

# ULTEM™ POWDER

# SABIC'S THERMOPLASTIC RESIN POWDERS FOR COMPOSITES

SABIC Specialties offers a broad range (fine to coarse) of commercially available powders from the ULTEM<sup>TM</sup> PEI and developmental powders for EXTEM<sup>TM</sup> TPI, LEXAN<sup>TM</sup> PC and NORYL<sup>TM</sup> PPO product portfolios to enable manufacturing of thermoplastic and thermoset composites. SABIC is committed to support customer composite production through a powders portfolio adapted to evolving markets and application specific needs to include additional resins, particle size and colored offerings.

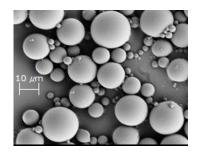
# **POTENTIAL BENEFITS**

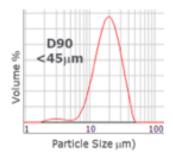
- Reduced processing time
- Improved resin distribution
- Reduction in void content
- Dry process, no residual solvent
- Shelf life/storage
- Improved toughness / ductility
- Aesthetics potential (transparency & color)
- Secondary operations compatibility

Powders are used for manufacturing of composites forms, two examples are unidirectional tape and reinforced fabrics through aqueous production methods and powder scattering.

Prepregs manufactured through these methods may be used for applications requiring robust flame, smoke and toxicity, improved mechanical performance, ease of bonding, and chemical resistance in such markets as Aerospace, Consumer Electronics, and Automotive. Designers and engineers are encouraged to contact SABIC for technical support including application development, predictive engineering and material characterization.

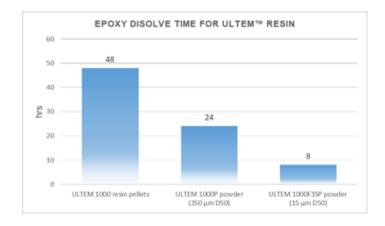






Figures: ULTEM 1000F3SP ultra fine powder (D50=15 µm)

SABIC's powders can be produced from different resin chemistry, shapes (spherical or irregular) and particle sizes (coarse to ultra-fine) to optimize yield, throughput and prepreg quality/performance. For thermoset composites, SABIC's ULTEM and NORYL powders may enhance system performance, provide better dissolution in epoxy matrices and are miscible in a variety of epoxy chemistries.



# PRODUCT PORTFOLIO

Grade Name	Average Particle Size
1000F3SP	50
1000P	60

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