

# Industrial FFF 3D Printing Material Solutions

Innovative • Professional • Excellent Quality



# Putting our knowledge and experience to work for your success.

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 demand, INTAMSYS accumulated a wealth of knowledge in materials and the printing process. By developing industrial filament solutions that closely resemble commonly used production materials, the INTAM™ series of high-performance filaments was launched. INTAM™ filament and the FUNMAT 3D printer series with optimized slicing software brings customers an unparalleled printing experience.

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

INTAM™ Performance	INTAM™ Engineering	INTAM™ Elastic	INTAM™ Support
PEEK	PC	TPU 95A	SP5000
PEEK-CF	PC-ABS		SP5030
PEEK-GF	PC-PBT		SP3040
PEKK	PC-FR		HIPS
ULTEM™ 9085	PA		PVA
ULTEM™ 1010	PA6-CF		
PPSU	PA12-CF		
PPS	ABS		
	ASA		
	PLA		

# Perfectly matched with INTAMSYS printing equipment

Plug and play operation utilizing pre-set parameters  
and excellent printing experience out of the box

Trouble free and efficient, easy to print  
Excellent printed results with spectacular details

Cost savings of up to **80%**



# 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  
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  
Higher stiffness at high temperatures, HDT A 315°C allows short term usage at even higher temperatures  
Commonly used for metal replacement, can be used in 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 allows short term usage at even higher temperatures  
Commonly used for metal replacement, can be 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

**ULTEM™ 9085** Complies with FST protection standards  
Ideal for aerospace and military applications, this includes aviation and railway as well

**ULTEM™ 1010** High temperature resistance, high strength and rigidity, strong flame retardancy  
Suitable for aerospace, automotive, medical and other industries

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

**PPS** High temperature and corrosion resistance, good flame retardancy and mechanical properties  
Used in electronics, automobiles, machinery and other fields



# 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 aerospace, automotive, electronics and other industries with high flame retardant requirements

**ABS** Durable, high temperature resistance, good toughness  
Suitable for automobiles, household appliances, etc.

**ASA** Excellent UV and weather resistance  
Suitable for outdoor environments such as gardening and construction

**PA** 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, aviation, gears and other products

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



## INTAM™ Elastic

### Flexible and comfortable material

**TPU 95A**

High wear resistance and durability  
High flexibility providing comfort and protection  
Suitable for shoe materials, medical treatment, fashion design and other fields

## INTAM™ Support

### Support materials to help complex structure printing

**SP5000** The preferred breakaway support material for polyaryletherketone (PAEK) high-performance materials  
Easily removed with the aid of solvents

**SP5030** Breakaway support material, used at high temperatures. Suitable for ULTEM™ 9085

**SP3040** Water-soluble support material. Suitable for ABS, ASA, PA, PA6-CF, PLA, TPU 95A and other materials  
Faster dissolution rate

**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 PA, PA6-CF, PLA, TPU 95A and other materials

# Products Performance Overview

Product Series	INTAM™ Performance								INTAM™ Engineering										INTAM™ Elastic
Product	PEEK	PEEK-CF	PEEK-GF	PEKK	ULTEM™ 9085	ULTEM™ 1010	PPSU	PPS	PC	PC-ABS	PC-PBT	PC-FR	PA	PA6-CF	PA12-CF	ABS	ASA	PLA	TPU 95A
Tensile strength(MPa) ISO 527	99.9	91.2	91.7	100.4	76.7	89.8	68.4	64.8	60.7	42.7	43.2	66.8	72.7	74.8	69.3	28.8	43.8	45.6	29.0
Young's modulus(MPa) ISO 527	3,738	5,193	4,044	3,984	2,313	2,643	2,250	2,680	2,480	2,260	2,100	2,810	2,595	3,918	3,748	1,847	2,379	2,641	—
Elongation at break(%) ISO 527	9.1	2.9	3.4	4.2	8.5	5.8	3.9	4.4	5.6	4.7	6.9	3.5	4.6	5.8	2.9	3.8	6.7	2.4	330.1
Flexural strength (MPa) ISO 178	147.0	168.6	158.7	203.2	137.8	167.2	124.5	116.3	84.3	76.5	56.7	97	123.1	130.5	114.1	65.5	73.4	87.7	—
Flexural modulus (MPa) ISO 178	3,612	6,338	5,713	5,220	3,430	4,098	3,114	2,700	1,685	2,055	1,938	2,490	1,681	5,224	3,532	1,530	3,206	1,900	—
Notched impact strength (KJ/m²) ISO 178	7.1	9.7	8.9	5.2	12.7	4.9	21.8	5.2	15.6	16.2	26.9	12.1	8.1	12.0	12.1	16.4	10.3	2.7	—
Heat deflection temperature (°C) ISO 75 1.8MPa	152	315	315	139	152	190	198	—	99.3	106	91	107	69	140	105	98	100.2	58.1	—
Glass transition temperature(°C)	143	143	143	160	186	215	220	86	113	109	140	115	67	74	42	101	97.8	61	—
Melting point (°C)	343	343	343	335	—	—	—	300	—	—	223	—	190	220	178	—	—	150	168
Support material	SP5000	SP5000	SP5000	SP5000	SP5000 SP5030	SP5000	SP5000	—	HIPS	HIPS	HIPS	HIPS	PVA SP3040	PVA SP3040	—	HIPS SP3040	HIPS SP3040	PVA SP3040	PVA SP3040
Material characteristics	High strength High temperature resistance Anti-corrosion	High strength High temperature resistance Anti-corrosion High dimensional stability	High strength High temperature resistance Anti-corrosion High dimensional stability Insulation	High strength High temperature resistance Anti-corrosion High dimensional stability	FST certification Ideal aerospace material	High temperature resistance High strength and modulus	High temperature resistance Good insulation	High temperature resistance Anti-corrosion Good flame retardancy	Durable and stable Wide range of applications	Good toughness High temperature resistance High surface finish	Good corrosion resistance High toughness at low temperature	Excellent flame retardancy High mechanical strength	High strength Good toughness High temperature resistance	High strength High dimensional stability Smooth print surface	High strength High dimensional stability Low moisture absorption	Durable Good overall performance	Anti-UV Good weather resistance	Biodegradable Convenient and practical	Soft High elasticity Durable

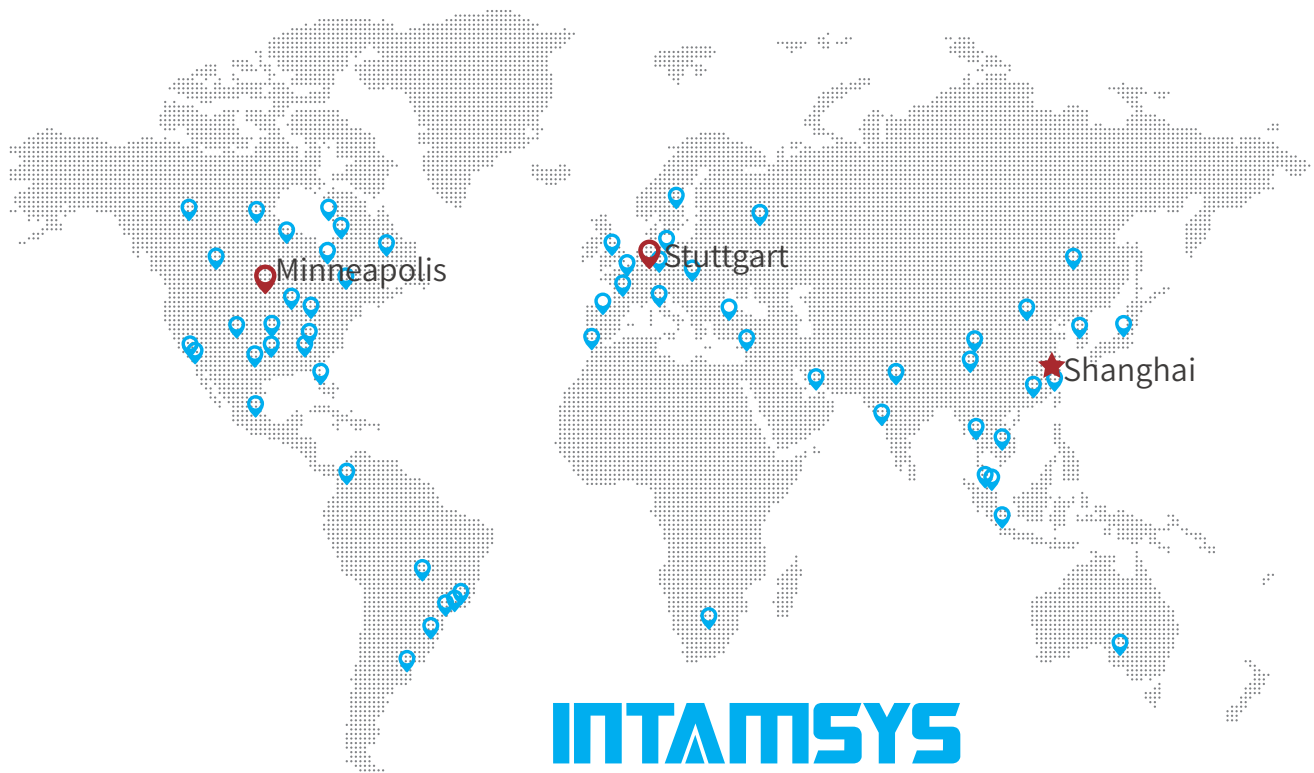
Note: The mechanical performance listed is based on samples printed by INTAMSYS 3D printers.

# About INTAMSYS

INTAMSYS is a world-leading high-tech company providing 3D printing and industrial additive manufacturing solutions for high-performance materials. It is co-founded by a team of engineers from world-class high-tech companies engaged in precision equipment development and high-performance materials research for many years. The company is headquartered in Shanghai. Currently, it has established a complete marketing and after-sales service system covering the world, with European and American sales, marketing and technical service centers which can provide localized services for customers.

Focusing on aerospace, aviation, automotive, electronic manufacturing, consumer goods, healthcare, scientific research and other industries, the company provides comprehensive additive manufacturing solutions from functional prototyping, tooling and fixture manufacturing to direct production of final products.

## Global sales and service network



# INTAMSYS

★ Headquarters    📍 Offices    📍 Resellers



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