

ABS Printing Quick Start

General starting values for ABS. Establish a stable baseline, then tune for the exact filament grade, printer and part.

SETTING	GENERAL STARTING POINT
Nozzle	245-265 °C. Start near the middle of the range and adjust for layer bonding, surface finish and flow.
Speed	40-80 mm/s. A conservative range for dependable bonding and thermal control; validated enclosed-printer profiles may run faster.
Bed	90-105 °C. Large parts, cool rooms and some build surfaces may benefit from the upper end.
Cooling	0-20% for most geometry. Keep cooling off or very low for the first layers and large parts; add only what bridges or small features need.
Retraction	Direct drive: 0.8-1.2 mm at 20-35 mm/s. Bowden: 2-4 mm at 25-40 mm/s. Tune after temperature and filament condition are stable.
Enclosure	Strongly recommended. Keep the chamber closed, warm and draft-free, especially for large or dense parts. Stay within printer temperature limits.
Drying	When moisture symptoms are present, 70-80 °C for about 6-8 hours is a common general range, provided the filament and spool are rated for it.
Build surface	Smooth PEI with an appropriate separation layer, textured or powder-coated PEI, or another printer-approved high-temperature surface.
First layer	Use a clean plate, strong line contact and a stable bed temperature. A brim can help long edges, sharp corners and large footprints.

FIRST PRINT CHECK

Use a clean build surface, stable enclosure and conservative profile. Keep the first layers well bonded, avoid unnecessary cooling, and add a brim when geometry creates more shrinkage stress.

IF THE PRINT MISBEHAVES

SYMPTOM	CHECK FIRST
Corners lifting	Check plate cleanliness, bed temperature, first layer, enclosure stability and brim/part geometry.
Layer cracks	Reduce cooling, improve chamber stability and confirm the nozzle is hot enough for the grade.
Stringing	Check filament moisture and nozzle temperature before making large retraction changes.
Rough / popping extrusion	Dry the filament within the grade and spool temperature limits.