

# MATERIAL CERTIFICATION REPORT

The data presented below is offered in good faith. The values represent acceptable starting points for users to further calibrate the tested material. Every 3D Print is different, therefore, these values are acceptable for the operator to use as a starting point for advanced calibration. Advanced tuning and slicer profiles, in the Filament Innovations supplied ODIN slicer, are only available to Filament Innovations customers. Filament Innovations is not responsible for equipment damage if these values are implemented on non-Filament Innovations equipment or there is an operator error.

Note: Maximum flow-rates and maximum print speeds are not tested as these values are dependent on the geometry of the 3D file, in terms of real world results. For example, tall and narrow geometries will need to be printed slower with more cooling, in comparison to large and flat shapes.

## MATERIAL

Name: PCTG-HF  
Manufacturer: FI & Xtellar  
Plastic Form: Pellet  
Drying: 70C for Six Hours  
Unique Properties: Optically Clear

## HARDWARE

Printer: ARES  
Manufacturer: Filament Innovations  
Pellet Extruder: PULSAR by Dyze Design  
Nozzle: 3mm  
Nozzle Material: Tool Steel

## PROCESSING

Top Barrel (C): 230  
Bottom Barrel (C): 260  
Nozzle (C): 280  
Bed (C): 90C  
Bed Surface: PEI  
Bed Glue: N/A  
Chamber (C): 32

## SLICER

Name: ODIN  
Layer Width (mm): 4  
Layer Height (mm): 2  
Speed (mm/s): 20  
Flow Rate: 95%  
Pressure Advance: 0.10  
Fan Cooling\*: 100%

\*PCTG-HF is optically clear with additives for a higher flow rate. Fan cooling power did not significantly impact clarity. Four 24VDC fans at 22.4CFM, each, were used to cool the part at the nozzle of the PULSAR FGF Extruder.

Certification report was generated on July 18th, 2023 by Michael Gorski (PhD, MBA).