

## Kai Parthy

### Reflect-o-Lay,

Reflect-o-Lay is a gray semi flexible filament with 'retro-reflective' pigment (~0.050 mm) that reflects light and has the feel of pumice stone.

Manufacturers Recommended Settings		Personal preferred Settings
Nozzle temperature	~210 °C	215°C
Bed Temperature	20-60 °C	40°C
Speed (mm/s)	mm/s	15mm/s
Cooling Fan Speed	%	50%
Max Flow Rate	mm <sup>3</sup> /s at °C	1mm <sup>3</sup> /s at 212°C
Retraction		Zero
<b>Other specifications</b>		
Density	2.31 g/cm <sup>3</sup> (Filament)	Printed 1cm <sup>3</sup> = 1.23g/cm <sup>3</sup>
Diameter & Tolerance	2.80 – 2.83 ± ?mm	
Flexy Modulus		Glass Transition Temp °C
Bed Adhesive	Glue or Hairspray	

1cm<sup>3</sup> test piece, 10.08 x 10.02 x 9.90 (mm) (XYZ) weight 1.23g. Density = 1.23g/cm<sup>3</sup>

It has a filament weight of approximately 14g/m (Ø2.80) (2.31g/cm<sup>3</sup>)

**Temperature**, printed nicely between 220°C and 210°C started to see a reduction in the surface finish below 210°C and failed at 195°C.

**Speed**, printing speed was typical for flexible filaments at about 15mm/s above 20mm/s could cause a little under extrusion, in general required an increase in the feed rate to ~120%.

**Volumetric Flow**, with a low print speed it has a low volumetric flow rate only managing 1mm<sup>3</sup>/s failing at 1.5mm<sup>3</sup>/s with under extrusion.

**Preferred settings**, typical layer height 0.2mm, initial layer height 0.3mm, speed 15mm/s (30% if 50mm/s typical), with no retractions, a little oil in the Bowden tube will help reduce the friction. Prints well with both standard Brass and Ruby nozzles, although typical of semi-flexible filaments excess can gather on the nozzle. Printed surface has a gray surface that has a sparkly effect when illuminate, although any surface that has been post processed by filing has a dull look and doesn't reflect.

**Ultimaker Robot**, the bridging on the Ultimaker robot suffered from the poor bridging and small or slight details can be lost, not liking retractions the small antenna on the head suffered loss of definition but nothing from the normal for flexible filaments.

**Tree Frog**, it printed the overhang of the tree frog well but needs 3 wall thickness to hang onto and build upon, the weight of the filament hampers bridging as the filament strand sags, like the majority of flexible filaments, it doesn't handle retractions well and can lead to under extrusion, so either no retractions or only slight retractions. Printed a nice model.

**3DBenchy**, forgot to turn of the retractions for the 1<sup>st</sup> build, and so started to show under extrusion at the midlevel of the wheelhouse. The 2<sup>nd</sup> build without retractions, built well, although without retractions it shows signs of stringing,

