

## MSLA Heat Gray

(MPT-HE001GY)

### Check

- Tank and LCD screen are clean
- Shake well (60 sec) before pouring
- Tank and platform are tightened properly

### Exposure Setting Recommendation Chart

Printer	Layer Thickness (µm)	Bottom (Burn-In) Layers	Normal Layer Exposure Time (s)	Bottom Layer Exposure Time (s)	Light-off Delay (s)	Lifting Distance (mm)	Lifting Speed (mm/min)	Retract Speed (mm/min)
Shuffle	50	10	7	40	9	6	80	150
	100	6	12	40	9	6	80	150
Shuffle XL	50	10	6	40	15	8	60	150
	100	6	10	40	15	8	60	150
Sonic	50	10	1.5	10	9	6	80	150
	100	6	2.5	10	9	6	80	150
Sonic Mini	50	10	2.5	15	9	6	80	150
	100	6	4	15	9	6	80	150
Sonic	50	10	2	10	15	8	60	150
	100	6	4	10	15	8	60	150
Mighty 4K	100	6	4	10	15	8	60	150
Elegoo	50	10	2	10	8	5	80	150
Mars2 Pro	100	6	3.5	10	8	5	80	150

Each printer is unique, light intensity varies from printer to printer, even within same model and make. Please adjust normal exposure time from above recommended settings  $\pm 2$  ( $\pm 0.5$  for Mono LCD printer) for optimal results.

Sizing calibration, stl file: <https://www.thingiverse.com/thing:1586206>

### Washing

Submerge print in clean IPA (95+% concentration) for up to 5 minutes, gently shake-off/blow-off excess IPA, set prints in shaded, airy place to dry before post-curing. Extended time in IPA causes deformation.

## Post Curing

For optimal material performance, two post-curing steps are required: **photo + thermal curing**. There are several options for post-curing. Refer to the below data charts, select the option that is best fit for the intended application.

(Subject printed on Sonic Mighty 4K @ 100 µm, oven temp starts from room temperature)

1. FormCure at 35 °C / 60 mins
2. FormCure at 80 °C / 120 mins
3. FormCure at 35 °C / 60 mins followed by oven to 160 °C for 180 mins
4. FormCure at 80 °C / 120 mins followed by oven to 160 °C for 180 mins
5. FormCure at 60 °C / 60 mins followed by oven to 160 °C for 90 mins

## Heat Deflection Temperature

	Photo-Cured <sup>1</sup>	Photo-Cured <sup>2</sup>	Photo-Cured + Thermal-Cured <sup>3</sup>	Photo-Cured + Thermal-Cured <sup>4</sup>
HDT @0.45 MPa (°F/°C)	228.2/109	352.4/178	352.4/178	482/250

In accordance with ASTM D648

## Mechanical Properties Data

	Photo-Cured <sup>1</sup>	Photo-Cured + Thermal-Cured <sup>5</sup>
Tensile (MPa)	55 – 75	60 – 80
Elongation (%)	1 – 2	1 – 3
Impact (J/m)	19 – 25	24 – 31
Hardness (Shore)	85 – 87 D	87 – 89 D
Flexure Strength (MPa)	130 – 145	135 – 185
Flexure Modulus (MPa)	2550 – 2650	2850 – 3000

Properties may vary with different print geometry, orientation, setting and post-process condition and equipment.

## Storage

- Keep resin in shaded environment; temperature between 15°C and 26°C
- NOT accessible to children.
- Do Not store resin in the tank for more than 2 days.
- Filter out all debris in case of failed prints.

**Note:** Slight pigment settlement is normal. Gently mix remaining resin in resin tank with soft wiper for color evenness.