SUPERSIZE ADDITIVE MANUFACTURING

WITH SABIC'S SPECIALTIES RESINS

We are helping to advance the adoption of large format additive manufacturing.

At our Center of Excellence for Additive Manufacturing, we offer support in design, material selection, and process testing.

With our broad portfolio of high-performance materials, processing expertise, and state-of-the-art equipment, we have assembled a set of capabilities that can help customers accomplish their objectives in Large Format Additive Manufacturing.

LNP™ THERMOCOMP™ AM COMPOUNDS

Dedicated range of material solutions

SABIC's access to a wide range of dedicated thermoplastic resins, fillers and reinforcements enabled us to create a series of compounds well-suited for large format additive manufacturing.

Expertise in large formats

Our long application development expertise in Large Format Additive Manufacturing technology allows us to create innovative offerings to help drive adoption for end use production.

Processing and design support

Our expertise and resources for testing, design and application development in additive manufacturing at our Center of Excellence enables us the help solve problems for our customers.

DEDICATED RANGE OF MATERIAL SOLUTIONS WITH PROCESSING AND DESIGN SUPPORT

LNP™ THERMOCOMP™ AM COMPOUNDS

A variety of resins are available for you depending on temperature, chemical and other application requirements.

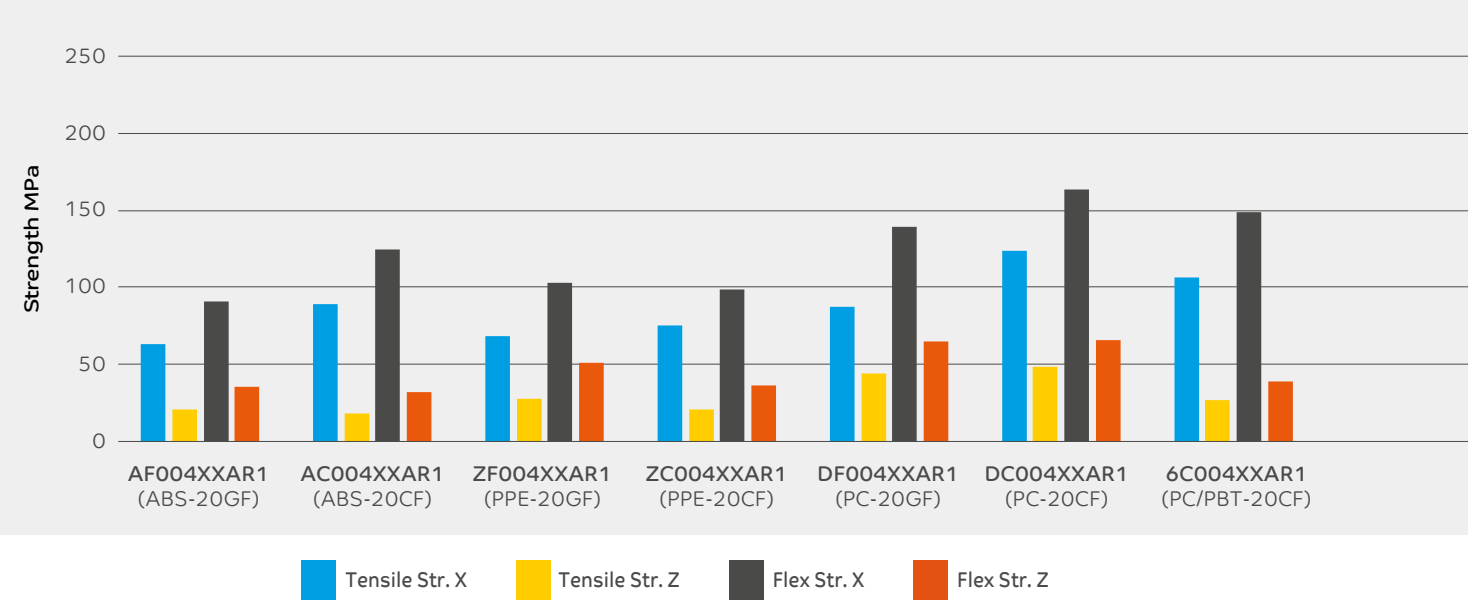
Our resins can be modified with glass fiber, carbon fiber and minerals to achieve end-use property performance and stability during printing.

NORYL™
(Water environment, UV)

- Based on **PPO** resin
- Excellent performance in water
- Inherent UV performance
- Lower thermal expansion vs. ABS
- Higher strength to weight ratio vs. ABS
- Good hydrolysis resistance

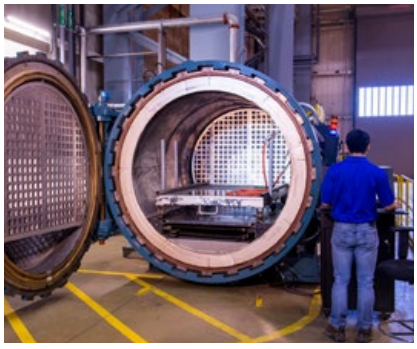
ULTEM™
(High heat)

- Based on **PEI** resins
- Superior tensile and flex properties
- High heat performance
- Improved chemical resistance vs. ABS, PPE/PPO and PC
- Inherently FR & low smoke emission during combustion
- Lower thermal expansion vs. PESU



Design and Engineering

We continue to expand our engineering expertise and support for you, to allow you to tap into the full design potential of large format additive manufacturing.



ABS
(Broad application use)

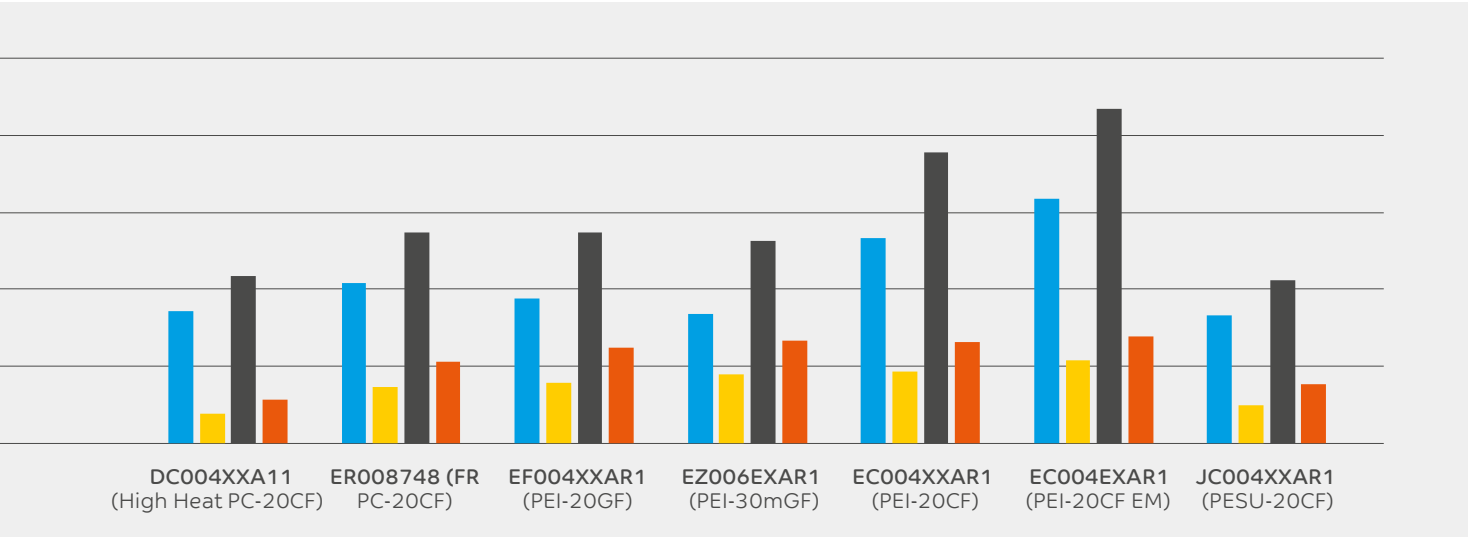
- Easy to process
- Good print surface
- Good impact
- Low warp
- Lowest heat performance

PC
(Stiffness, surface appearance)

- Excellent surface finish
- 10 – 15% higher throughput vs. ABS and PPE/PPO
- Low warp
- Good flex and tensile properties
- Stiffness and toughness over a broad temp range (-20°C to 135°C)
- Good processability

PC/PBT
(Chem resistance, UV)

- Amorphous / semi-crystalline blend with processability like PC
- Improved chem resistance vs. ABS and PC
- Low warp and better sag resistance
- Improved UV stability vs. ABS and PC



Process Development

We developed process parameters for our large format additive manufacturing compounds, to be used as starting guidelines to help you save time and resources.

Application Performance

We have developed a robust test regimen to assist in the material evaluation and selection for a variety of applications.

DISCOVER OUR THERMOCOMP™ GRADES WELL-SUITEDFOR LARGE FORMAT ADDITIVE MANUFACTURING

THERMOCOMP™ grade	Polymer type	Reinforcement	%
AC004XXAR1	ABS	Carbon Fiber	20
AF004XXAR1	ABS	Glass Fiber	20
6C004XXAR1	PC/PBT	Carbon Fiber	20
DC004XXAR1	PC	Carbon Fiber	20
DF004XXAR1	PC	Glass Fiber	20
DC004XXA11	PC (high heat)	Carbon Fiber	20
DC0041XA51	PC (FST*)	Carbon Fiber	20
EC004XXAR1	PEI	Carbon Fiber	20
EC004EXAR1	PEI (easy processing)	Carbon Fiber	20
EF004XXAR1	PEI	Glass Fiber	20
EZ006EXAR1	PEI	Glass Fiber	30
JC004XXAR1	PESU	Carbon Fiber	20
ZC004XXAR1	PPO	Carbon Fiber	20
ZF004XXAR1	PPO	Glass Fiber	20

* Rail norm EN45545 HL3 R1 certified

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