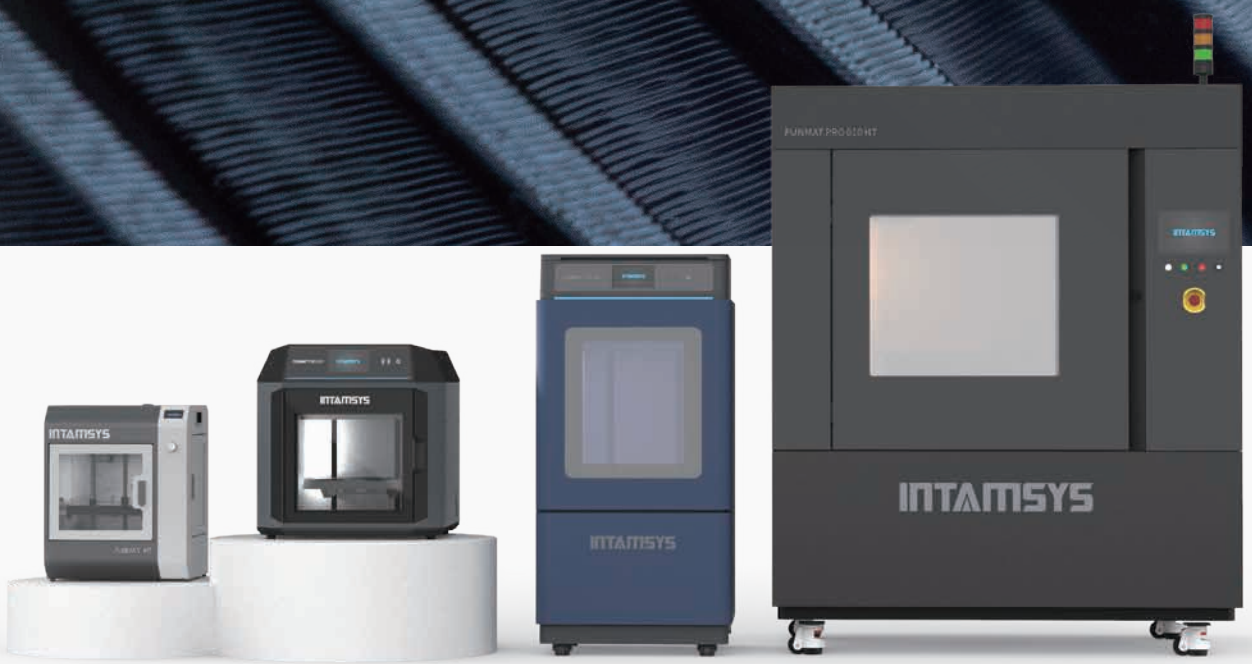
INTAMSYS

Industrial 3D Printers

High Performance Production Solutions



FUNMAT PRO 610HT

Large Scale• High Temperature •Industrial Production

Printing Capability

Ideal for printing High Performance Polymers like PEI, PEEK, PEEK-CF, PEEK-GF, PEKK, PPSU and many others.

Large Scale Production

Filament auto-reloading function and a build volume of 610 x 508 x 508 mm.

Advanced Thermal Design

Uniform 300 °C (572 °F) heated chamber, avoid warping and cracking.

High Precision & High Quality

Advanced servo control system with high precision screw guide.

INTAMSYS has paved the way with their breakthrough FUNMAT PRO 610HT. Equipped to effectively handle the tough requirements needed to print with high-performance thermoplastics, this machine unlocks industrial-grade, high-quality additive manufacturing capabilities. The FUNMAT PRO 610HT is capable of handling almost every high-performance thermoplastic material available on the market. It comes with a dual extruder that can reach 500 °C and a heated chamber of 300 °C for premium repeatability with your part designs. This is INTAMSYS's biggest printer yet, this is a larger solution, boasting a build volume of 610 x 508 x 508 mm. The FUNMAT PRO 610HT has found its home in many settings including automotive, aerospace, oil & gas, and more.

Technical Parameters

Printing

Technology	FFF (Fused Filament Fabrication)
Build Volume	610 x 508 x 508 mm (24 x 20 x 20 in)
Layer Thickness	0.1-0.5 mm
Number of Nozzles	2
Number of Spools	4 (Max 3 Kg/pc)
Filament Diameter	1.75 mm
Print Speed	Max. 160 mm/s
Nozzle Diameter	Default: 0.4 mm (Optional: 0.6/0.8 mm)
Leveling	Auto Leveling
Materials*	PEI (ULTEM™) 9085, PEI (ULTEM™) 1010, PEEK, PEEK-CF, PEEK-GF, PEKK, PPSU, PPS, PC, PC-ABS, PPA-CF, PPA-GF, PA6/66, PA6-CF, PA12, PA12-CF, ABS+, ABS, ASA, etc.
Nozzle Temperature	Max. 500 °C (932 °F)
Chamber Temperature	Max. 300 °C (572 °F)
Filament Chamber	Max. 50 °C (122 °F)
Functions	Auto-cleaning Nozzles, Filament Auto-reloading, Filament Jam Warning, Filament Absence Warning, Remote Control, Remote Printing

Machine

Voltage	3P 380 V 30 A/phase, 50 ～ 60Hz or 3P 200 V 50 A/phase, 50 ～ 60Hz
Max. Power	15 kW
Connectivity	WiFi, Ethernet, USB
Screen	10"Touch Screen
Build Plate	Flexible Buildplates with Vacuum Adsorption System
Build Chamber	Fully Enclosed Printing Chamber
Motor System	Servo Control System With High Precision Ball Screw
Cooling	Liquid Cooling System & Fan
Filament Chamber	4 Independent Sealed Chambers, With Active Heating And Dry Compressed Air (External Air Compressor Is Required), Keep Filament Dry During Printing, Auto Filament Feeding
Travel Speed	Max. XY 400 mm/s, Max. Z 50 mm/s
Resolution	XY : 12.5 μm; Z: 1.25 μm
Printer Size	With Warning Lights: 1710 x 1425 x 2350 mm (67.3 x 56.1 x 92.5 in)
Printer Weight	1450 Kg (3086 lb)

Safety

Safety Design	Independent Safety PLC, Electromagnetic Safety Door Lock, Over-temperature Protection, Overload Protection, Emergency Stop Button, Double-layer Thickened Heat-insulated Front Door, Heat-resistant Shield, Three-color Warning Light.
Safety Standards	EN60204
Certification	CE, FCC, SGS

Slicing

Slicing Software	INTAMSUITE™
Supported File Types	.stl/.obj/.x3d/.3mf/.stp/.iges
Operating System	Windows

Operating Environment

Working Temperature	15 °C ～ 30 °C (59 °F ～ 86 °F)
Working Humidity	30 ～ 70 %
Storage Temperature	-10 °C ～ 54 °C (14 °F ～ 129.2 °F)
Storage Humidity	10 ～ 85 %

*Printing materials are not limited to this table, recommended printing materials are fully validated on the printer.

te 3D Printer

ed Thermal Design

heated chamber and
) nozzle, uniform
liquid cooling system.

ment Chamber

g design, built-in molecular sieve,
ment dry for over 30 days.

The FUNMAT PRO 410 is an industrial-grade FFF (Fused Filament Fabrication) 3D printer system characterized by its high-performance capabilities. Combining a respectable build volume with excellent print quality, the system is a great choice for professional and industrial users looking to 3D print high-performance parts with engineering-grade materials.

Technical Parameters

Printing

Technology	FFF (Fused Filament Fabrication)
Build Volume	305 x 305 x 406 mm (12 x 12 x 16 in)
Layer Thickness	0.1-0.5 mm
Number of Nozzles	2
Number of Spools	2 (Max 3 Kg/pc)
Filament Diameter	1.75 mm
Print Speed	Max. 120 mm/s
Nozzle Diameter	Default: 0.4 mm (Optional: 0.25/0.6 mm)
Leveling	Auto Leveling, Manual Leveling
Materials*	PEEK, PEEK-CF, PEEK-GF, PEKK, PPS, PC, PC-ABS, PPA-CF, PPA-GF, PA6/66, PA6-CF, PA12, PA12-CF, ABS, ASA, HIPS, PVA, Carbon Fiber-filled, Glass Fiber-filled, etc.
Nozzle Temperature	Max. 500 °C (932 °F)
Build Plate Temperature	Max. 160 °C (320 °F)
Chamber Temperature	Max. 90 °C (194 °F)
Functions	Auto-cleaning Nozzles, Filament Jam Warning, Filament Absence Warning

Machine

Voltage	200-240 V, 15 A, 50/60Hz
Max. Power	3 kW
Connectivity	WiFi, Ethernet, USB
Screen	7" Touch Screen
Build Plate	Ceramics Glass Plate with Magnetic Fixations
Build Chamber	Fully Enclosed Printing Chamber
Motor System	High-precision Closed-loop Drive
Cooling	Liquid Cooling System & Fan
Filament Chamber	Overall Sealed Design, Built-in Reusable Molecular Sieve To Keep Dry, Temp. And Humidity Real-time Monitoring, Auto Filament Feeding
Travel Speed	Max. XY 300 mm/s, Max. Z 50 mm/s
Resolution	XY: 15.6 μm; Z: 1.56 μm
Printer Size	728 x 684 x 1480 mm (35.0 x 34.6 x 66.5 in)
Printer Weight	230 Kg (507 lb)

Safety

Safety Design	Electromagnetic Safety Door Lock, Over Temperature Protection, Overload Protection, Leakage Protection, Warning Labels
Safety Standards	EN60204
Certification	CE, FCC, SGS

Slicing

Slicing Software	INTAMSUITE™
Supported File Types	.stl/.obj/.x3d/.3mf/.stp/.iges
Operating System	Windows

Operating Environment

Working Temperature	15 °C ～ 30 °C (59 °F ～ 86 °F)
Working Humidity	30 ～ 70 %
Storage Temperature	0 °C ～ 35 °C (32 °F ～ 95 °F)
Storage Humidity	20 ～ 90 %

*Printing materials are not limited to this table, recommended printing materials are fully validated on the printer.

FUNMAT PRO 310 NEO

Industrial High-Speed 3D Printer

100°C

Industrial Performance

100 °C thermostatic chamber design, full-size printing capacity of engineering plastics.

High-Speed Printing

With 8 types of material process packages for high-speed printing, the production capacity reaches 500g to 1000g per day.

High Versatility

Print a wide range of materials such as engineering materials, flexible materials and high performance materials such as PPS.

Intelligent Auto-Leveling

Enjoy effortless setup and printing with auto mesh leveling and Z-axis calibration. Precise and efficient.

The FUNMAT PRO 310 NEO empowers engineers and designers with industrial-grade performance and reliability, taking user experience to the next level. Its 100°C heated chamber, combined with a spacious 305 x 260 x 260 mm build volume, enables the full-size printing of larger models with no compromise.

New self-developed high-speed architecture ensures the superior surface finish and high dimensional precision, significantly enhances production efficiency.

Technical Parameters

Printing

Technology	FFF (Fused Filament Fabrication)	Leveling	Mesh Leveling（Max.100 Points）
Build Volume	Single nozzle: 305 x 260 x 260 mm; Dual nozzle: 260 x 260 x 260 mm	Filament Diameter	1.75 mm
		Materials*	PC, ABS-HS, PPA-CF/GF, PA, PPS and various fiber materials, support materials
Layer Thickness	0.1 - 0.3 mm		
Number of nozzles	2 (IDEX)		
Nozzle Temperature	Max. 350 °C	Functions	Filament Runout Warning, Remote Control, Remote Printing, Online Update
Printing Speed	Max. 500 mm/s		
Printing Acceleration	Max. 10000 mm/s^2		
Chamber Temperature	Max. 100 °C		
Platform Temperature	Max. 160 °C		

Machine

Voltage	200 – 240 V/7 A. 50/60 Hz	Filament Box	Overall sealed box, Built-in Reusable Molecular Sieve To Keep Dry, Temp. and Humidity Real-time Monitoring,Standalone
Max. Power	1500 W		
Connectivity	WiFi, Ethernet, USB		
Screen	7-inch Touch Screen		
Build Plate	Magnetic Flexible Buildplate	Number of Spools	2（Max. 1 Kg/pcs）
Build Chamber	Fully Enclosed Printing Chamber	Resolution	XY：16 μm；Z：1.25 μm
Cooling	Fan	Filtering System	HEPA +Activated Carbon, Replaceable
Nozzle Maintenance	Quick Release Design, Easy Installation And Disassembly	Overall Dimensions	700 x 655 x 700 mm

Safety

Safety Design Safety Door Lock, Over Temperature Protection, Overload Protection, Warning Labels

Slicing

Slicing Software INTAMSUITE NEO
Supported File Types .stl/.obj/.x3d/.3mf/.stp/.iges
Operating System Windows

Operating Environment

Working Temperature 0°C ～ 30°C（32°F ～ 86°F）
Working Humidity 20 % ～ 70 %
Storage Temperature -20°C ～ 55°C（-4°F ～ 131°F）
Storage Humidity 10 % ～ 90 %

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INTAM™ Box

Keep Your Materials Dried Longer

Independent and sealed

Molecular sieve desiccant

Anti-tangle design

Temp. and humidity monitoring

Technical Paramenters

Number of filament spools	2 x 1 Kg
Spool size	Diameter 200 ± 4 mm, width 40 - 70 mm
Drying time	⩽ 10% RH for 20 days
Environment temperature	-10 °C ～ 60 °C (14 °F ～ 140 °F)
Desiccant	4A molecular sieve, 900 g
Regeneration of desiccant	Dry at 200 °C (392 °F) for 2 hours
Product size	315 x 205 x 257 mm (12.4 x 8.1 x 10.1 in)
Product weight	2.45 Kg (5.4lb)

Reusable Drying Unit

INTAM™ Cabinet

Meeting the Needs of Engineers for Convenient Work

Measurement

735 x 668 x 648 mm
28.9 x 26.3 x 25.5 in

Wheels for easy movement

Folding side table

Accessories drawer

Filaments storage drawer

Accessories Drawer Overview

1. High temperature resistance glove x 1
2. Copper brush x 1
3. Allen key with handle x 4
4. Allen key set x 1
5. Spatula x 1
6. Needle-nose plier x 1
7. Cutting plier x 1
8. PVP glue x 2 (additional purchase required)
9. Flash drive x 1
10. Leveling card x 1
11. Printhead x 1 (additional purchase required)
12. Nozzle x 6 (additional purchase required)
13. Tweezer x 1

The INTAM™ Cabinet is a customized accessory for the FUNMAT PRO 310

FUNMAT HT

Desktop High-performance 3D Printer

Multi-material printing capability

Can print high-performance materials such as PEEK, PEEK-CF, PEEK-GF, PEKK and other materials such as PA-CF, PA, PC, ABS.

Maximized build volume ratio

Build volume can be up to 260 x 260 x 260 mm.

Advanced Thermal Design

90 °C (194 °F) heated chamber,
160 °C (320 °F) build plate and 450 °C (842 °F) nozzle.

Intelligent Design

Auto-leveling, filament runout warning, remote video monitoring.

The advanced design of the FUNMAT HT makes it easy to adapt to lab and workshop environments. It offers a print size up to 260 x 260 x 260 mm with excellent part performance. With the FUNMAT HT you can print common engineering filaments as well as high-performance filaments such as PEEK, PEEK-CF, PEEK-GF, PEKK, and third-party materials.

Technical Parameters

Printing

Technology	FFF (Fused Filament Fabrication)	**Leveling**	Auto Leveling, Manual Leveling
Build Volume	260 x 260 x 260 mm (10.2 x10.2 x 10.2 in)	**Materials***	PEEK, PEEK-CF, PEEK-GF, PEKK, PPS, PC, PC-ABS, PA6/66, PA6-CF, PA12, PA12-CF, ABS, ASA, HIPS, PVA, Carbon Fiber-Filled, Glass Fiber-Filled, ESD-safe, etc.
Layer Thickness	0.1-0.5 mm		
Number of Nozzles	1		
Number of Spools	1 (Max 1 Kg/pc)		
Filament Diameter	1.75 mm	**Nozzle Temperature**	Max. 450 °C (842 °F)
Print Speed	Max. 120 mm/s	**Build Plate Temperature**	Max. 160 °C (320 °F)
Nozzle Diameter	Default: 0.4 mm (Optional: 0.25/0.6/0.8 mm)	**Chamber Temperature**	Max. 90 °C (194 °F)
		Functions	Filament Runout Warning

Machine

Voltage	100 ～ 132 V/15 A or 200 ～ 240 V/7 A. 50/60 Hz	**Build Chamber**	Fully Enclosed Printing Chamber
		Motor System	High Performance Standalone Driver
Max. Power	1200 W	**Cooling**	Fan
Connectivity	USB, SD Card	**Travel Speed**	Max. XY 200 mm/s
Screen	3.2" Touch Screen	**Resolution**	XY: 15.6 μm; Z: 1.56 μm
Build Plate	Ceramic Glass Plate, with Magnetic Fixations	**Printer Size**	543 x 501 x 645 mm (21.3 x 19.7 x 25.4 in)
		Printer Weight	63 Kg (139 lb)

Safety

Safety Design	Overload Protection, Closed Chamber, Warning Labels
Safety Standards	EN60204
Certification	CE, FCC, SGS

Slicing

Slicing Software	INTAMSUITE™
Supported File Types	.stl/.obj/.x3d/.3mf/.stp/.iges
Operating System	Windows

Operating Environment

Working Temperature	15 °C ～ 32 °C (59 ～ 89.6 °F)
Working Humidity	30 ～ 70 %
Storage Temperature	0 °C ～ 54 °C (32 ～ 129.2 °F)
Storage Humidity	10 ～ 85 %

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3D Printing Material Solutions

Innovative | Professional | High Quality

INTAMSYS, a global leader in the additive manufacturing industry, is focused on customer applications by providing innovative additive manufacturing solutions. The INTAMSYS FUNMAT 3D printer series has been on the market for years, providing customers with the perfect combination of industrial 3D printers and high-performance materials.

Through years of active insight into customer demands, INTAMSYS has accumulated a wealth of knowledge in materials and in printing processes. By developing industrial filament solutions that closely resemble commonly used production materials, the INTAM™ series of high-quality filaments were launched. INTAM™ Filament and the FUNMAT 3D printer series, along with the optimized slicing software INTAMSUITE™ bring customers an unparalled printing experience.

INTAMSYS is committed to providing continued custom material development and third-party material evaluation and certification.

INTAM™ Performance

PEEK
PEEK-CF
PEEK-GF
PEKK
PEI 9085
PEI 1010
PPSU
PPS

INTAM™ Engineering

PC
PC-ABS
PC-PBT
PC-FR
PA6/66
PA6-CF
PA12-CF
PPA-CF
PPA-GF

INTAM™ Basic

ABS
ABS+
ASA
PLA

INTAM™ Support

HIPS
PVA
SP3030
SP3050
SP5000
SP5010
SP5040
SP5080

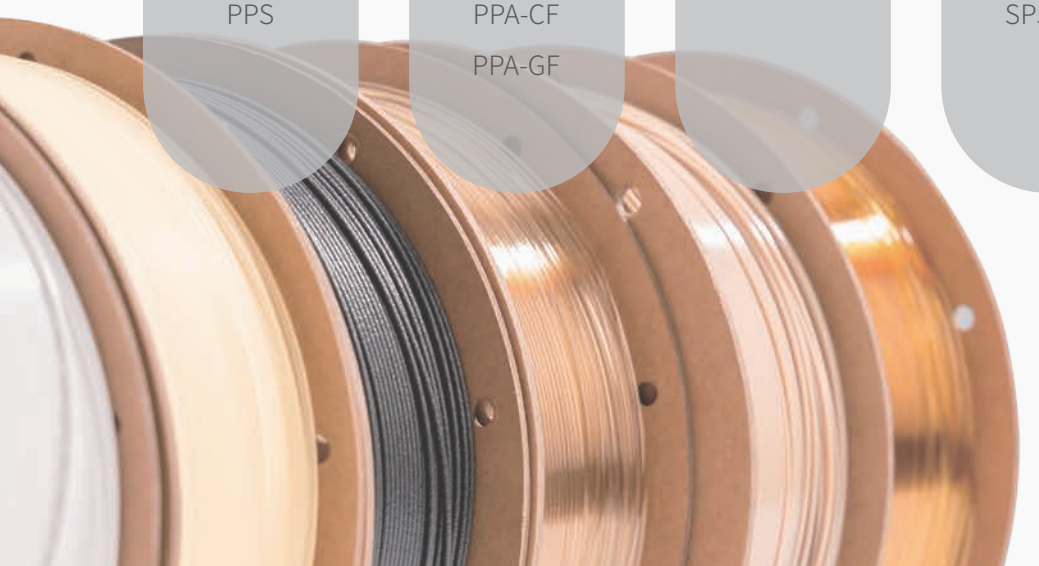
Customer Application Enabling Program

BASF
Ultrafuse® PPSU
Ultrafuse® PC/ABS FR

Victrex
VICTREX AM™ 200 FIL
VICTREX AM™ 450 FIL

Wanhua
PA12

Kimya
ABS-ESD



INTAM™ Performance

High-performance materials suitable for various demanding environments

PEEK Semi-crystalline polymer, high strength, good chemical resistance, long-term use temperature of 260 °C (500 °F). It meets ISO10993-5,ISO10993-10 and has a UL94 V0 grade fire resistance. Widely used in aerospace, automotive, oil and gas, energy, medical, dental and scientific research industries.

PEEK-CF Carbon fiber reinforced PEEK, high dimensional stability and weight-to-strength ratio, HDT/A 315 °C (599 °F) allows short term usage at even higher temperatures.
Commonly used for extreme environments such as aerospace & oil and gas industries.

PEEK-GF Glass fiber reinforced PEEK, high dimensional stability and electrical insulation. HDT/A 315 °C (599 °F) allows short term usage at even higher temperatures.
Commonly used in extreme environments such as aerospace & oil and gas industries.

PEKK High strength, good wear and chemical resistance, high dimensional stability.
Able to withstand hot and humid environments.

PEI 9085 Made with ULTEM™ 9085 resin which complies with FAR 25.853 and OSU 65/65 standards with low flame, smoke and toxicity rating (FST).
Ideal for aerospace and military applications, this includes aviation and railway as well.

PEI 1010 High temperature resistance, high strength and rigidity, strong flame retardancy.
Suitable for aerospace, automotive, medical and other industries.

PPSU Excellent heat resistance, corrosion resistance, electrical insulation and hydrolysis resistance.
Widely used in electronic and electrical equipment manufacturing as well as tooling for the medical industry.

PPS Excellent heat resistance and corrosion resistance, good flame retardancy and mechanical properties.
Used in electronics, automobiles, machinery and other fields.

INTAM™ Basic

Economical and easy-to-print basic materials

ABS Durable, high temperature resistance, good toughness.
Suitable for automobiles, consumer goods, etc.

ABS+ Featured ABS with access to water soluble support material.

ASA Excellent UV and weather resistance.
Suitable for outdoor applications such as agriculture and construction.

PLA Bio-based polymer material, environmentally friendly and degradable, easy to print, economical and practical.
Suitable for a variety of prototypes.

INTAM™ Engineering

Selective, economical and practical engineering materials

PC	High strength, excellent durability, and printability. Used for product models, brackets, mechanical parts, etc.
PC-ABS	Good toughness, high temperature resistance and smooth surface finish. Suitable for automotive interiors, lighting equipment, high heat-resistant parts, etc.
PC-PBT	PC-PBT polymer blend, high corrosion resistance, maintains high toughness at low temperatures. Used in auto parts, electronic equipment, etc.
PC-FR	Highly flame-retardant PC material, achieves V0 performance in the UL94 flame-retardant test, high heat resistance and high mechanical strength. Used in industries with high flame retardant requirements.
PA6/66	High mechanical strength and toughness, high temperature, ductility and fatigue resistance. Suitable for industrial parts used in harsh environments.
PA6-CF	Good strength, high rigidity, and matte surface finish. Used as electronic equipment, fixtures, auto parts, etc.
PA12-CF	High strength and rigidity, low water absorption, good interlayer adhesion and high dimensional stability. Used in automotive and aviation industries, as well as mechanical assemblies and other products.
PPA-CF/GF	15% chopped fiber reinforced, high temperature nylon has lower moisture absorption, high temperature resistance, and superior wear resistance. Used in jigs and fixture, machine tools, automotive and etc.

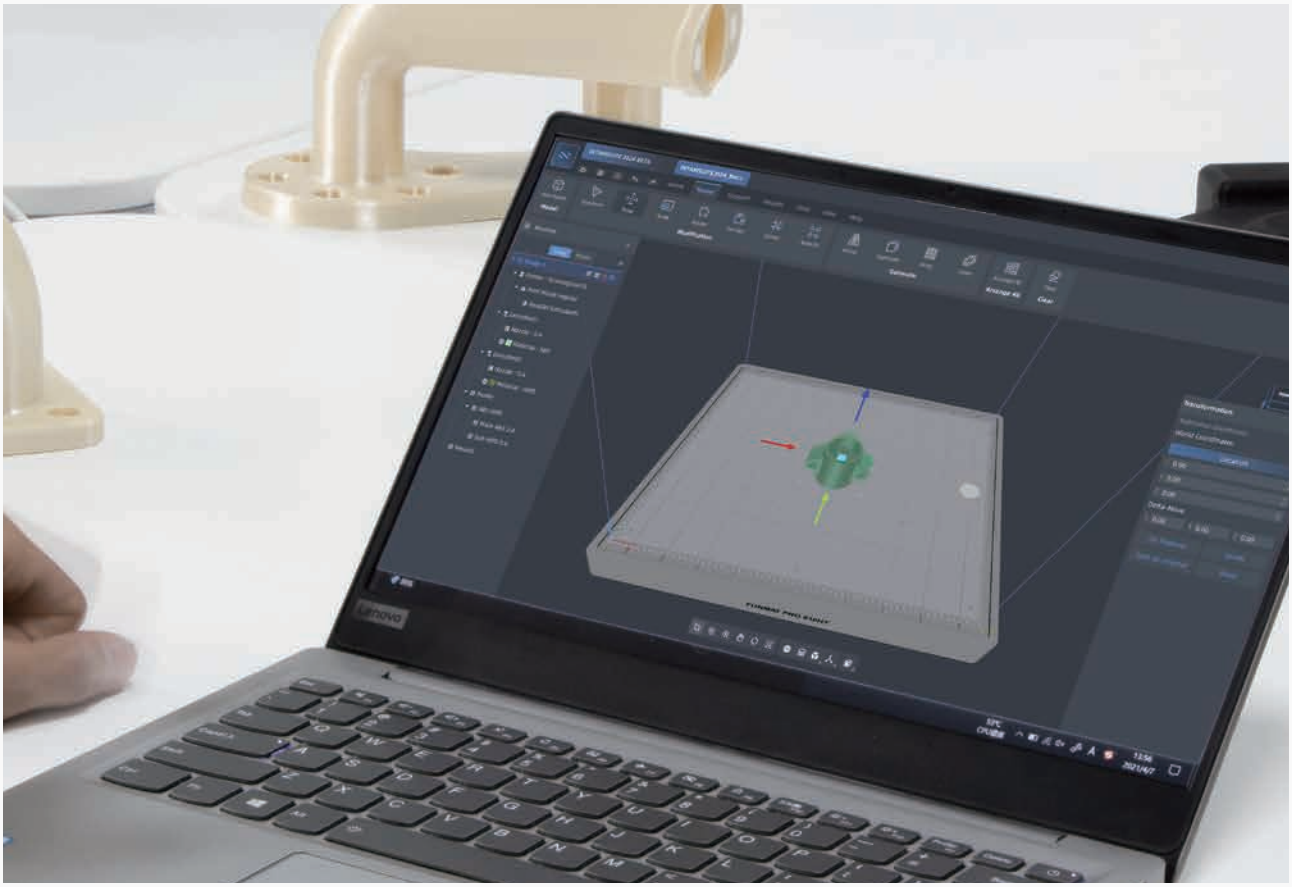
INTAM™ Support

Support materials to help complex structure printing

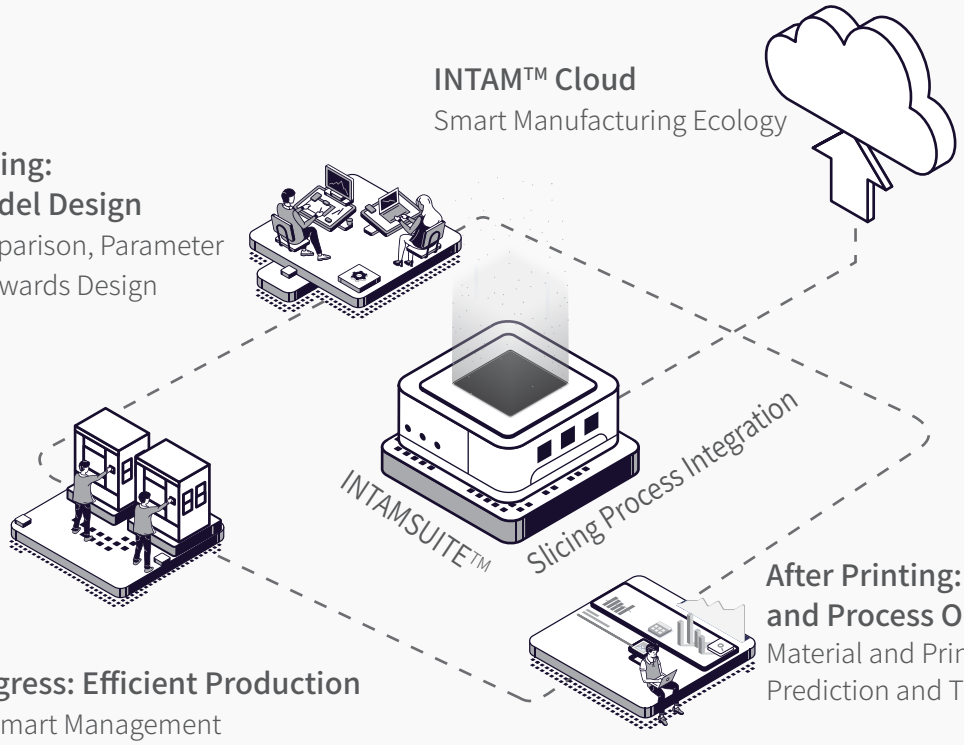
HIPS	Breakaway support material, suitable for ABS, PC, PC-ABS, PC-PBT, PC-FR, ASA and other materials.
PVA	Water-soluble support material, suitable for PLA and other materials.
SP3030	Water-soluble support material for PA6/66, PA6-CF, ABS+.
SP3050	Breakaway support material. Suitable for PA12 and PA12-CF.
SP5000	The preferred breakaway support material for PEEK, PEEK-CF, PEEK-GF, PEKK, and PAEK. Easily removed with the aid of solvents.
SP5010	Breakaway support for PPA-CF/GF.
SP5040	Breakaway support material, easy to remove. Suitable for PEI 9085.
SP5080	Breakaway support material. Suitable for PEI 1010.

Slicing Software

INTAMSUITE™ is an all-in-one collaboration platform that combines model design and repair, automated model slicing, online monitoring and print process optimization. It provides the best slicing experience for users of FUNMAT™ series printers. Preparing the print file before printing is a critical step in ensuring quality. INTAMSUITE™ provides a friendly user interface, ensuring that what you see is what you get. Compared to conventional slicing software for 3D printing, INTAMSUITE™ is heavily optimized for material processes, slicing procedures, and system integration. INTAMSUITE™ provides the necessary support for design and manufacturing at all stages, while comprehensively laying out the future intelligent manufacturing ecosystem.



Core Functions



Data compatibility and processing capabilities

Adaptive line width function

Customized support structure

Set printing parameters by model

Extensive library of material processes

Open slicing parameter settings

Preview slice paths in more details

Printing process data reading

Model checking, mesh repair

Industry and Application Solutions

Aerospace

3D printing technology enables metal substitution of some aerospace products for shape verification of prototype, direct product manufacturing and mold making to meet "lighter, faster, lower cost, higher performance" design and manufacturing needs.

Sample name: Cubesat
Solution: Choosing PEEK and PEEK-CF dual-material printing, the satellite case are required to cope with the complex space environment, and has the advantages of high strength, temperature resistance, and radiation resistance. The cost advantage of small batch production of 3D printing is obvious.

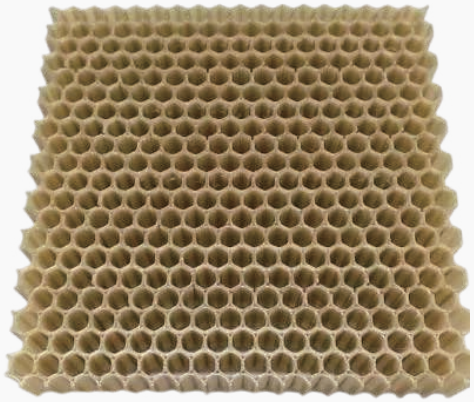
Defense Industry

Based on the characteristics of the military industry which are research and development, single prototypes, small and medium batch, multi-variety and defense production. 3D printing solves the painful problems of high price and low efficiency of traditional processing and rapid production of spare parts druing regular maintenance, bringing high added value to on-demand manufacturing.

Sample Name: Turbine
Solution: This underwater turbine structure is complex, requiring high and low temperature resistance, anti-corrosion, and low water absorption. Still, traditional processing is more difficult. PEEK material can meet the demanding situation, while by 3D printing，users can significantly reduce costs and cycle time.

Education and Research

Additive manufacturing processes, new material researches, cross-disciplinary researches, and cutting-edge application-related disciplines have contributed to the maturing of additive manufacturing. It has also contributed to the training of high-end talents in the manufacturing industry.



Sample Name: Research on wave-absorbing materials and structures
Solution: Prototype testing of different materials (PEEK, PA, etc.) and structures combined with rapid validation and iteration to find materials and structures that meet the needs of the application.

Medical

PEEK material itself has excellent biocompatibility, and mechanical properties very close to bone. It has been widely used in human implantation. The use of 3D printing technology can perfectly match the individual needs of patients and has huge market potential.

Sample name: Sternal bone repair implant
Solution: PEEK is biocompatible for medical implantation. It has a density similar to bone, and can be clearly imaged under X-ray for post-operative observation. 3D printing can be customized and processed on an individual patient basis.

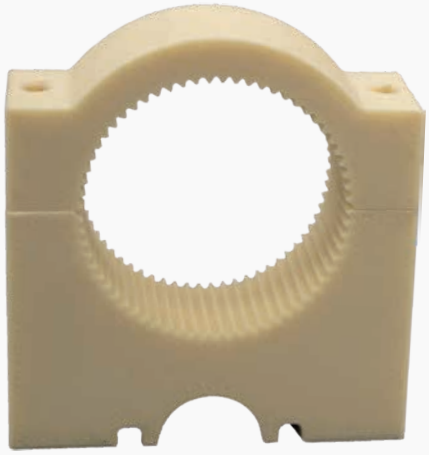
Automotive

3D printing technology is used throughout the entire automotive production cycle. It covers rapid prototyping, functional prototype verification, tooling and other auxiliary tools such as customized modifications and production of spare parts for small batch models.

Sample name: Steering wheel prototype
Solution: Large scale/batch printing shortens the iteration cycle. Rapid prototyping at a time, Only 2-3 days for monolithic manufacturing. PC-ABS material was chosen to bring out the best benefits of the combination of PC and of ABS. PC brought temperature resistance and strength to the part while ABS gave to the part its smooth surface quality.

General Manufacturing

Unlimited design freedom, customization, lightness, intuitiveness, precision, and efficiency help companies achieve flexible production of complex structures and rapid iterations.



Sample name: Pipe joint bracket
Solution: This pipe joint bracket printed of nylon material embodies high wear-resistance and toughness. Fixing methods can be designed according to the pipe size and site conditions.

INTAMSYS

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