

AMS31F SUPPORT FILAMENT PROCESSING GUIDE

AMS31F is SABIC's breakaway support filament for use with ULTEM™ AM9085F filament. The material maintains rigidity during printing and provides exceptional pliability during post processing to help enable easier removal of structural supports at room temperature, which can reduce the time required to produce finished parts.

AMS31F and ULTEM™ AM9085F filaments are compatible with Stratasys® Fortus® Classic printers and open format industrial printers, subject to user testing.



SABIC's AMS31F support filament is available in 2kg and 1kg spools

PROCESSING TEMPERATURES

Filament	Print Temperature	Oven Temperature
AMS31F	380 – 420 °C	160 – 185 °C

SUPPORT FILAMENT REMOVAL

SABIC's patent pending support filament was developed for use with ULTEM™ AM9085F filament to balance excellent adhesion during printing with easy removal after printing. The filament's white color provides a sharp contrast to the amber color of ULTEM™ filament, which helps operators to more quickly identify the structures to be removed.

Standard tools such as pliers, blades and picks can be used to assist with support material removal while the part is still hot from the printing oven, as well as after the part has already cooled down. The appropriate personal protective equipment should be worn to minimize exposure to any injuries when handling heated substances.



Part printed with SABIC's ULTEM™ AM9085F filament and AMS31F support filament



Part printed with SABIC's ULTEM™ AM9085F filament after AMS31F support material is removed

SUPPORT MATERIAL DISPOSAL

Waste disposal should be in accordance with existing federal, state and local laws. The material should be taken to a waste handling site where such material under recycle class 7 may be either recycled or disposed.

TROUBLESHOOTING

Observation	Cause	Recommendation
Filament not feeding properly or misload error	Filament cross- wound / tangled	Pull out a meter of filament from spool to check if it comes out freely. If it does not, check the spool for filament winding.
	Piece of stray filament in tubing	Check tubing and Y-block for blockages and remove if necessary
	Incorrect spool orientation in canister	Check that spool installation was performed according to instructions
Bubbles or drooling / stringiness / angel hair observed in filament extrudate during printing	Wet filament	Dry at 70 °C for 8-10 hours or until it reaches $\leq 0.04\%$ moisture content as per ASTM D6980
Support embedded in the model material	Wet filament	Dry at 70 °C for 8-10 hours or until it reaches $\leq 0.04\%$ moisture content as per ASTM D6980
Support material purge deposits observed on build plate or model material	Tip wipe issue	Tip wipe may need to be readjusted or replaced if worn out
Support material difficult to remove from model	Calibration	Check nozzle / tip calibration
Part deforms during reheating	Model material softened	Do not exceed 185 °C during reheating
Low / no extrudate throughput	Nozzle / tip clogged	Change nozzle / tip

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