



LAURAMID® 3D

PA12 FILAMENT



PROCESSING RECOMMENDATIONS

| PROPERTY | ■ LAURAMID® 3D N01 (NATURAL) | □ LAURAMID® 3D C01 (CARBON FIBRE) |
|----------------------------------|--|--|
| Printing temperature: | 235-255 °C | 245-265 °C |
| Printing bed temperature: | 60-110 °C (depending on printing bed) | |
| Printing bed material: | PEI, glass, aluminium (> 90 °C), Lauramid (60 °C) | PEI, glass, aluminium (> 80°C), Lauramid (60 °C) |
| Attachment | Brim recommended Magigoo PA or Dimafix as adhesive A raft/brim made of VXL_111 is beneficial for large-scale parts | Smaller brim than required with natural filament Magigoo PA or Dimafix as adhesive |
| Printing speed | Up to 40 mm/s. (2.4-10 mm ³ /s) depending on nozzle diameter and layers Nozzle dia. 0.6 with layer 0.2 with approx. 4 mm ³ /s delivers very good results Increase temperature slightly if necessary | |
| Nozzles | Nozzles ≥ dia. 0.2 can be used. | Use coated or rubin nozzles for abrasive material Nozzles ≥ dia. 0.6, small parts possible with ≥ dia. 0.4 Large and solid parts ≥ dia. 0.8 mm recommended |
| Component cooling | Do not use component cooling. Exception: Component cooling may have a positive effect when dealing with small elements/parts with short layer times | |
| Retract | Bowden 6-13 mm, Directdrive 2.5-5 mm Coasting and wipe nozzle (outline) beneficial | Bowden 5-11 mm, Directdrive 2-4.5 mm Coasting and wipe nozzle (outline) beneficial |
| Shrinkage | Polyamide 12 exhibits greater shrinkage because of its higher crystalline content Pay attention to thermal shrinkage Scaling + X-Y 0.3-0.5 %, Z 0.8-2.4 % (depending on layer height/time) | The shrinkage is slightly less than with the natural variant because of the fibre content Can be ignored in X-Y when dealing with smaller parts Scaling + X-Y 0-0.5 %, Z 0.8-1.8 % (depending on layer height/time) |
| Support material | VXL 111 attaches very well to Lauramid® 3D. (cleaning solution required). For removing the component, it may help to heat the platform to > 110 °C again | |
| Component geometry | Avoid sharp corners. Thick, thin-walled projections tend to warp Add chamfers and radii to transitions This has a positive effect on the component strength | The fibre content reduces warping Sharp corners should be avoided Add chamfers and radii to transitions This has a positive effect on the component strength |
| Filament storage | Store dry Use directly from dry box recommended Material with a high moisture content results in adverse effects and interferes with the printing process Dry moist material in a convection oven for at least 24 hours at 70-80 °C | |
| Miscellaneous | Infill before outline and "Retract before outer line/shell" reduces blobs/Z-Scar | |