

40 Watt Laser Settings

These are suggested starting points. You may need to adjust.

Substrate	Mode	Wattage	Speed MM/s	Scan Gap MM	DPI	Thickness	Passes	Notes
Anodized Aluminum	Engrave	35	325	0.065	391	Any	1	Set Scan-Gap for resolution that you need for your design projects. Aluminum can take a high resolution. Power settings vary for color.
Glass	Engrave	12	350	0.055	462	Any	1	Use the lowest power setting with thin scan gap settings. Keep the glass cold with cold air, wet paper, or other coatings.
Wood	Engrave	20	350	0.085	300	Any	1	Use masking tape to prevent sap from making a haze around the engraved areas.
Alder Wood	Cut	80	15			1/8 in / 3.175 mm	1	Use lowest power with highest speeds to completely cut through the material.
Balsa Wood	Cut	80	45			1/8 in / 3.175 mm	1	Use lowest power with highest speeds to completely cut through the material.
Birch (Solid)	Cut	85	12			1/8 in / 3.175 mm	1	Use lowest power with highest speeds to completely cut through the material.
Birch Plywood	Cut	85	5			3/16 in / 4.572 mm	1	Use lowest power with highest speeds to completely cut through the material.
Acrylic	Engrave	85	300	0.065	391	Any	1	Acrylics that are hard/brittle will leave better engrave marks.
Acrylic	Cut	85	12			1/4 in / 6.3 mm	1	Use a good amount of Air Assist and don't move too slow or it can cause surrounding areas to sag or catch on fire.
Acrylic Mirrored	Cut	75	10			1/8 in / 3.175 mm	2	Use high amount of air assist. Use first pass to get almost to the mirror backing. Use the second pass to finish the cut and polish the previously cut edge. Excessive heat will boil the mirror backing.
Granite	Engrave	85	101	0.085	299	Any	1	Use high powers to engrave at slowest speeds. May rub high contrast paints into the cracks, then wipe off to make the image stand out.
Romark – multi-color	Engrave	18	350	0.1	254	Any	1	Use only enough air to get into the desired color plastic. Use scan gap thick enough to prevent plastic from rolling into globs.
Plexi Glass	Cut	85	7			1/8 in / 3.175 mm	1	Cut fast and hard. Make sure to get fumes out of work area fast. Do not breathe the fumes.
Styrofoam - Closed cell	Cut	15	45			Varies	1	Use long focal length lens. Use lots of air for cooling the Styrofoam. Cut in thin layers, glue layers together.
Styrofoam - Open Cell	Cut	18	25			Varies	1	Use long focal length lens. Use lots of air assist to keep cool.
Brick	Engrave	85	10			Any	1	Use minimal air. Engrave with target slightly out of focus. Needs to be "engrivable brick".
Mirror (Back)	Engrave	60	325	0.085	299	Any	1	Laser power effects the paint and heat transfers to copper /silver film layers. The laser continues to scar the glass.
Leather	Engrave	60	325	0.085	299	Any	1	Set Scan-Gap for resolution that you need for your design projects.
Leather	Cut	85	7			1/16 in / 1.5875 mm	1	Use lowest power with highest speeds to completely cut through the material.
Powder Coated Metal	Engrave	35	325	0.085	299	Any	1	Set Scan-Gap for resolution that you need for your design projects. Don't try to engrave all the way thru. Exposed metal may tarnish or rust.
Cermark coated	Engrave	60	300	0.07	362	Any	1	Too high of power will damage the Cermark. Too low power will not heat Cermark to stick to the material. The glass/metal/ceramic must be warm.