



ADDITIVE MANUFACTURING TECHNOLOGIES

AUTOMATED POST-PROCESSING SYSTEMS FOR 3D PRINTING

COMPANY PRESENTATION

v1.3 // MARCH 2025



Overview

- **About AMT PostPro**
- **Product Portfolio**
- **Entry-Level Industrial Post-Processing**
- **Industrial Depowdering Systems**
- **Industrial Surface Blasting Systems**
- **Industrial Vapor Smoothing Systems**
- **Consumables**
- **Application Highlights**

TRANSFORMING 3D PRINTS INTO PRODUCTION-READY PARTS

WHO WE ARE

AMT (Additive Manufacturing Technologies) is a global leader in automated post-processing solutions for industrial 3D printing. Our technology portfolio includes depowdering, surface blasting and vapor smoothing to transform printed components into production-ready parts with a sealed surface finish.

WHAT WE DO

We provide automated surface finishing solutions, ranging from entry-level machines to industrial-scale systems aimed at high-volume production. Our technology integrates seamlessly into any 3D printing workflow, enhancing efficiency, consistency, and scalability.



Class leader in chemical vapor smoothing and end-to-end automation. Printer and material platform agnostic.



Founded in 2017 by Joseph Crabtree (CEO).



65 team members in 3 facilities in the USA, Hungary and UK.



Privately owned. Raised c. \$25 M USD from strategic and venture investors.

PARTNERS:



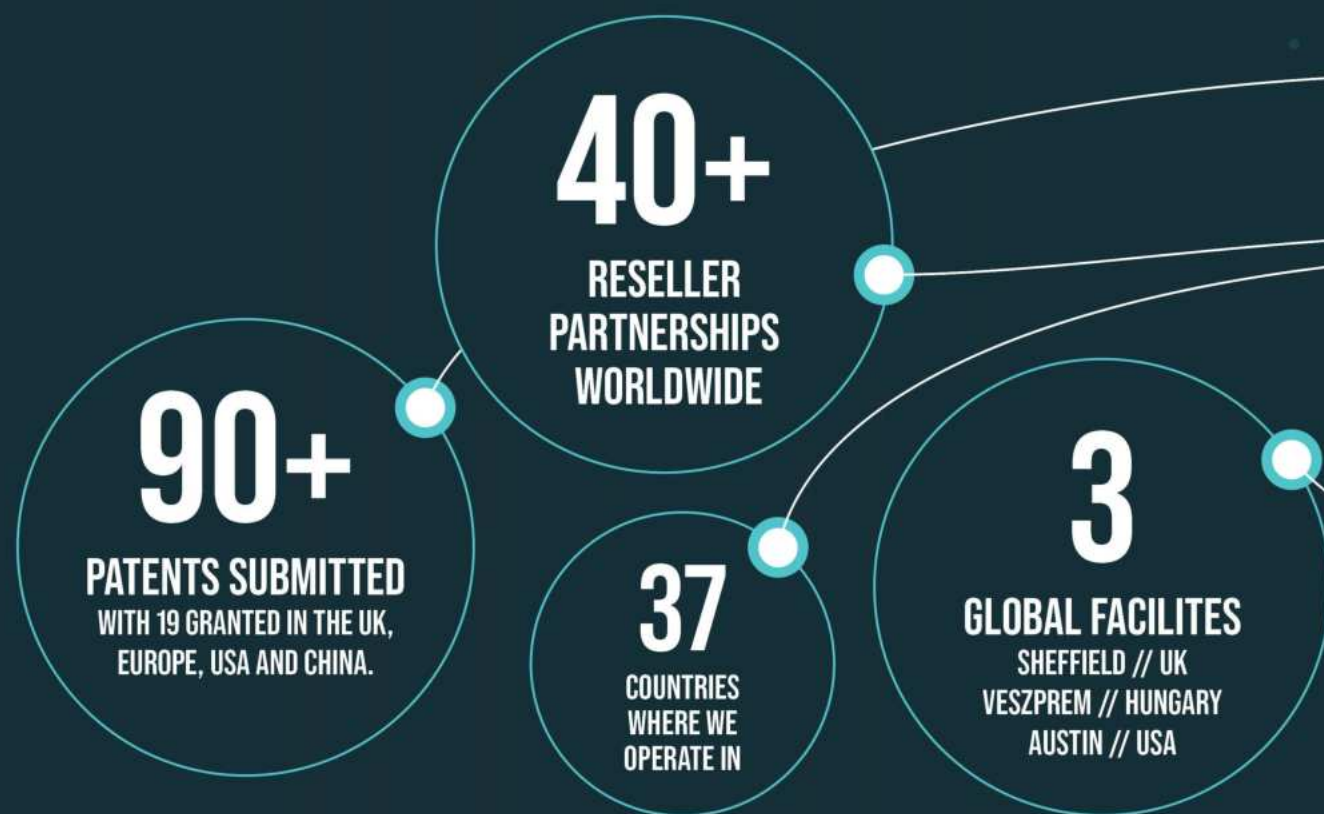
INVESTORS:



AWARDS:



AMT POSTPRO IN NUMBERS



THE POST-PROCESSING CHALLENGE

THESE ARE INDUSTRIAL 3D PRINTERS:



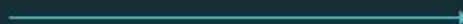
THIS IS AN 'AS-PRINTED' PART



- Rough and non-aesthetic surface
 - High porosity
- Inferior mechanical properties
 - Lack of colour/gloss
- Manual finishing is labor-intensive & time-consuming, leading to a non-repeatable process



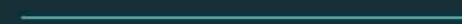
CLEANING



DEPOWDERING

PostPro DPX
PostPro DP Studio
PostPro DP
PostPro DP Pro
PostPro DP Max
PostPro DUO Max

SURFACE FINISHING



SURFACE BLASTING

PostPro SB Studio
PostPro SB
PostPro SB Pro
PostPro SB Max

VAPOR SMOOTHING

PostPro SFX
PostPro SF50
PostPro SF100





ENTRY-LEVEL POST-PROCESSING SYSTEMS

POSTPRO SFX
POSTPRO DPX



POSTPRO DPX COMPACT DEPOWDERING SYSTEM

THE MOST COMPACT AUTOMATED DEPOWDERING SYSTEM IN THE POSTPRO DP RANGE. THE PERFECT COMPANION TO THE POSTPRO SFX TO COMPLETE YOUR POST PROCESSING WORKFLOW.

FEATURES INCLUDE:

- **HMI:** The PostPro DPX incorporates a touch screen HMI for easy parameter adjustment.
- **Spacious basket:** 10 Litre (Ø450 x 210 mm) basket is equipped with a soft plastic liner to ensure a consistent finish without damaging the parts.

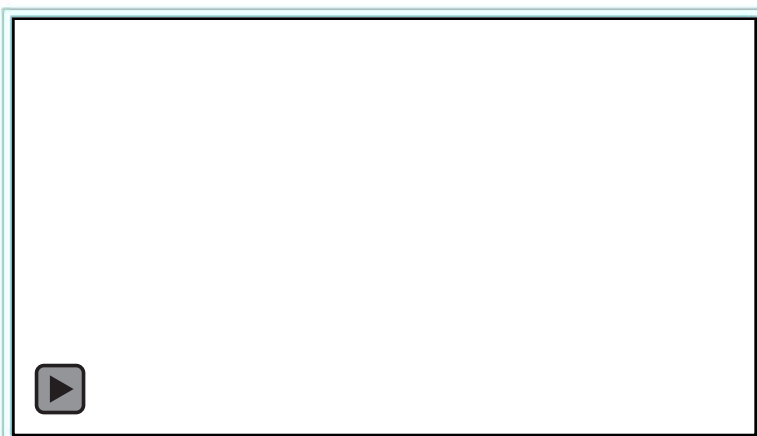
TECHNICAL SPECIFICATION

Description	EU	US
External Dimensions (WDH)	985 x 1135 x 1890mm	39 x 44.5 x 74.5 in
Weight	370 kg	815 lbs
Blasting Area (WDH)	850 x 640 x 845 mm	33.5 x 25.5 x 33.5 in
Basket Size	Ø 450 x 210 mm	Ø 17.5 x 82.5 in
Basket Volume/Weight	10 litres / 10 kg	10 litres / 22 lbs
Blast Gun	Single with Ø6 mm silicon carbide nozzle	
Filter Cartridge	Single with area of 4 m ²	
Electrical Configuration	230V / Single Phase / 50 Hz	
Total Power Consumption	0.85 kW	
Air Consumption	700l/min at 4 bar	
ATEX classification	Class II 3/-D T125°C	

- **Manual blasting:** Parts can be manually blasted by hand using the in-built gloves behind the interlocked gloves cover.
- **Compact size:** Small footprint to operate in even the most compact of workshops and laboratories.
- **Ionization unit:** The PostPro DPX is equipped with an ionization unit to reduce static build-up during the process, leaving your parts dust-free and without the requirement for additional cleaning steps.
- **Powerful filter:** Equipped with a powerful filter for dust separation and to ensure a clear view in the blasting area.
- **ATEX Certified:** Class II 3/-D T125°C ATEX certification.



POSTPRO SFX VAPOR SMOOTHING SYSTEM



MATERIAL AND TECHNOLOGY COMPATIBILITY

MATERIALS: PA11, PA12, TPU
PRINTING TECHNOLOGIES: SLS, MJF, SAF

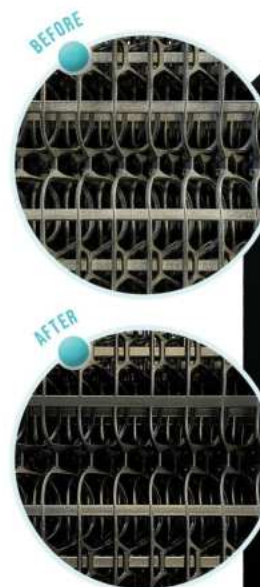
TECHNICAL SPECIFICATION

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

THE WORLD'S FIRST BENCH - TOP CHEMICAL VAPOUR SMOOTHING SYSTEM. COMPACT, SAFE, AND EFFICIENT - THIS DESKTOP VAPOR SMOOTHING SYSTEM USES OUR GREEN SOLVENT FOR A SMOOTH, SUSTAINABLE SURFACE FINISH.

KEY FEATURES INCLUDE:

- **Compact Design:** Fits into even the smallest workshops or labs.
- **Safe & Sustainable:** Powered by our green solvent PostPro PURE for safe and eco-friendly operation.
- **Enhancing Performance:** Smooths and seals surfaces for improved mechanical properties and durability.
- **Patented Expertise:** Drawing on 8 years of professional experience in the industry, our vapor smoothing systems are protected by multiple patents [EP3565712, GB2582225, GB2597240B].

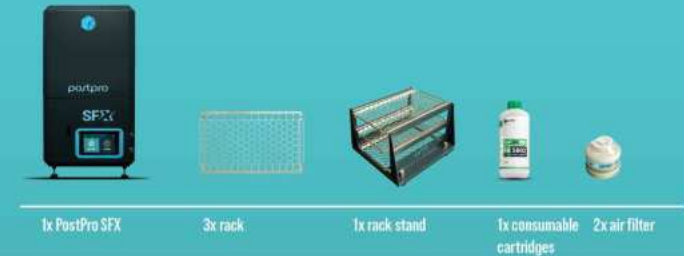


STARTER BUNDLE

STEP INTO THE WORLD OF POST-PROCESSING WITH THE ESSENTIALS.

WHAT'S INCLUDED

- 1x POSTPRO SFX SYSTEM
- 1x SINGLE CONSUMABLE CARTRIDGE
- 3x PROCESSING RACKS
- 1x RACK STORAGE STAND
- 2x AIR FILTER
- 12 MONTHS MANUFACTURER'S WARRANTY

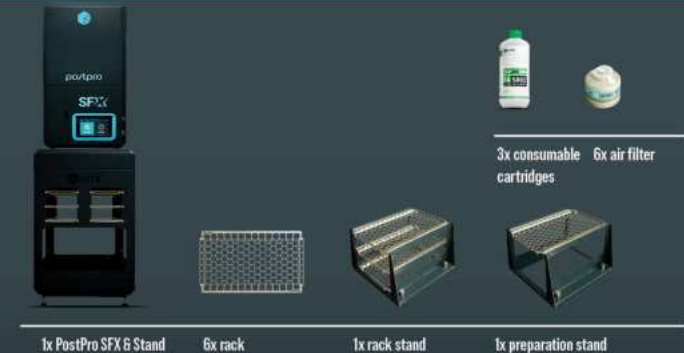


COMPLETE BUNDLE

COMPLETE YOUR PRODUCTION WITH EVERYTHING YOU NEED TO VAPOR SMOOTH YOUR PARTS.

WHAT'S INCLUDED

- 1x POSTPRO SFX SYSTEM
- 1x POSTPRO SFX MACHINE STAND
- 3x CONSUMABLE CARTRIDGES
- 1x RACK PREPARATION STAND
- 1x RACK STORAGE STAND
- 6x PROCESSING RACKS
- 6x AIR FILTER
- 24 MONTHS MANUFACTURER'S WARRANTY



ULTIMATE BUNDLE

LEVEL UP YOUR POST-PROCESSING WORKFLOW WITH BOTH MACHINES FROM OUR X-SERIES: THE POSTPRO DPX DEPOWDERING SYSTEM AND THE POSTPRO SFX VAPOR SMOOTHING MACHINE.

WHAT'S INCLUDED

- 1x POSTPRO SFX SYSTEM
- 1x POSTPRO SFX MACHINE STAND
- 1x POSTPRO DPX SYSTEM
- 3x CONSUMABLE CARTRIDGES
- 1x RACK PREPARATION STAND
- 1x RACK STORAGE STAND
- 6x PROCESSING RACKS
- 6x AIR FILTER
- 24 (POSTPRO SFX) & 12 (POSTPRO DPX) MONTHS MANUFACTURER'S WARRANTY



INDUSTRIAL BASKET DEPOWDERING SYSTEMS

POSTPRO DP STUDIO
POSTPRO DP
POSTPRO DP PRO



BENEFITS OF AUTOMATED DEPOWDERING

THIS PROCESS UTILIZES HIGH-PRESSURE COMPRESSED AIR IN COMBINATION WITH SPECIFICALLY CHOSEN MEDIA TO ELIMINATE PRINTING POWDER FROM COMPONENTS, LEAVING THEM PRISTINE AND READY FOR IMMEDIATE USE OR FOR ADDITIONAL PROCESSING IN THE POSTPRO SF.



FULLY AUTOMATED PROCESS

The depowdering process takes ~ 10 minutes.



CONSISTENT RESULTS

The machine design guarantees batch to batch consistency.



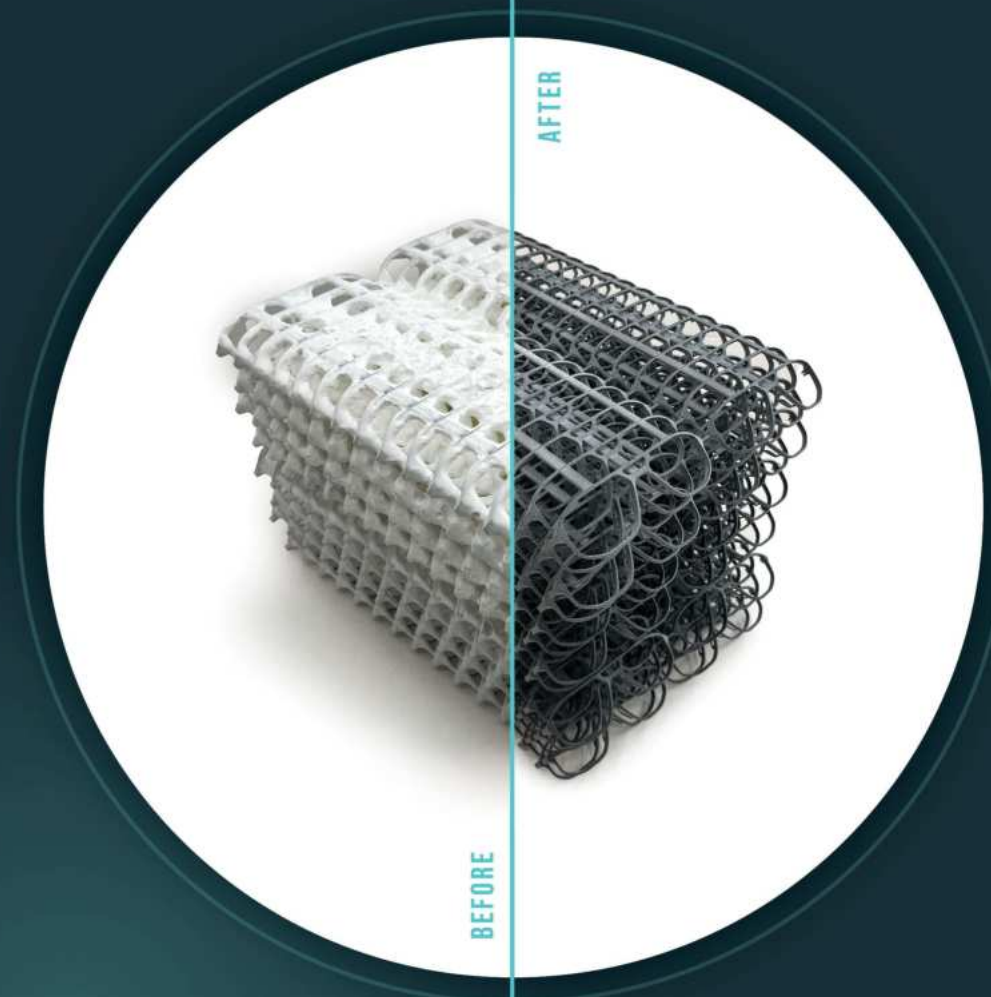
IONIZATION UNIT

Through ionization static charges are eliminated and even the most minute particles are removed.



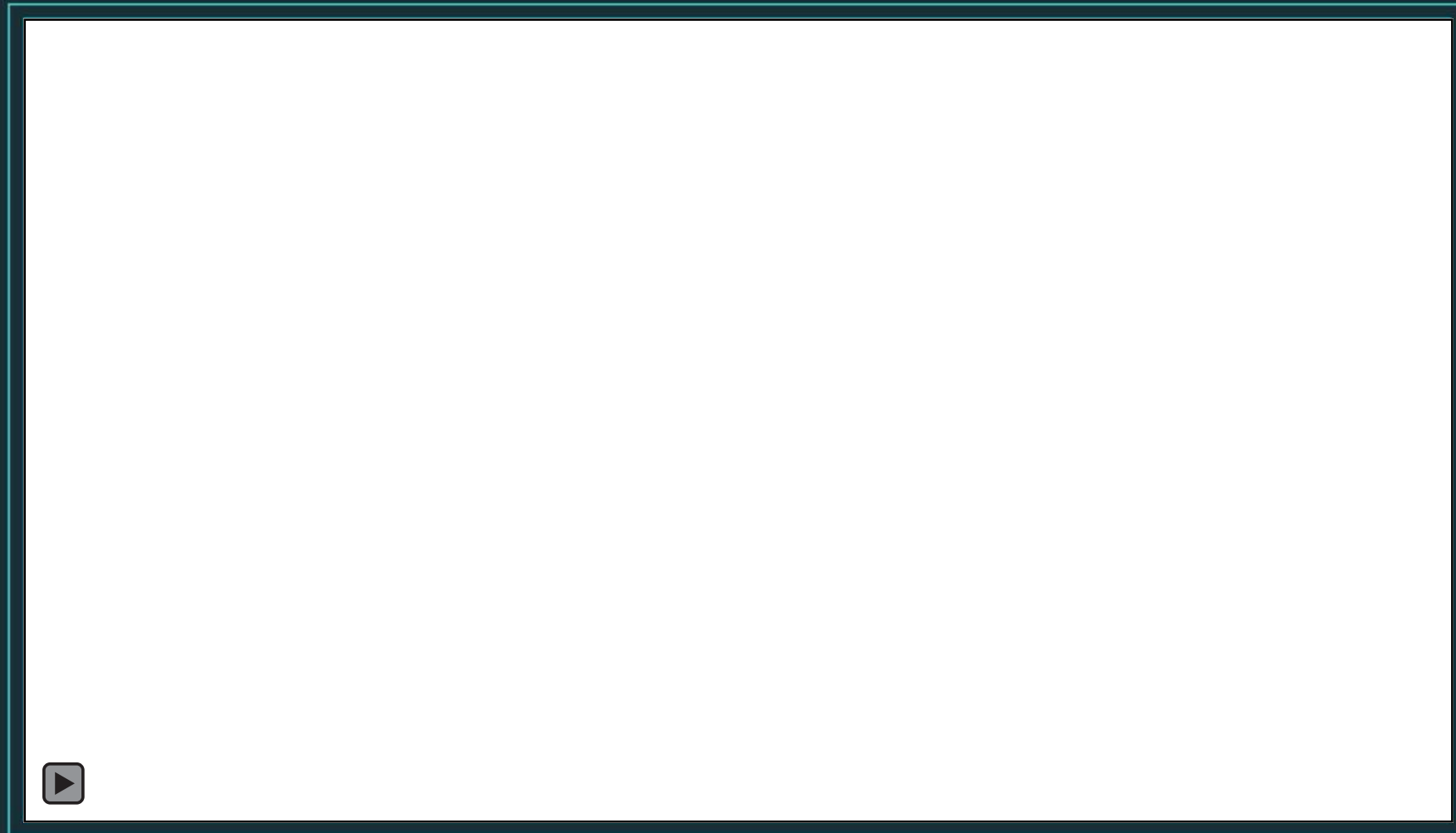
FREELY CONFIGURABLE PARAMETERS

Adhering to predefined recipes and parameters, the process guarantees precise cleaning.





POSTPRO DP
INDUSTRIAL
BASKET
DEPOWDERING
SYSTEM



INDUSTRIAL BASKET DEPOWDERING SYSTEMS

POSTPRO DP SERIES: SCALABLE DEPOWDERING SOLUTIONS FOR EVERY WORKFLOW

From compact workspaces to industrial-scale operations, the PostPro DP series offers automated depowdering solutions tailored to your needs. Whether you're handling small components or high-volume production, each model ensures efficiency, safety, and precision.

	POSTPRO DP STUDIO	POSTPRO DP	POSTPRO DP PRO
BASKET SIZE	10L	30L	20L
BLASTING GUNS	ONE	TWO	THREE
CYCLONE SYSTEM	✓	✓	✓
ATEX CERTIFICATION	✓	✓	✓
MANUAL BLASTING	✓	✓	✓ (DEDICATED)
CONFIGURABLE BASKET ANGLE	X	X	✓
			
	POSTPRO DP STUDIO SPEC. SHEET	POSTPRO DP SPEC. SHEET	POSTPRO DP PRO SPEC. SHEET

INDUSTRIAL SURFACE BLASTING SYSTEMS

POSTPRO SB STUDIO
POSTPRO SB
POSTPRO SB PRO
POSTPRO SB MAX



BENEFITS OF SURFACE BLASTING

THIS PROCESS UTILIZES HIGH-PRESSURE COMPRESSED AIR IN COMBINATION WITH SPECIFICALLY CHOSEN MEDIA TO REDUCE THE SURFACE ROUGHNESS (RA), IMPROVE GLOSSINESS AND CREATE A UNIFORM SURFACE IDEAL FOR DYEING OR COLOURING.



FULLY AUTOMATED PROCESS

The blasting process takes ~ 15-30 minutes depending on the desired finish required.



UNIFORM SURFACE FINISH

The pressure and rotation of the parts guarantees uniformity of the surfaces.



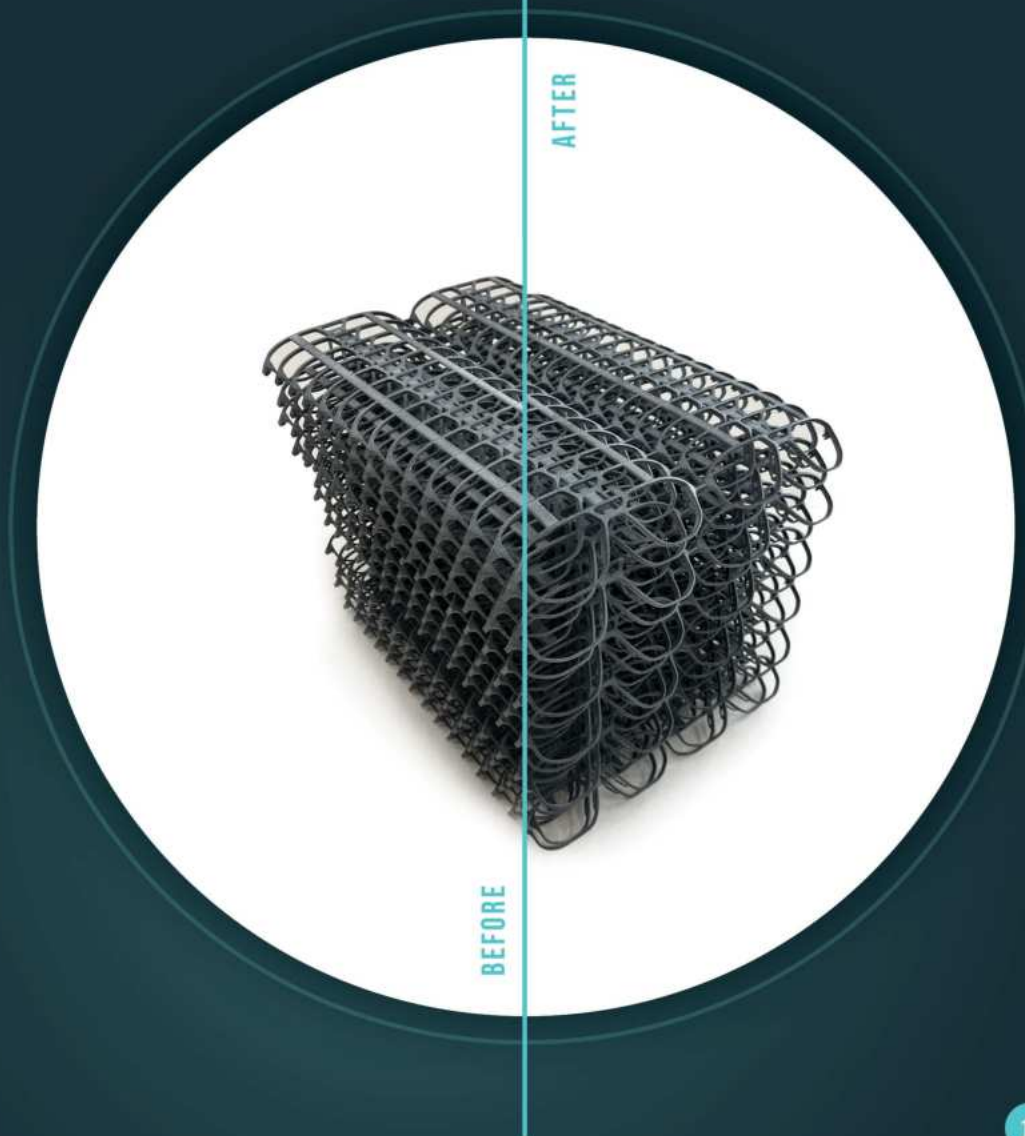
ENHANCES SURFACE DETAILS

Features of the part become more visible after the blasting process.



IMPROVED DYE UNIFORMITY

Surface blasting is a pre-dyeing step that improves the color consistency throughout the surface of the part.



INDUSTRIAL BELT DEPOWDERING & SURFACE BLASTING

POSTPRO DP MAX
POSTPRO DUO MAX





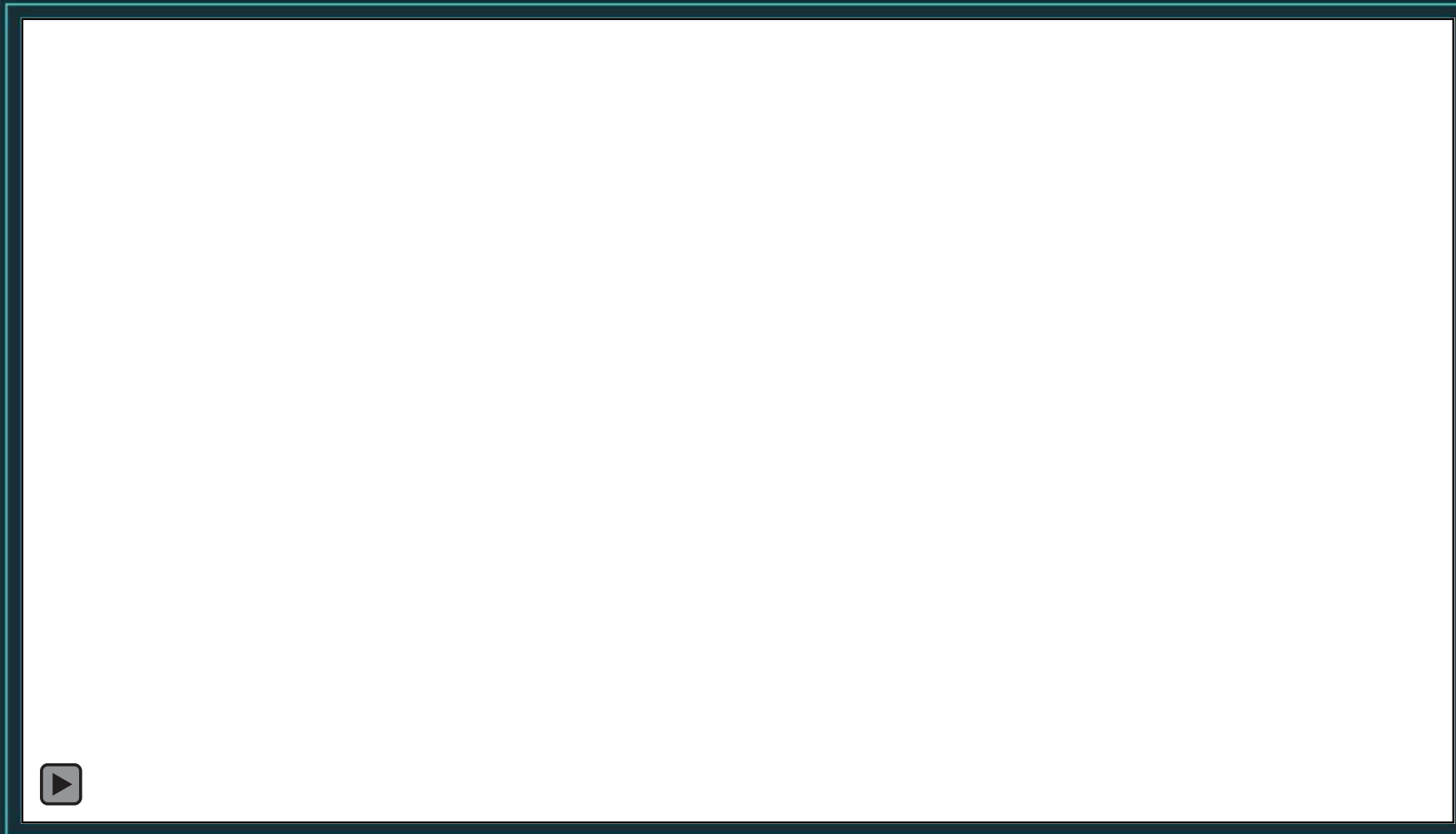
POSTPRO DP MAX DEPOWDERING & SURFACE BLASTING SYSTEM

POWERED BY A CONTINUOUS TUMBLE BELT TECHNOLOGY, THE POSTPRO DP MAX IS A FULLY AUTOMATED SURFACE BLASTING SYSTEM DESIGNED FOR MAXIMUM THROUGHPUT.

The PostPro DP MAX is CE and ATEX certified and is designed to be used in processes where the consumable media and dust generated may be combustible. ATEX certified to Class II 3/-D T125°C.

FEATURES INCLUDE:

- 50L volume
- Automatic unloading
- Conveyor belt system
- Programmable recipes



POSTPRO DUO MAX

POWERED BY CONTINUOUS TUMBLE BELT TECHNOLOGY, POSTPRO DUO MAX IS A FULLY AUTOMATED DEPOWDERING & SURFACE BLASTING SYSTEM DESIGNED FOR MAXIMUM THROUGHPUT.

The PostPro Duo MAX is CE and ATEX certified and is designed to be used in processes where the consumable media and dust generated may be combustible. ATEX certified to Class II 3/-D T125°C. Safe and robust industrial technology with a compact design to reduce floor space.

TECHNICAL SPECIFICATION

Description	EU	US
External Dimensions (WDH)	2,170 x 1,983 x 2,437 mm	64 x 68 x 99 in
Front Door Opening	770 x 1,075 mm	30 x 42 in
Processing Belt - Dimensions	Ø590 x 740 mm	Ø23 x 30 in
Processing Belt - Volume	50 Litre (Part dependant)	50 Litre (Part dependant)
Processing Belt - Maximum Load	30 Kg	66 lbs
Blast Guns	3 x Hardened blast guns with boron carbide nozzles (ø 8 mm)	3 x Hardened blast guns with boron carbide nozzles (ø 8 mm)
Filter Cartridges	2 x Polyester, M-Class, 4 m ²	2 x Polyester, M-Class, 4 m ²
Ventilator Capacity	800 m ³ /h (11 kW)	52 cfm (11 kW)
Dust Emission with HEPA Filter	< 0.1 mg/Nm ³	< 0.1 mg/Nm ³
Dust Emission without HEPA Filter	< 1.8 mg/Nm ³	< 1.8 mg/Nm ³
ATEX Classification	class II 3/-D T125°C	class II 3/-D T125°C
Electrical Connection	3 x 400V, 50 Hz, earth and neutral, 25A	3 x 480V, 60 Hz, earth and neutral, 25A
Total Power Consumption	3.6 kW	3.6 kW
Minimum Pneumatic Flow Rate	3.0m ³ /min	106 cfm
Cabin Weight	2,400 Kg	5,291 lbs

Additional electrical supplies can be accommodated via an optional internal transformer. Please contact AMT for further details.

FEATURES INCLUDE:

- Depowdering and Surface Blasting in one unit
- Conveyor belt technology



COMPARING THE DEPOWDERING AND SURFACE BLASTING RANGE



	POSTPRO DPX	POSTPRO DP/SB STUDIO	POSTPRO DP/SB	POSTPRO DP/SB PRO	POSTPRO DP/SB MAX	POSTPRO DUO MAX
EXTERNAL DIMENSIONS (WDH)	985x1135x1890 mm	1383x1340x2041 mm	1626x1600x2206 mm	1700x1800x2500 mm	1617x1760x2506 mm	2170x1983x2437 mm
BASKET/BELT CAPACITY	10L / 10kg	10L / 10kg	30L / 30kg	20L / 20kg	50L / 30kg	50L / 30kg
BLASTING NOZZLE QTY	1 x 6mm ø	1 x 8mm ø	2 x 8mm ø	3 x 8mm ø	3 x 8mm ø	3 x 8mm ø
MANUAL BLASTING	Yes, Shared	Yes, Shared	Yes, Shared	Dedicated	Yes, Shared	Yes, Shared
AUTOMATICALLY ADJUSTABLE	✗	✗	✗	✓	✓	✓
STORABLE RECIPES	✓	✗	✗	✓	✓	✓



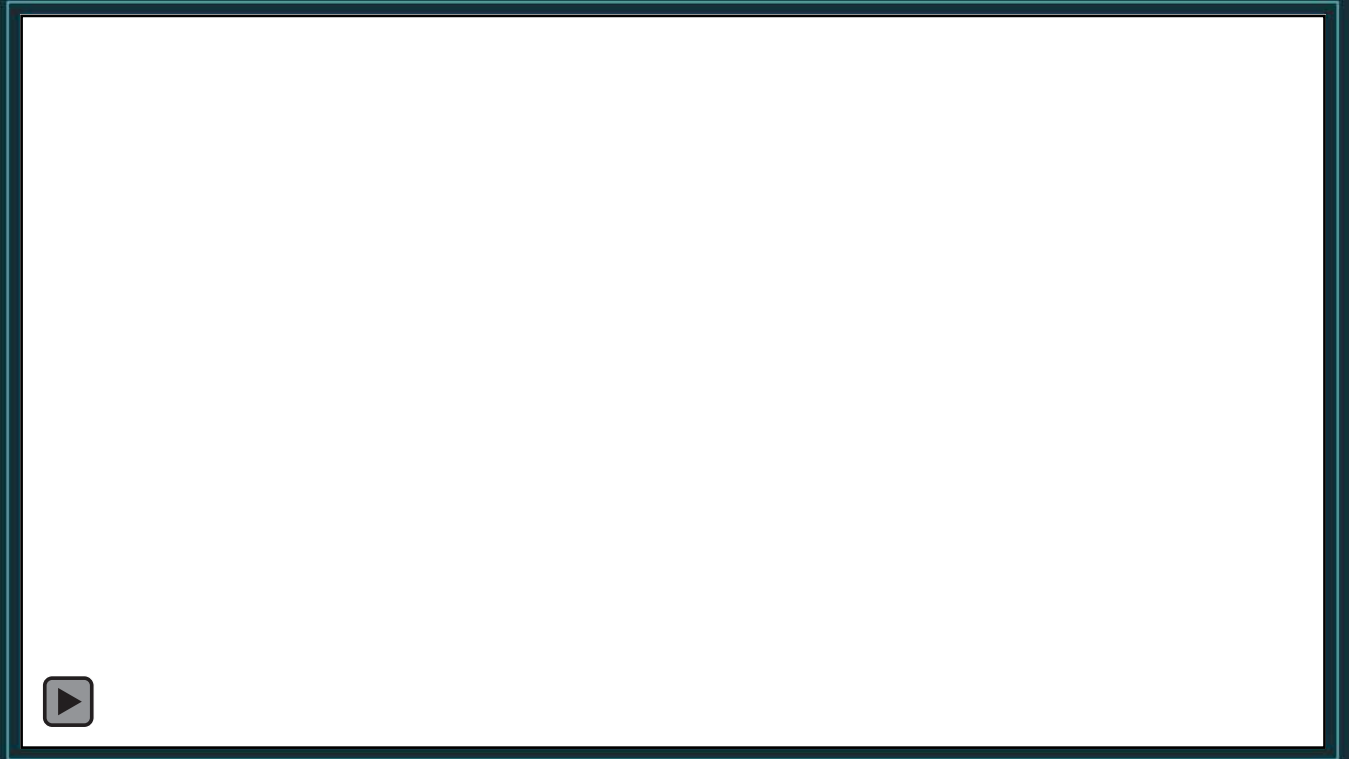
INDUSTRIAL VAPOR SMOOTHING

POSTPRO SF50
POSTPRO SF100



FINISH STRONG: ACHIEVE INJECTION MOLDING-QUALITY WITH VAPOR SMOOTHING

Vapor smoothing is the only technology capable of smoothing and sealing both the surface and internal cavities of 3D printed polymer parts, while simultaneously improving their mechanical properties.



Reduces cost-per-part
& increases throughput



Reliable & repeatable
results from batch to
batch



Seals
surface



Smooths surface /
removes irregularities



Improves mechanical
properties



Improves UV
resistance



Improves scratch
resistance



Enhances aesthetics

SURFACE FINISHING SYSTEMS: CHEMICAL VAPOR SMOOTHING PROCESS EXPLAINED



POSTPRO SF50 + POSTPRO SF100

PostPro SF Series: automated chemical vapor smoothing systems, delivering end-use parts for thermoplastic 3D-prints. Designed for efficiency, it enhances the surface quality and mechanical performance of your parts.

KEY FEATURES INCLUDE:

- **Versatile Compatibility:** Compatible with over 100 thermoplastics, including rigid plastics and elastomers. All of our available consumables can be used.
- **Optimized Design:** Compact footprint, ergonomic front-loading chamber, and optional stabilizers for easy transport and installation.
- **Scalable for Production:** The SF50 is ideal for flexible workshops, while the SF100 is built for high-volume industrial manufacturing.
- **Industry 4.0 Ready:** RFID-controlled access, HD touchscreen, and built-in connectivity for seamless MES/ERP integration.

TECHNICAL SPECIFICATION

Description	POSTPRO SF50		POSTPRO SF100	
	EU	US	EU	US
External Dimensions (WDH)	830 x 1400 x 1830 mm	33 x 55.5 x 72 in	830 x 1400 x 1830 mm	33 x 55.5 x 72 in
Weight	800 Kg	1,765 lbs	850 Kg	1,875 lbs
Recommended Operating Area	2,350 x 3,200 mm	92.5 x 126 in	2,350 x 3,200 mm	92.5 x 126 in
Capacity				
Process Chamber Dimensions (WDH)	400 x 300 x 400 mm	15.7 x 11.8 x 15.7 in	400 x 600 x 400 mm	15.7 x 23.6 x 15.7 in
Process Chamber Volume	48 Litres	48 Litres	96 Litres	96 Litres
Consumable Canister Volume	10 Litres	10 Litres	10 Litres	10 Litres
Power				
Three Phase	300 - 400V, 50/60Hz, [L1+L2+L3+N+PE]	3 x 480V, 30A, 50/60Hz, [L1+L2+L3+PE]	300 - 400V, 50/60Hz, [L1+L2+L3+N+PE]	3 x 480V, 30A, 50/60Hz, [L1+L2+L3+PE]

Additional electrical supplies can be accommodated via an optional internal transformer. Please contact AMT for further details.





THE DIGITAL MANUFACTURING SYSTEM – POSTPRO AUTOMATION

PostPro DMS for customized projects





Technical Specifications

THE FUTURE IS AUTOMATED

MAXIMIZE YOUR THROUGHPUT!



KEY FEATURES INCLUDE:

24/7 UNATTENDED PRODUCTION: The DMS is engineered for continuous operation, allowing chemical vapor smoothing processes to run unattended overnight.

SMART TRAY MONITORING: Equipped with automatic tray recognition, the system selects the appropriate processing recipe for each batch, ensuring consistent and accurate results.

SEAMLESS INTEGRATION: The design of the DMS allows for easy integration with existing PostPro SF100 systems.



CONSUMABLES

FA326



FA326 is a high-performance consumable designed for polymer finishing, delivering smooth, sealed surfaces with enhanced mechanical properties. Ideal for industrial applications requiring durability and precision.

COMPATIBLE PRINTING TECHNOLOGIES:

Power Bed Fusion: SLS, MJF, SAF

Extrusion: FFF, FDM

COMPATIBLE MATERIALS:

Rigid Plastics: PA6, PA11, PA12, ABS, PC, PBT, ASA, PET

Elastomers: TPU, TPE

Composites: Glass/Carbon/Mineral-filled



CONSUMABLES

FA5802/PURE



Also known as PostPro PURE, this solvent is our green chemistry solution, ensuring safe, non-hazardous, and sustainable chemical vapor smoothing for a broad range of 3D printing materials.

COMPATIBLE PRINTING TECHNOLOGIES:

Power Bed Fusion: SLS, MJF, SAF

Extrusion: FFF, FDM (ULTEM*)

COMPATIBLE MATERIALS:

Rigid plastics: PA 6, PA 11, PA 12 & ULTEM (FDM*)

Elastomers: TPU

Composites: Glass/Carbon/Mineral-filled

CNC machined plastics: PC, PEI, PMMA

CONSUMABLES

FA9202



FA9202 is a specialized, non-hazardous solvent developed to achieve unparalleled surface finishing and sealing for polypropylene. This solvent is compatible with a range of polypropylene grades, unlocking a variety of applications in automotive, aerospace, medical, and consumer industries.

COMPATIBLE PRINTING TECHNOLOGIES:

Power Bed Fusion: SLS, MJF

COMPATIBLE MATERIALS:

Polypropylene

COMPARISON



Printing Technology + Material	FA326	FA5802	FA9202
MJF PA 12	✓	✓	✗
MJF PA 12 Filled	✓	✓	✗
MJF PA 11	✓	✓	✗
MJF Forward AM TPU	✓	✓	✗
MJF Lubrizol TPU	✗	✓	✗
MJF Polypropylene	✗	✗	✓
SLS PA 12	✓	✓	✗
SLS PA 12 Filled	✓	✓	✗
SLS PA 11	✓	✓	✗
SLS Polypropylene	✗	✗	✓
FDM ABS, PC, PBT, ASA, PET	✓	✗	✗
FDM Ultem	✗	✓	✗
CNC machined plastics (PC, PEI, PMMA)	✗	✓	✗

* More compatible materials can be found in our compatible material documents.



STANDARDS & QUALIFICATIONS TRACKER

Our vapor smoothing systems use proprietary, environmentally friendly solvents that meet all major health, safety, and compatibility standards. See the table for a breakdown of the main health & safety certifications.

AMT is providing this information to assist customers. It is the responsibility of each customer to determine that its particular use of AMT's post-processing is safe and technically suitable to the customer's intended applications and consistent with the relevant regulatory requirements applicable to the customer's final product. The only warranties for AMT products and services are set forth in the express warranty statements accompanying such specific products and services. Nothing herein should be construed as constituting an additional warranty. AMT shall not be liable for technical or editorial errors or omissions contained herein.

Verified by Dr. Konstantin Rybalchenko
Global Head of R&D at AMT

CONSUMABLE	PRINT TECHNOLOGY	MATERIAL	TEST TYPE	INDUSTRY	TEST STANDARD
FA326	MJF	HP HR PA 11	Cytotoxicity	Medical	ISO 10993-12 (2021)
	MJF	HP HR PA 11	Skins sensitisation	Medical	ISO 10993-12 (2021), ISO 10993-10, ISO 10993-1
	MJF	HP HR PA 11	Bacterial Mutation	Medical	ISO 10993-1, ISO 10993-12 (2021), ISO 10993-3, ISO 10993-33, ISO 10993-18
	MJF	HP HR PA 11	Intradermal Reactivity	Medical	ISO 10993-10, ISO 10993-1
	MJF	HP HR PA 11	Cytotoxicity	Medical	ISO 10993-12 (2021), ISO 10993-5
	MJF	HP HR PA 11	Hemolysis	Medical	ISO 10993, ASTM F756
	MJF	HP HR PA 12	Cytotoxicity	Medical	ISO 10993-12 (2021), ISO 10993-5, ISO 10993-1
	MJF	HP HR PA 12	Skin Irritation	Medical	ISO 10993-1, ISO 10993-23 (2021), ISO 10993-12 (2021)
	MJF	HP HR PA 12	Antibacterial	Medical	ISO 22196:2011
	MJF	HP HR PA 12	Aquatic toxicity	Environmental/Regulatory	ISO 11348-3
	MJF	HP HR PA 12	Flammability	Automotive	FMVSS 302 flammability
	MJF	Forward AM Ultrasint® TPU 88A	Cytotoxicity	Medical	ISO 10993-5, ISO 10993-12:2021
	SLS	EOS PA 2200	Cytotoxicity	Medical	ISO 10993-5, ISO 10993-1, ISO 10993-12:2021
	SLS	EOS PA 2200	Skin Irritation	Medical	ISO 10993-10, ISO 10993-1, OECD TG 439
	SLS	EOS PA 2200	Food Contact	Food	EC 10/2011
FA5802	MJF	HP HR PA 12	Cytotoxicity	Medical	ISO 10993-5, ISO 10993-1, ISO 10993-12 (2021)
	MJF	HP HR PA 12	Flammability	Automotive	FMVSS 302 flammability
	MJF	HP HR PA 12 W	Cytotoxicity	Medical	ISO 10993-5, ISO 10993-1, ISO 10993-12:2021
	MJF	Lubrizol TPU M95	Cytotoxicity	Medical	ISO 10993-5, ISO 10993-1, ISO 10993-12 (2021)
	SLS	EOS PA 2200	Cytotoxicity	Medical	ISO 10993-5, ISO 10993-1, ISO 10993-12:2021
	SLS	EOS PA 2200	Food Contact	Food	EC 10/2011
	SLS	EOS PA 2200	Skin Irritation	Medical	ISO 10993-1, ISO 10993-23 (2021), ISO 10993-12:2021
FA9202	MJF	HP 3D High Reusability PP	Cytotoxicity	Medical	ISO 10993-5, ISO 10993-1, ISO 10993-12 (2021)
	SLS	Ricoh PP	Cytotoxicity	Medical	ISO 10993-5, ISO 10993-1, ISO 10993-12 (2021)



ABILITYMADE

MEDICAL

ENHANCING DURABILITY OF 3D PRINTED ANKLE-FOOT ORTHOTICS (AFOs) THROUGH VAPOR SMOOTHING WITH AMT POSTPRO

BACKGROUND:

AFOs are essential for mobility support, requiring high durability and integrity to withstand sudden impacts in daily use, such as trips or falls. This study evaluates the impact resistance of as-printed vs. vapor-smoothed AFOs, produced using HP MJF 580 3D printing.

MATERIALS & METHODS:

Two types of AFOs (Supramalleolar & Resting Orthosis) were 3D printed (12 samples in total). Half remained as-printed; the rest were vapor smoothed using AMT PostPro SF100. Impact resistance was tested by increasing force until failure and the AFOs showed signs of cracking.

RESULTS:

The study revealed a significant improvement in the durability of vapor smoothed versus as-printed AFOs:

- Vapor Smoothed AFOs: Demonstrated enhanced resistance to impact, withstanding greater forces before cracking. The average force required to induce failure was 60-80% higher compared to unpolished samples.
- Unpolished AFOs: Showed lower resistance to impact, cracking at around 5 J. It was also noted that unpolished AFO's showed significantly more damage i.e. the crack length after impact was larger vs the vapour smoothed counterparts.

CONCLUSION:

Vapor smoothing is a critical post-processing step for 3D printed AFO's in the orthotics and prosthetics market. By employing AMT PostPro technology, manufacturers can significantly enhance AFO durability, improving patient outcomes and extending product lifespan.



DANISH TECHNOLOGICAL INSTITUTE // MAREL

FOOD INDUSTRY

MAREL SALMON SIDE GRIPPER – CREATING SEALED AND STERILIZABLE SURFACES WITH AMT POSTPRO VAPOR SMOOTHING

BACKGROUND:

Marel, a leader in manufacturing food processing equipment, partnered with the Danish Technological Institute (DTI) to develop a 3D printed gripper for handling whole salmon sides (40-50 cm). After prototype testing and minor design refinements, the final gripper was ready for production.

MATERIAL & DESIGN:

Printed in metal-detectable nylon for traceability, the gripper is optimized for food safety with no joints in contact areas and smooth, rounded surfaces. Vapor smoothing further enhances cleanliness and hygiene.

BENEFITS OF VAPOR SMOOTHING:

Vapor smoothing plays a crucial role in enhancing the functionality and hygiene of the 3D-printed gripper. Below are the detailed benefits of vapor smoothing for this application:

- Enhanced Hygiene & Cleanability: Sealed, smooth surfaces reduce bacteria buildup and improve sanitation.
- Improved Durability & Impact Strength: Reduces stress concentrations, increasing reliability and durability of the part.
- Traceability & Safety: Metal-detectable nylon ensures broken pieces can be identified; vapor smoothing enhances visibility for inspections

CONCLUSION:

The implementation of vapor smoothing on the 3D-printed metal-detectable nylon gripper has significantly benefited Marel. This process improves the gripper's hygiene, durability, and safety, offering a cost-effective manufacturing solution through 3D printing.



FINGERPRINT CYCLING

CONSUMER

FULLY CUSTOMIZED BICYCLE SADDLE BY FINGERPRINT CYCLING

BACKGROUND:

Cyclists often struggle with discomfort due to ill-fitting saddles. Fingerprint Cycling, in partnership with Elkamet, developed a fully customized 3D-printed saddle tailored to each rider's anatomy and style, using PA11 and SLS printing technology.

CHALLENGE:

While 3D printing enabled customization, the as-printed saddles faced challenges related to their durability, hygiene, and aesthetics. The rough, porous surface was difficult to clean, collected dirt, and lacked visual appeal.

BENEFITS OF VAPOR SMOOTHING:

PostPro Vapor Smoothing resolved these issues by:

- Sealing the surface for easy cleaning and dirt resistance.
- Enhancing aesthetics & feel for a premium look and comfort.
- Ensuring durability & consistency while reducing post-processing time.

CONCLUSION:

The collaboration between Fingerprint Cycling, Elkamet and AMT PostPro has resulted in a groundbreaking product for the cycling and sports community. By combining 3D printing with vapor smoothing surface finishing, this fully customized bicycle seat sets a new standard in performance, comfort, and design for sports tech applications.



NORDEN MACHINERY

INDUSTRIAL

NORDEN MACHINERY'S PICK & PLACE FORMAT PART UNLOCKED BETTER PERFORMANCE WITH VAPOR SMOOTHING

BACKGROUND:

Designed and manufactured by Norden Machinery, the Pick & Place format part transfers vacuum through internal channels for precise tube handling. The original design required multiple components and complex geometries, resulting in long lead times and higher production costs. 3D printing these parts with PA12 and using MJF technology, streamlined the design into a single, lightweight part.

BENEFITS OF VAPOR SMOOTHING:

Traditional manufacturing required multiple components and long lead times. 3D printing streamlined the design into a single, lightweight part, eliminating extra machining and cutting costs. Vapor smoothing delivered:

- Improved cleanability: Sealed surfaces prevent contamination.
- FDA compliance: PostPro PURE ensures safety for production environments.
- Reduced friction: The refined, smooth surface reduces friction and provides a professional finish.

CONCLUSION:

By integrating AMT's vapor smoothing into their 3D printing workflow, Norden Machinery enhanced their Pick & Place format part. This innovation in their workflow simplifies production, improves part quality, and sets a new benchmark for performance in production machinery.



ABCONCEPT

AUTOMOTIVE

3D-PRINTED AND VAPOR SMOOTHED RALLY CAR PARTS PROVE THEIR STRENGTH OVER 2,450 KM –ABCONCEPT MADE IT POSSIBLE

BACKGROUND:

ABConcept developed 100+ high-performance 3D-printed parts for the Zephyr rally car, enabling durability, precision, and reliability over 2,468 km in the Rallye du Maroc. With three years of experience in AM for rally vehicles, ABConcept has produced over 1,000 parts for more than 50 vehicles, including Dakar 2025 contenders.

BENEFITS OF VAPOR SMOOTHING:

Rally racing demands components that withstand extreme stress, vibrations, and temperature shifts. MJF 3D printing and PostPro Vapor Smoothing enabled:

- Increased durability: Sealed surfaces enhance mechanical strength and resistance to wear.
- Aerodynamic optimization: Smooth surfaces reduce drag for better performance.
- Reliable performance: Ensures parts endure intense rally conditions, such as intense stress and temperature fluctuations.

CONCLUSION:

By integrating 3D printing with vapor smoothing, ABConcept optimized the Zephyr with lightweight, high-performance parts—proving that AM and post-processing can withstand the extreme demands of motorsport.



TRY POSTPRO: FREE BENCHMARKING

The best way to understand the full potential of PostPro technologies is to try it out with your own printed parts.

Send us your 3D printed parts for complimentary benchmarking.



MORE INFORMATION

Discover the superior finish and enhanced properties our vapor smoothing technology brings to your parts. Our benchmarking process allows you to directly compare the before-and-after results, ensuring our technology meets your expectations.



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MORE INFORMATION





ADDITIVE MANUFACTURING TECHNOLOGIES

THANK YOU!

