

Power Requirements for Cutting

Directions for use: Locate the customer's material along the left side. Follow that row from left to right until you find a maximum thickness value higher than your customers' desired material thickness. Look at the header at the top of the column where you found the customer's desired material thickness. This value is the absolute minimum laser power which can be used to cut the customer's desired material and thickness. For example, if your customer wants to cut acrylic that is 0.5" thick, the minimum laser power required is 50 watts. The recommendations in this chart are optimized for maximum performance; lasers with lower wattage can be used but throughput will be affected.

Categories	Materials	30 W	40 W	50 W	60 W	75 W	100 W	120 W	150 W
Laminating Adhesives	Lam. Adhesive - Tape	0.23" (5.8mm)	0.23" (5.8mm)	0.23" (5.8mm)	0.23" (5.8mm)	0.23" (5.8mm)	0.23" (5.8mm)	0.23" (5.8mm)	0.23" (5.8mm)
	Lam. Adhesive - Foam	0.08" (2mm)	0.08" (2mm)	0.08" (2mm)	0.08" (2mm)	0.08" (2mm)	0.08" (2mm)	0.08" (2mm)	0.08" (2mm)
Films	Optically Clear Adhesive	0.005" (0.1mm)	0.005" (0.1mm)	0.005" (0.1mm)	0.005" (0.1mm)	0.005" (0.1mm)	0.005" (0.1mm)	0.005" (0.1mm)	0.005" (0.1mm)
	Anti-reflection Film	0.007" (0.2mm)	0.007" (0.2mm)	0.007" (0.2mm)	0.007" (0.2mm)	0.007" (0.2mm)	0.007" (0.2mm)	0.007" (0.2mm)	0.007" (0.2mm)
Fabrics	Denim	0.08" (2mm)	0.09" (2.3mm)	0.10" (2.5mm)	0.11" (2.8mm)	0.13" (3.3mm)	0.15" (3.8mm)	0.17" (4.3mm)	0.2" (5mm)
	Twill	0.13" (3.3mm)	0.16" (4.1mm)	0.19" (4.8mm)	0.22" (5.6mm)	0.27" (6.8mm)	0.31" (7.9mm)	0.34" (8.6mm)	0.38" (9.6mm)
	Cotton	0.08" (2mm)	0.09" (2.3mm)	0.09" (2.3mm)	0.1" (2.5mm)	0.11" (2.8mm)	0.13" (3.3mm)	0.14" (3.5mm)	0.16" (4.1mm)
	Felt	0.51" (13mm)	0.6" (15mm)	0.68" (17.3mm)	0.77" (19.5mm)	0.9" (22.9mm)	1.27" (32.2mm)	1.63" (41.4mm)	2.0" (51mm)
Foams	Polyethylene Foam	0.5" (12.7mm)	0.54" (13.7mm)	0.58" (14.7mm)	0.63" (16mm)	0.69" (17.5mm)	0.79" (20mm)	0.88" (22.3mm)	1.0" (25.4mm)
	Polyurethane Foam	1.4" (35.6mm)	1.49" (37.8mm)	1.58" (40.1mm)	1.66" (42.2mm)	1.79" (45.5mm)	2.01" (51mm)	2.19" (55.6mm)	2.45" (62.2mm)
Natural Materials	Leather	0.21" (5.3mm)	0.22" (5.6mm)	0.24" (6.1mm)	0.25" (6.3mm)	0.27" (6.8mm)	0.3" (7.6mm)	0.33" (8.4mm)	0.37" (9.4mm)
	Wood	0.3" (7.6mm)	0.34" (8.6mm)	0.38" (9.6mm)	0.42" (10.7mm)	0.48" (12.2mm)	0.59" (15mm)	0.67" (17mm)	0.79" (20.1mm)
	Paper	0.17" (4.3mm)	0.23" (5.8mm)	0.29" (7.4mm)	0.35" (8.9mm)	0.43" (10.9mm)	0.58" (14.7mm)	0.7" (17.8mm)	0.87" (22.1mm)
	Mat Board	0.17" (4.3mm)	0.23" (5.8mm)	0.29" (7.4mm)	0.35" (8.9mm)	0.43" (10.9mm)	0.58" (14.7mm)	0.7" (17.8mm)	0.87" (22.1mm)
	Cardboard	0.17" (4.3mm)	0.23" (5.8mm)	0.29" (7.4mm)	0.35" (8.9mm)	0.43" (10.9mm)	0.58" (14.7mm)	0.7" (17.8mm)	0.87" (22.1mm)
	MDF	0.17" (4.3mm)	0.23" (5.8mm)	0.29" (7.4mm)	0.35" (8.9mm)	0.43" (10.9mm)	0.58" (14.7mm)	0.7" (17.8mm)	0.87" (22.1mm)
Plastics	Acrylic (<i>Plexiglas</i> ®, <i>Lucite</i> ®)	0.45" (11.4mm)	0.48" (12.2mm)	0.52" (13.2mm)	0.55" (14mm)	0.6" (15.2mm)	0.67" (17mm)	0.73" (18.5mm)	0.8" (20.3mm)
	ABS	0.25" (6.3mm)	0.25" (6.3mm)	0.26" (6.6mm)	0.26" (6.6mm)	0.27" (6.8mm)	0.28" (7.1mm)	0.29" (7.4mm)	0.3" (7.6mm)
	PET	0.2" (5.1mm)	0.22" (5.6mm)	0.24" (6.1mm)	0.26" (6.6mm)	0.29" (7.4mm)	0.35" (8.9mm)	0.39" (9.9mm)	0.45" (11.4mm)
	Polycarbonate	0.2" (5.1mm)	0.22" (5.6mm)	0.24" (6.1mm)	0.27" (6.8mm)	0.3" (7.6mm)	0.33" (8.4mm)	0.37" (9.4mm)	0.4" (10.2mm)
	Polyester (<i>PETG</i> , <i>PETP</i>)	0.27" (6.8mm)	0.29" (7.4mm)	0.31" (7.9mm)	0.33" (8.4mm)	0.35" (8.9mm)	0.4" (10.2mm)	0.44" (11.2mm)	0.49" (12.4mm)
	PTFE (<i>Teflon</i> ®)	0.25" (6.3mm)	0.31" (7.9mm)	0.38" (9.6mm)	0.44" (11.2mm)	0.54" (13.7mm)	0.63" (16mm)	0.72" (18.3mm)	0.81" (20.6mm)
	POM (<i>Delrin</i> ®)	0.20" (5.1mm)	0.24" (6.1mm)	0.29" (7.4mm)	0.33" (8.4mm)	0.4" (10.2mm)	0.45" (11.4mm)	0.51" (13mm)	0.56" (14.2mm)
Rubber	Natural Rubber	0.18" (4.6mm)	0.2" (5mm)	0.21" (5.3mm)	0.23" (5.8mm)	0.25" (6.3mm)	0.28" (7.1mm)	0.32" (8.1mm)	0.35" (8.9mm)
	Synthetic Rubber (<i>Silicone</i> , <i>Neoprene</i>)	0.1" (2.5mm)	0.13" (3.3mm)	0.17" (4.3mm)	0.2" (5.1mm)	0.25" (6.3mm)	0.27" (6.8mm)	0.28" (7.1mm)	0.3" (7.6mm)

MATERIAL THICKNESS

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