for changing consumables and network connectivity.
3. **Home:** Takes you back to this home screen.
4. **Errors:** Lists all the errors which the machine currently has.
5. **Network:** Informs you whether the machine is connected to the internet or not
6. **Power Button:** Used to power down the machine.

8.3 FLEX RECIPE PARAMETERS

When the "Processing" button is pressed on the Home Screen, the following FLEX recipe selection screen will be displayed. To start a process, the user must input the relevant parameters for the parts as outlined below:



1. **FLEX Material Selection:** This allows the user to define the material which is being processed.
2. **AVG. Wall Thickness:** Using the slider, the average wall thickness of the parts can be defined.
3. **Intensity:** The intensity allows you to adjust how much "smoothing" you want the recipe to have. Using 0 as the standard, increasing the intensity will mean parts are "smoothed" more, whilst reducing the intensity means they are "smoothed" less. It is important to adjust this based on the parts and the desired results.
4. **Chamber Fill:** Depending how full the chamber is, defines what recipe is needed for the parts. To select the chamber fill simply press the fill level which is most suitable.
5. **Start Process:** As standard, this button is grey, however when all the recipe inputs are defined and the machine is ready it will change to blue and the process can be started.

8 // POSTPRO SFX SCREENS

8.4 FLEX MATERIAL SELECTION

When the “Material Drop Down” menu is selected, the following screen will be displayed. This shows the FLEX recipe list and lets you select the material you’d like to process. Only material recipes available on the machine are listed. Additional FLEX recipes are available via AMT.



8 // POSTPRO SFX SCREENS

8.5 ERROR SCREEN

The error screen can be accessed by pressing the error button at the top of the screen and allows the user to view all errors which the machine currently has.

To clear the errors, press the “Clear Errors” button.



8.5.1 ERROR LIST

There are two types of error which the PostPro SFX can display, these are as follows:

FWH - Hard Error

This type of error is linked to either a safety or a processing issue that is deemed serious enough to stop the process. These errors cannot be resolved by themselves so either need the machine to be restarted, or, additional support from AMT or an Authorised AMT Reseller.

FWS - Soft Error

Unlike hard errors, this type of error is just informing the operator that an error has occurred. In most cases, the error can be cleared or rectified by the operator quickly without requiring support from AMT or an Authorised AMT Reseller.

Below is a summary of each error code, a description of the error and what the operator needs to do to rectify the error.

Error Code	Description	Corrective Action
FWS0007	Process initialization timeout	Restart the process
FWS0008	Vacuum timeout	Restart the process
FWS0009	Vacuum release timeout	Restart the process
FWS0010	Drying initialization timeout	Restart the process
FWS0011	Purging timeout	Restart the process
FWS0012	Solvent level minimum	Refill the machine with solvent
FWS0013	Carbon filter saturation above 90%	Order new carbon filter
FWS0014	Door is open	Ensure the chamber door is closed
FWS0015	Filter saturation 100%	Replace the carbon filter
FWH0001	Door temperature error	Contact AMT/Authorised Reseller
FWH0002	Back wall temperature error	Contact AMT/Authorised Reseller
FWH0003	Bottom wall temperature error	Contact AMT/Authorised Reseller
FWH0004	Left wall temperature error	Contact AMT/Authorised Reseller
FWH0005	Right wall temperature error	Contact AMT/Authorised Reseller
FWH0006	Impeller temperature error	Contact AMT/Authorised Reseller
FWH0007	Solvent boiler temperature error	Contact AMT/Authorised Reseller
FWH0013	Process chamber overpressure	Contact AMT/Authorised Reseller
FWH0015	Vacuum system error	Contact AMT/Authorised Reseller
FWH0016	N1 Fieldbus communication error	Restart the machine
FWH0017	N2 Keyence fieldbus communication error	Restart the machine
FWH0018	N3 Keyence fieldbus communication error	Restart the machine
FWH0019	N2 Turck fieldbus communication error	Restart the machine
FWH0020	N3 Turck fieldbus communication error	Restart the machine
FWH0022	Empty bottle missing	Check the used solvent bottle is screwed in place

If the errors continue to repeat after the corrective action, please contact AMT or your Authorised AMT Reseller for additional support.

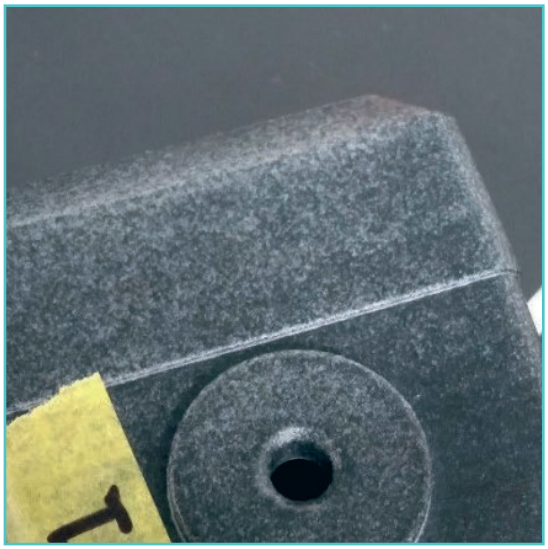
9 // PRE-PROCESSING TIPS AND TRICKS

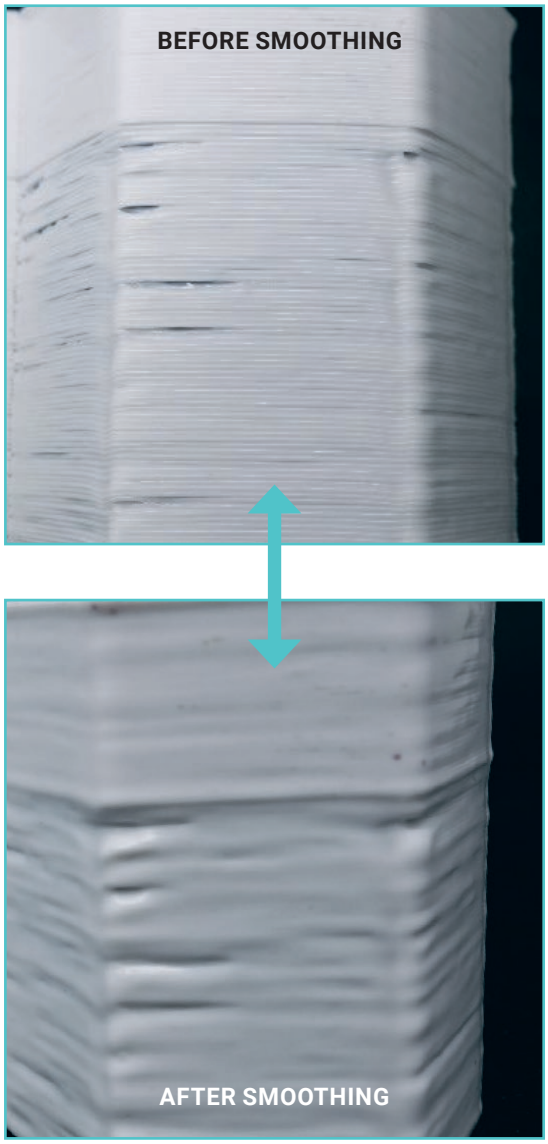
9.1 PRINTING

The printing quality of a part can significantly impact the post-processed surface quality you can expect. Some of the factors which can affect these are as follows:

- Design and geometry of the part
- Orientation within the build
- Printing technology
- Material
- Printing parameters

For example, parts may have large layer lines poor layer adhesion or have suffered from thermal bleeding. Each of these impacts the results of the smoothing process so it is important to resolve these first.

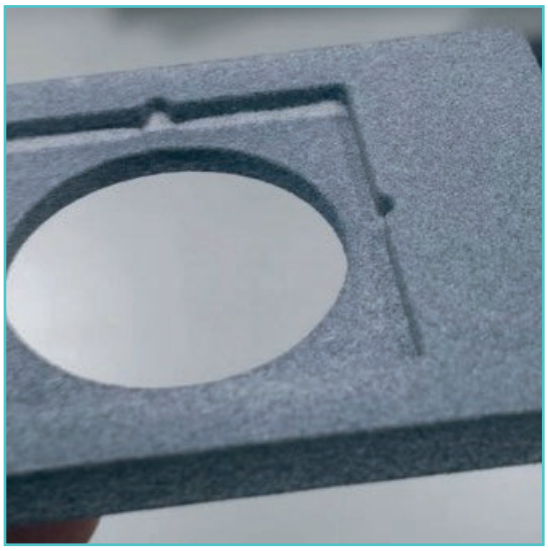


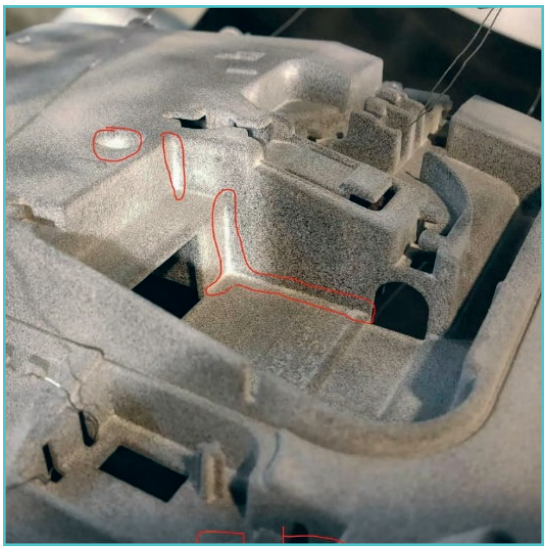


9.2 DEPOWDERING

Ensure the parts have been thoroughly depowdered

There must be no powder left on the parts, especially in internal cavities and around sharp features. In general, poor depowdering leads to bad smoothing results as the powder will cause imperfections as it processes. If necessary, do a secondary blasting step to remove all residual powder from the corners and intricate shapes.





Ensure there is no contamination in the blasting media

Poor quality blasting media can result in contamination being applied to the parts. For this reason, it is important to ensure your blasting media is filtered/replaced frequently.

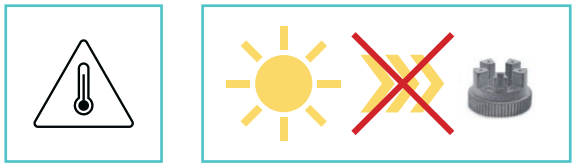


9 // PRE-PROCESSING TIPS AND TRICKS

9.3 ROOM ENVIRONMENT

Try to keep the part's temperature as constant as possible before processing

Condensation of the solvent on the parts' surface is highly dependent on the difference in temperature between the parts and the solvent vapour. Variations in part temperature might affect the smoothing quality. For this reason, store parts out of direct sunlight in a temperature and humidity- controlled room which is between 18-22 degrees Celsius.



Keep the PostPro SFX room clean

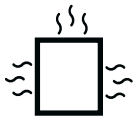
Good housekeeping practices in and around the machine are crucial in preventing unwanted contamination. Parts surfaces are very sensitive to dust from the environment, and contaminated surfaces are highly visible after smoothing. The processing chamber should be cleaned after every run using a "lint-free" wipe and IPA.



10 // HOW THE PROCESS WORKS

The process has 5 main stages:

1 INITIALIZATION



The processing chamber warms up. Once the setpoint is reached, the parts can be loaded into the processing chamber.

2 PROCESSING



Parts are conditioned in the chamber at a set temperature for a specified duration. After this, the solvent is vaporized and injected into the chamber where it dissolves the part surface making it smooth and sealed.

3 RECOVERY



The used solvent is recovered from the processing chamber.

4 CURING



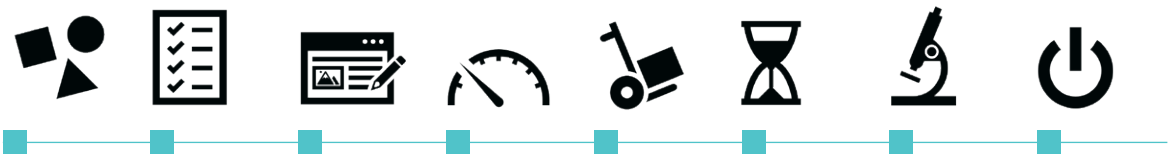
Part's surface starts to harden again.

5 DRYING



Residual solvent in the parts and processing chamber is removed.

- Parameters in each stage are adjusted automatically by the FLEX Recipe.
- It is necessary to change the FLEX parameters depending on the material, geometry and quantities of the parts being processed.
- By changing the process intensity, different levels of smoothing and sealing can be achieved.



GROUPING THE PARTS

POWERING ON THE MACHINE

LOADING THE RECIPE

MACHINE INITIALISA-TION

HANGING AND LOADING PARTS INTO THE CHAM-BER

MACHINE RUNNING

UNLOAD-ING AND INSPECTION OF PARTS

POWERING DOWN THE MACHINE

11 // GROUPING AND HANGING PARTS

11.1 GROUPING THE PARTS

Do not mix parts of different technologies, materials or wall thicknesses within the same process run. Processing conditions vary depending on these characteristics and mixing parts up will lead to inconsistent results. Furthermore, do not mix coloured or dyed parts with white parts as contamination, in the form of coloured dots, can be found all over the white parts after smoothing.

What **Technology** was used to manufacture the parts?	SLS / MJF
What is the **Material** of the parts?	PA12 - 11 / TPU, etc.
What is the average **Wall Thickness** of the parts?	E.g. 1-2 mm / 3-4 mm / >5 mm, etc.
How **Full** is the processing chamber?	E.g. 25% / 50% / 75% / 100%

11.2 HANGING THE PARTS

11.2.1 Design for Post Processing

Incorporating hanging features into the part design can save time when loading processing racks and avoid hanging marks. The most common approach is to design sacrificial hooks on the parts which can be removed after processing.

During processing, the additional solvent which condenses on the part exerts more weight on the hook. This combined with reflowing surface might break the hooks and result in damaged part. Therefore, when designing hooks please account for additional structural integrity required for secure hanging of part. This can be done by making hooks thicker or adding additional hooks.





11.2.2 Hanging Materials

Only use solvent and heat-resistant materials when hanging parts. Incompatible materials could dissolve into the part and result in contamination on the parts. Stainless steel is an inert material that is readily available to purchase and works very well for hanging parts.

AMT recommends thin clips/hooks or “welding rods” to reduce the amount of metal to plastic contact to avoid hanging marks and reduce the condensation of solvent onto the metal to prevent drip marks.







11.2.3 Hanging Techniques

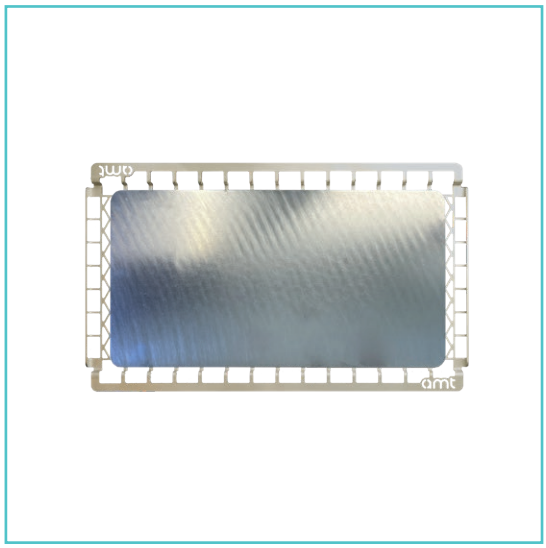
For the best results, AMT recommends the following hanging techniques:

- Parts should be placed at around 40mm away from chamber walls and chamber door.
- Parts should be placed at around 20mm away from each other. Ensure parts are not touching each other.
- Cupping geometries should be hung with the openings facing downwards at a 10º - 20º angle.
- Minimize the contact points between the clips/wire and the part to reduce the severity of witness marks after processing.
- Preferably place the parts/racks in the middle of the processing chamber.
- Always make sure to place the metal diffuser on the top of the top rack inside the chamber to prevent drip marks.









Note: For some materials and geometries, these recommendations may not results in perfect parts. If this is the case, please visit the AMT Knowledge Base or contact your Authorised AMT Reseller for guidance.

12.1 POWERING ON

Powering “ON” the machine depends on how the machine was powered down. As standard, we recommend that the machine is fully powered down using the switch on the rear. In this case, here is the powering-on procedure:

1. Make sure that all connections are still secure as per the installation guide.
2. Switch the main power switch on the rear of the machine and wait 10 seconds.
3. Press the power button on the front of the machine and after about 30 seconds the machine will be ready to use.

Note, if the main power switch is already in the “ON” position, the machine can be powered on by pressing the power button on the right hand side of the screen .



Main power button on the back of the machine



Power button on the front of the machine

12.2 STARTING A PROCESS

Starting a process is simple and can be done through the following procedure:

1. Select "**Processing**" from the Home Screen



2. From the FLEX Recipe Dropdown, select the material which you want to smooth and then input the “AVG. Wall Thickness”, “Intensity” and “Chamber Fill”. Once this is done, the “Start Process” button will change colour and you can start a recipe.

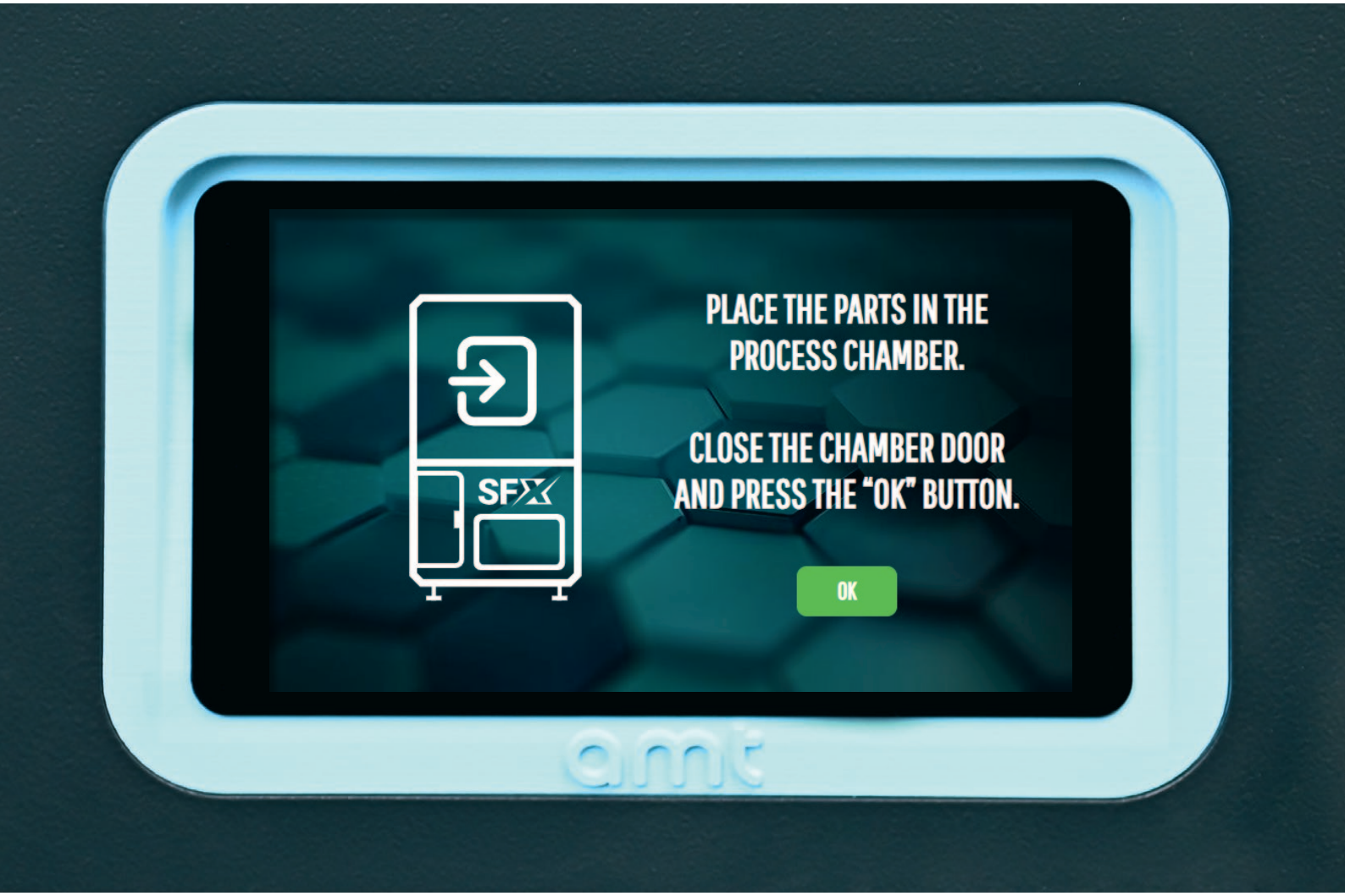


Note: If the start processing button does not change colour, make sure that all the recipe parameters have been entered and there is no error present (you can see this on the error button at the top). If there is an error, rectify the issue and clear it so the process can start.

3. When a process has been started the following screen will be displayed:



4. As the machine initializes, the progress bar will move along until it is ready and will ask you to load the parts as shown below:



5. Quickly load the parts into the chamber, close and secure the door, and press the “OK” button to continue with the process.



6. The process will then run automatically and will take around 2 hours. After this time the machine will ask you to unload the parts by displaying this screen:



7. The parts can then be unloaded from the chamber and the “OK” button can be pressed. A feedback screen will then appear which is fed back to AMT for review.

At this point, the machine will return to the Home Screen and a new recipe can be selected if desired.



12.3 POWERING DOWN THE MACHINE

Powering “OFF” the machine can be done in two ways, as standard, we recommend that the machine is fully powered down using the switch on the rear, here is the procedure to do that:

1. On the screen, in the top right corner, press the Power Icon and then press the “Yes” button.
2. After around 10 seconds you can then press the power button to the right side of the screen .
3. If you want to fully power down the machine, switch the main power switch on the rear of the machine.

Note: The machine does not need to be fully powered down using the button on the rear, however, it is highly recommended to prolong the life of the machine.

DO NOT ATTEMPT TO POWER BACK ON THE MACHINE UNTIL IT HAS FULLY POWERED DOWN.



Power Icon



Power button on the front of the machine



Main power button on the back of the machine

12.4 FILLING THE POSTPRO SFX WITH CONSUMABLE

During operation of the machine, the PostPro Pure consumable will be used until there is an insufficient volume left to continue. At this point, the machine will flag an error indicating that it needs to be refilled. Below are the steps which should be followed when filling the machine:

1. Unbox the PostPro Pure bottle from the delivery packaging.
2. Make sure that the PostPro SFX is powered on.
3. Press the “Settings” button
4. Press “Refill Solvent” button
5. Enter the 12-digit passcode which was provided with the PostPro Pure bottle then press “OK”.
6. Put on the recommended PPE.
7. Open the lid of the filling point and unscrew the cap.
8. Take the lid off the PostPro Pure.
9. Pour the entire bottle into the machine, taking extra care not to spill the consumable (assuming the correct procedure is followed, it is not possible to overfill the machine).
10. Re-screw the cap onto the filling point and close the lid.

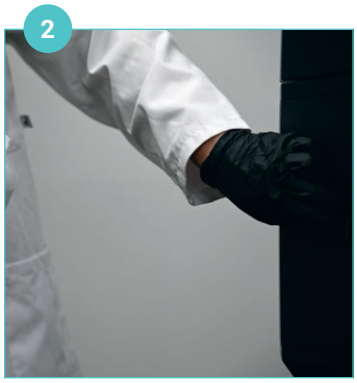


12.5 REPLACING THE POSTPRO SFX RECOVERY BOTTLE

During operation of the machine, the PostPro Pure consumable is recovered into the empty PostPro Pure bottle and needs to be replaced every time the machine is filled. Below are the steps which should be followed:

1. Put on the recommended PPE.
2. Open the door on the front of the machine where the recovered PostPro Pure consumable is collected.
3. Unscrew the PostPro Pure bottle with the recovered consumable being careful not to spill any in the machine.
4. Screw the lid from the “New” PostPro Pure consumable bottle, used to fill the machine, onto the bottle containing the recovered consumable.
5. Fit the empty PostPro Pure consumable bottle into the recovery position and screw tightly in place. Then close the door.
6. The machine will be showing an error “FWH0022 Empty Bottle Missing”, which will need to be cleared by going to the error screen and pressing “Clear Errors”.

At this point, the PostPro SFX is ready to use again as normal.









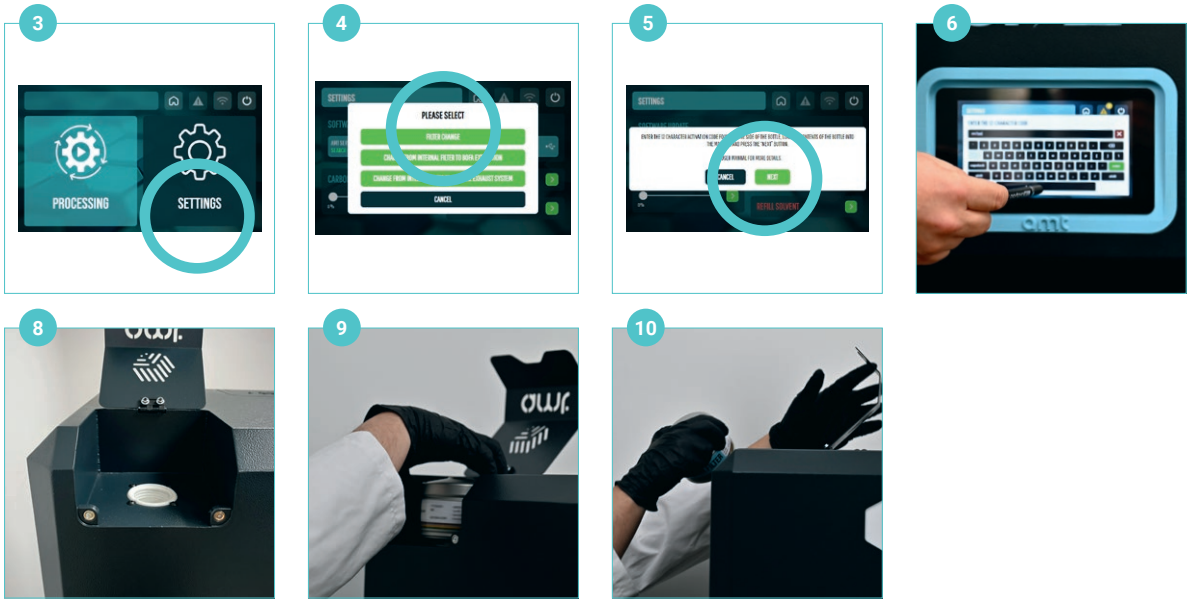
It is the customers responsibility to recycle the recovered PostPro Pure material as per local legislation.

Always swap the recovered PostPro Pure bottle when filling the machine with consumable to prevent leaks.

12.6 REPLACING THE POSTPRO SFX CARBON FILTER

During operation of the machine, the PostPro SFX Carbon Filter will become saturated until there is an insufficient capacity left to continue. At this point, the machine will flag an error indicating that it needs to be replaced. Below are the steps which should be followed when replacing the carbon filter in the machine:

1. Unbox the PostPro SFX Carbon Filter from the delivery packaging.
2. Make sure that the PostPro SFX is powered on.
3. Press the “Settings” button
4. Press “Replace Carbon Filter” button
5. Select the relevant option from the menu, in this situation in is “Filter Change”
6. Enter the 12-digit passcode which was provided with the Carbon Filter then press “OK”.
7. Put on the recommended PPE.
8. Open the lid on the PostPro SFX where the carbon filter can be found.
9. Carefully unscrew the old carbon filter and package it securely, ensuring the opening of the filter is upwards facing and sealed.
10. Screw the new carbon filter in place.
11. Close the lid of the PostPro SFX where the carbon filter is located.



It is the customers responsibility to recycle the used carbon filter as per local legislation.

NOTE: If you are using the SFX Extractor system, these steps are not required. Instead, please contact AMT for more information regarding the extractor system.



UNDER-PROCESSED

Parts look the same as when they went in or have a white coating.

OVER-PROCESSED

Sharp edges are rounded, areas are warped, and the flat surfaces have defects.





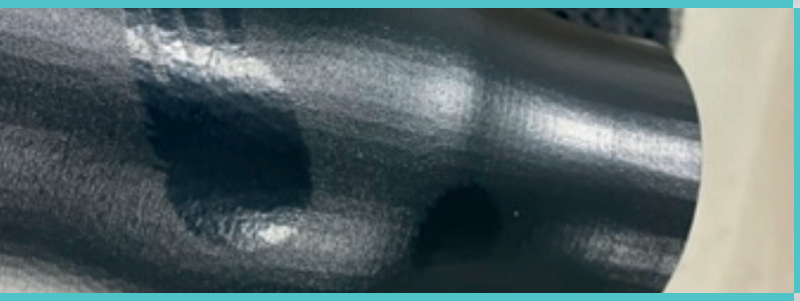
CONTAMINATION

Dust and/or dots of contamination are stuck to the surface of the part.

UN-PROCESSED INTERNAL SURFACES

There is a variation in smoothing between internal/ external surfaces.



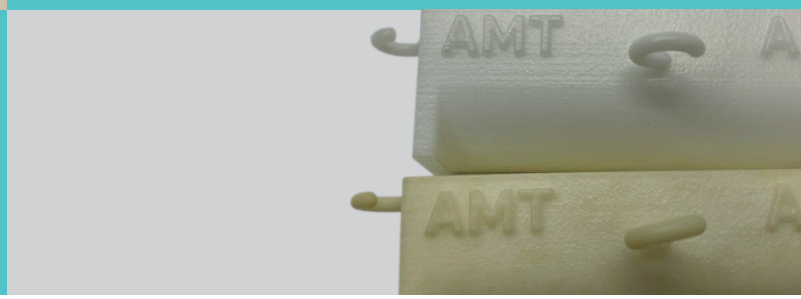


DRIP MARKS

There are drip marks where the material has been processed more than the rest of the part.

PART YELLOWING

White parts become yellow after processing.



13 // TROUBLESHOOTING

13.1 UNDER-PROCESSED

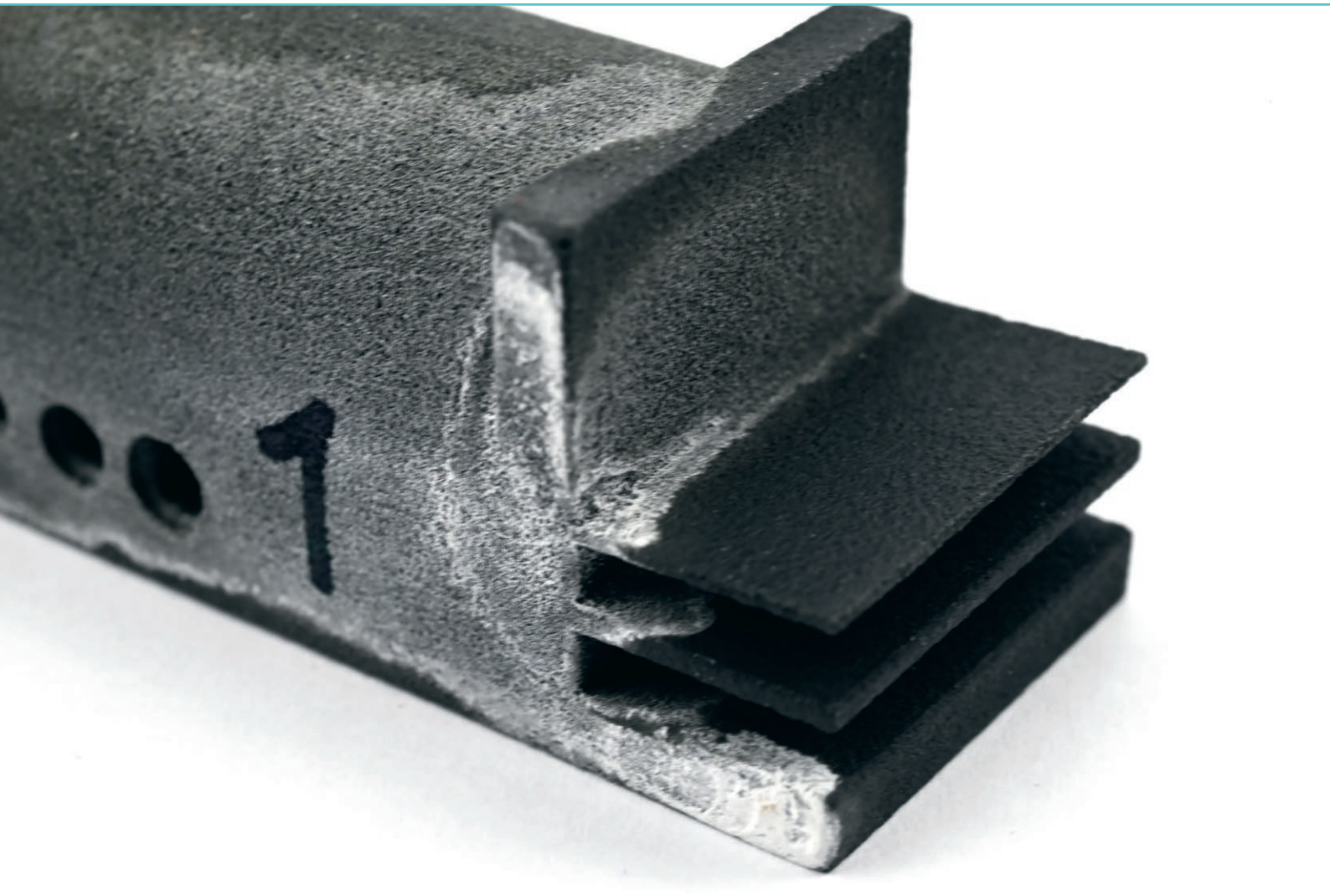
Parts look the same as when they went in or have a white coating.

What can cause this issue?

- The material is not approved for use in the PostPro SFX and is not listed in the “Compatible Material List”.
- The recipe used was not aggressive enough to smooth the parts.

How to fix it?

- Check the material is listed in the FLEX Recipe.
- Check that the correct FLEX Recipe was chosen.
- Check that the recipe parameters selected, such as wall thickness and fill level were correct.
- Increase the “Intensity” of the recipe to smooth the parts more.
- If there is a white coating at the bottom of the part, adjust the hanging orientation as per the hanging recommendations.



13 // TROUBLESHOOTING

13.2 OVER-PROCESSED

Sharp edges are rounded, areas are warped, and the flat surfaces have defects.

What can cause this issue?

- The recipe used was too aggressive to smooth the parts.
- Hanging orientation or method was not suitable.
- Depowdering was not completed effectively.

How to fix it?

- Check that the recipe parameters selected, such as wall thickness and fill level were correct.
- Check that the correct FLEX Recipe was chosen.
- Adjust the hanging orientation or support the part better.
- Ensure the parts have been thoroughly de-powdered.
- Reduce the “Intensity” of the recipe to smooth the parts less.



13.3 CONTAMINATION

Dust and/or dots of contamination are stuck to the surface of the part.

What can cause this issue?

1. Bad Printing quality

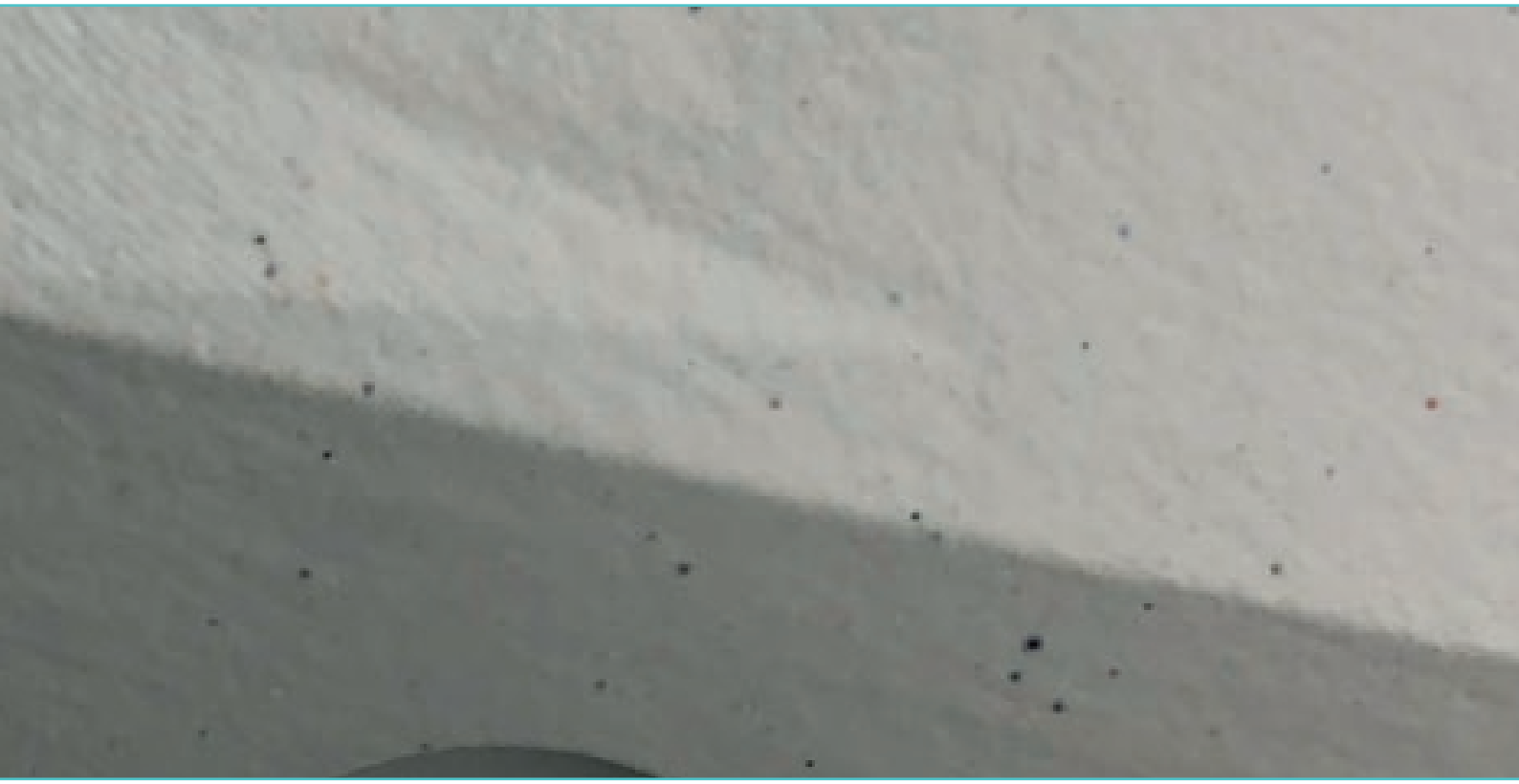
- There were impurities before processing (not visible to the naked eye).
- The quality of the printing powder is not good enough (It is contaminated or has been reused too many times).

2. Poorly Controlled Preparation

- The quality of the blasting media or poor cleanliness in your depowdering process.
- Clean gloves and lab coat were not worn when handling parts.
- Parts were mixed with parts of a different colour.
- Storage boxes were not cleaned between use.
- Different colour parts were smoothed in the same process run.

3. Dusty environment and insufficient cleaning process

- The environment varies from the recommendation outlined in the AMT Site Preparation Document.
- Contamination inside the SFX.
- Chamber and racks are not cleaned as per AMT recommendation. If running different colour parts, consider increasing the frequency of cleaning.
- If you smooth previously dyed parts, some contamination could be left in the chamber.



13 // TROUBLESHOOTING

13.4 UN-PROCESSED INTERNAL SURFACES

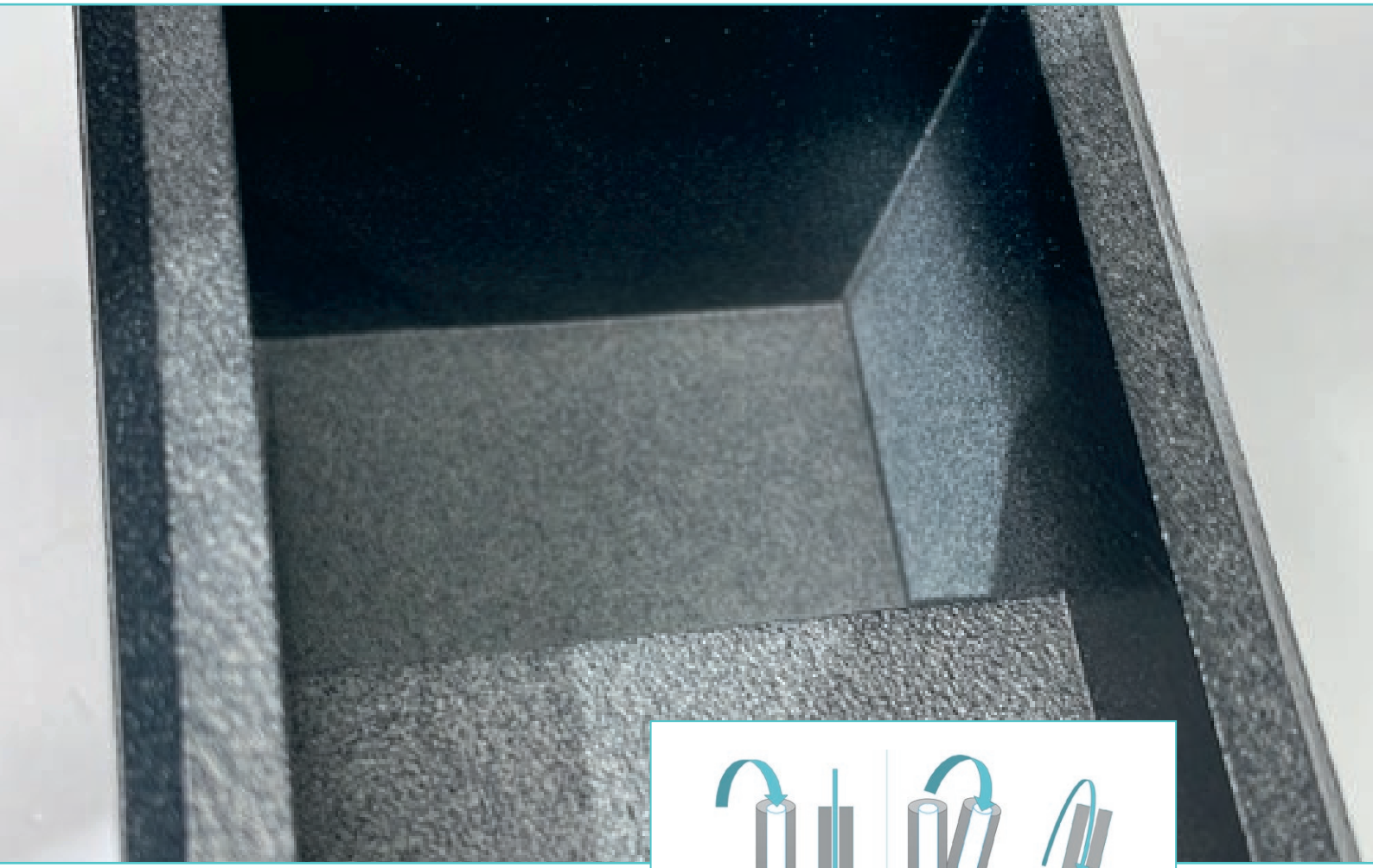
There is a variation in smoothing between internal/external surfaces.

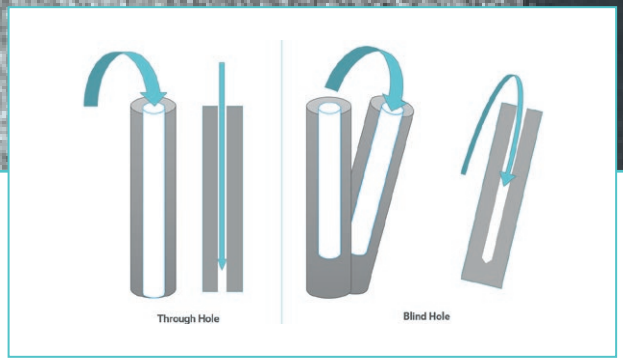
What can cause this issue?

The vapor cannot easily enter the internal surfaces.

How to fix it?

- Change the hanging orientation so that the opening is facing up.
- A slightly inclined angle improves the vapor flow through the hole.
- Through-Holes should be placed vertically if the length and geometry allows it.
- Part length, geometry and material will impact the depth of the vapour that is able to effectively penetrate and smooth the surfaces. In some cases, it may not be possible to smooth the entire internal surface.





13 // TROUBLESHOOTING

13.5 DRIP MARKS

There are drip marks where the material has been processed more than the rest of the part.

What can cause this issue?

- The recipe used was too aggressive to smooth the parts.
- Hanging orientation or method was not suitable.
- The diffuser was not placed on top of the top rack.

How to fix it?

- Check that the recipe parameters selected, such as wall thickness and fill level were correct.
- Check that the correct FLEX Recipe was chosen.
- Adjust the hanging orientation or support the part better.
- Avoid hanging parts directly above one another.
- Reduce the “Intensity” of the recipe to smooth the parts less.
- Make sure the diffuser plate is on top of the top rack.



13 // TROUBLESHOOTING

13.6 PART YELLOWING

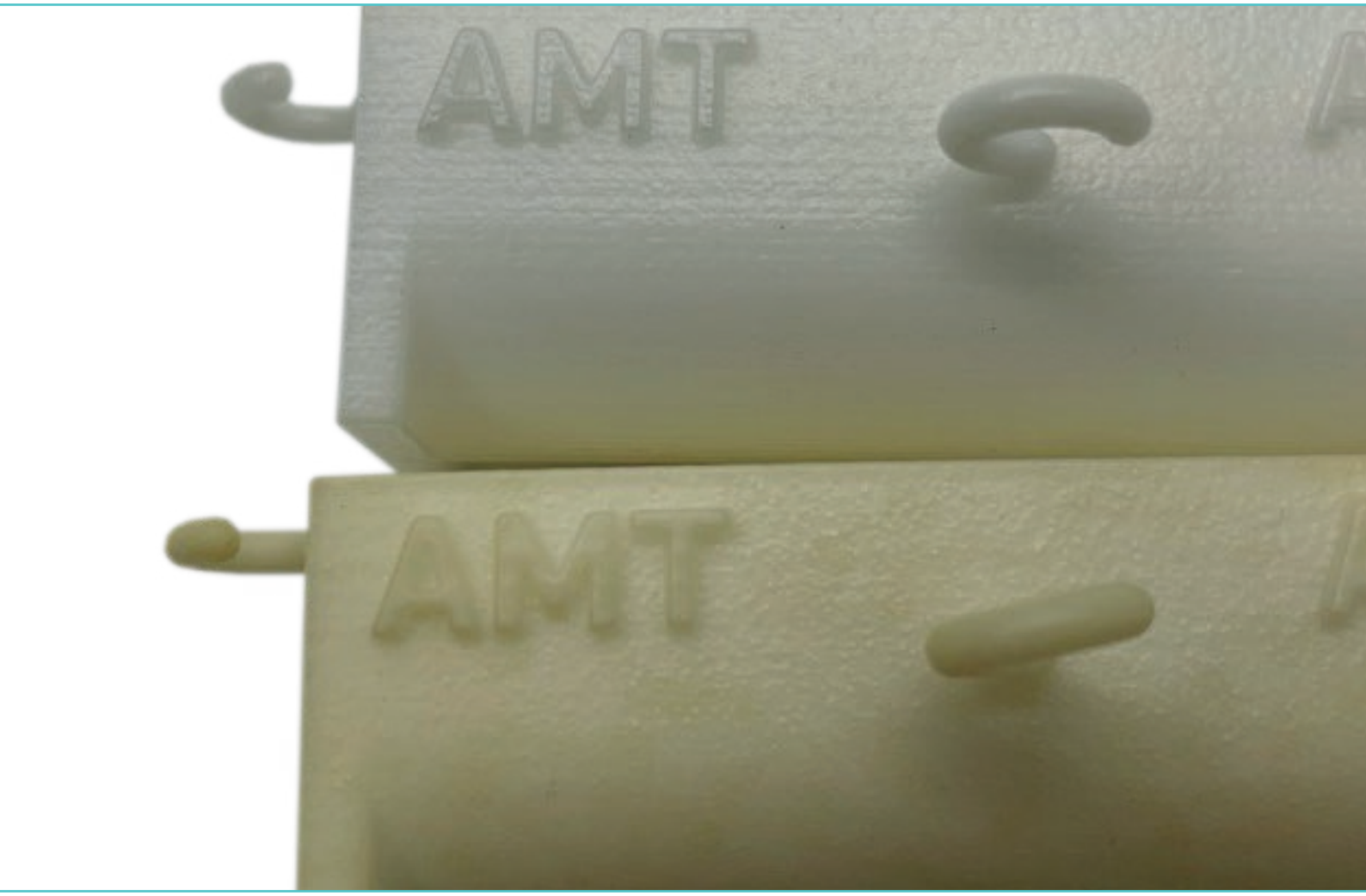
White parts become yellow after processing.

What can cause this issue?

- Chamber and/or processing racks are dirty.
- The recipe used was not correct for the parts.
- Parts have not been handled well.
- The printing process had an issue causing issues with colour.

How to fix it?

- Clean the processing chamber and racks as per AMT recommendations, if running white parts, consider cleaning it more frequently.
- Check that the recipe parameters selected, such as wall thickness and fill level were correct.
- Check that the correct FLEX Recipe was chosen.
- Only handle parts when wearing clean gloves and ensure that storage boxes are cleaned between use.
- Check the printing conditions are as per manufacturers recommendations.



14 // MAINTENANCE SCHEDULE

To ensure continued and ongoing safe and successful operation of the PostPro SFX the following maintenance schedule is recommended.

Before performing any maintenance procedure, the PostPro SFX must be switched off and unplugged from the power supply. Auxiliary units must also be switched off and unplugged where applicable.

Maintenance should only be carried out by people who have undertaken the appropriate AMT Training.
Before the maintenance of the PostPro SFX ensure the operator is wearing the appropriate PPE and is following the procedures for safe operation as outlined in the manual.

DAILY

- [ ] Clean the process chamber and racks with the AMT Cleaning Kit, including the cleaning spray and lint-free wipe to prevent contamination of parts during processing.

WEEKLY

- [ ] Clean the machine and ensure it is free of dust and contaminants.
- [ ] Check the drain filter inside the machine and clean if required with the cleaning kit or IPA bath.
- [ ] Using a clean cloth apply a silicone-based spray to the sealing surface of the machine, especially around the chamber (the recommended spray is “novation silicon spray H1”).
- [ ] Check the door seal for damage.

MONTHLY

- [ ] Clean the electronics panel of dust.

YEARLY

- [ ] Replace the door seal.
- [ ] Replace the drain filter inside the chamber.
- [ ] Replace the impeller belt.

15 // DECLARATION OF CONFIRMITY

CE DECLARATION OF CONFORMITY

CE

ADDITIVE MANUFACTURING TECHNOLOGIES LTD.
Hungary - 8200 Veszprém, Gépraktár utca 1.

Declares under our sole responsibility that the product:

PostPro SFX series

to which this declaration relates is in conformity wih the directives **2006/42/EC** (Machinery Directive), **2014/35/EU** (Low Voltage Directive) and **2014/30/EU** (EMC Directive) and meets the standards

EN ISO 12100:2010.
EN 12921-1:2005 + A1:2010.
EN 12921-4:2005 + A1:2008.
EN 60204-1:2018 + A1:2009.
and **EN 61000-6-4:2007 + A1:2011.**

issued by the European Community.

FEBRUARY 2024 • VESZPREM • HUNGARY

Előd Estók
VP of Manufacturing Operations

16 // CONTACT INFORMATION

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