3kw Laser Cut Charts

material	Thickness [mm]	Thickness	Speed [m/min]	Speed	Power [W]	gas	pressure [bar]	Nozzle	Focus position [mm]	Focus position	Cutting height [mm]	Cutting height
carbon steel	1	0.04	32	1260	3000	N_2/Air	10	1.5S	0	0	1	0.039
	2	0.08	18	709	3000		10	2.0S	0	0	0.5	0.02
carbon steel	2	0.08	4	157	2100	O_2	1.6	1.0D	3	0.118	0.8	0.031
	3	0.12	3.4	134	2100		0.6	1.0D	4	0.157	0.8	0.031
	4	0.16	3.1	122	2400		0.6	1.0D	4	0.157	0.8	0.031
	5	0.2	2.85	112	3000		0.6	1.2D	4	0.157	0.8	0.031
	6	0.24	2.35	93	3000		0.6	1.2D	4	0.157	0.8	0.031
	8	0.31	2	79	3000		0.6	1.2D	4	0.157	0.8	0.031
	10	0.39	1.15	45	3000		0.6	1.2D	4	0.157	0.8	0.031
	12	0.47	0.95	37	2400		0.6	3.0D	4	0.157	0.8	0.031
	14	0.55	0.85	33	2400		0.6	3.0D	4	0.157	0.8	0.031
	16	0.63	0.65	26	2400		0.6	3.5D	4	0.157	0.8	0.031
	18	0.71	0.55	22	2400		0.6	4.0D	4	0.157	0.8	0.031
	20	0.79	0.5	20	2400		0.6	4.0D	4	0.157	0.8	0.031
	22	0.87	0.45	18	2400		0.6	4.0D	4	0.157	0.8	0.031
stainless steel	1	0.04	32	1260	3000	N_2	10	1.5S	0	0	0.8	0.031
	2	0.08	21	827			12	2.0S	0	0	0.5	0.02
	3	0.12	8.5	335			12	2.5S	-0.5	-0.02	0.5	0.02
	4	0.16	6	236			14	2.5S	-1.5	-0.059	0.5	0.02
	5	0.2	3.3	130			14	3.0S	-2.5	-0.098	0.5	0.02
	6	0.24	2.4	94			14	3.0S	-3	-0.118	0.5	0.02
	8	0.31	1.1	43			16	3.5S	-4.5	-0.177	0.5	0.02
	10	0.39	0.5	20			16	4.0S	-6	-0.236	0.5	0.02
aluminium	1	0.04	27	1063	3000	N_2	12	1.5S	0	0	0.8	0.031
	2	0.08	16.5	650			12	2.0S	0	0	0.5	0.02
	3	0.12	7.5	295			14	2.0S	-1	-0.039	0.5	0.02
	4	0.16	5.5	217			14	2.5S	-2	-0.079	0.5	0.02
	5	0.2	2.8	110			16	3.0S	-3	-0.118	0.5	0.02
	6	0.24	1.8	71			16	3.0S	-3.5	-0.138	0.5	0.02
	8	0.31	0.65	26			16	3.5S	-4	-0.157	0.5	0.02
brass	1	0.04	25	984	3000	N_2	12	1.5S	0	0	0.8	0.031
	2	0.08	12.5	492			12	2.0S	0	0	0.5	0.02
	3	0.12	5.5	217			14	2.5S	-1	-0.039	0.5	0.02
	4	0.16	2.8	110			14	3.0S	-2	-0.079	0.5	0.02
	5	0.2	2	79			14	3.0S	-2.5	-0.098	0.5	0.02
	6	0.24	0.9	35			16	3.0S	-3	-0.118	0.5	0.02

Note: The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing, and are only suitable for small batch production, and are not recommended for mass production and processing, and higher power lasers are recommended.

6kw Laser Cut Charts

material	Thickness [mm]	Thickness	Speed [m/min]	Speed	Power [W]	gas	pressure [bar]	Nozzle	Focus position [mm]	Focus position	Cutting height [mm]	Cutting height
carbon steel	1	0.04	37.5	1476	6000	N_2/Air	12	1.5S	0	0	1	0.039
	2	0.08	23	886			12	2.0S	-1	-0.039	0.5	0.02
	3	0.12	13	512			14	2.0S	-1.5	-0.059	0.5	0.02
	4	0.16	9	354			14	2.0S	-2	-0.079	0.5	0.02
	5	0.2	6.5	256			16	3.0S	-2.5	-0.098	0.5	0.02
	6	0.24	5.5	217			16	3.5S	-3	-0.118	0.5	0.02
carbon steel	3	0.12	3.8	150	2400	O_2	0.6	1.2E	3	0.118	0.8	0.031
	4	0.16	3.5	138	2400		0.6	1.2E	3	0.118	0.8	0.031
	5	0.2	3.3	130	3000		0.6	1.2E	3	0.118	0.8	0.031
	6	0.24	2.9	114	3300		0.6	1.2E	3	0.118	0.8	0.031
	8	0.31	2.35	93	4200		0.6	1.2E	3	0.118	0.8	0.031
	10	0.39	2.15	85	5500		0.6	1.2E	4	0.157	0.8	0.031
	12	0.47	2	79	6000		0.6	1.2E	5	0.197	0.8	0.031
	14	0.55	1.55	61	6000		0.6	1.4E	5	0.197	1	0.039
	16	0.63	1.3	51	6000		0.6	1.4E	6	0.236	1	0.039
	18	0.71	0.8	31	6000		0.6	1.6S	12	0.472	0.3	0.012
	20	0.79	0.65	26	6000		0.6	1.6S	13	0.512	0.3	0.012
	22	0.87	0.55	22	6000		0.6	1.6S	13	0.512	0.3	0.012
	25	0.98	0.45	18	6000		0.6	1.8S	14	0.551	0.3	0.012
stainless steel	1	0.04	45	1772	6000	N_2	10	1.5S	0	0	0.8	0.031
	2	0.08	27.5	1083			12	2.0S	-1	-0.039	0.5	0.02
	3	0.12	16.5	650			12	2.5S	-1.5	-0.059	0.5	0.02
	4	0.16	11	433			14	2.5S	-2	-0.079	0.5	0.02
	5	0.2	7.5	295			14	3.0S	-2.5	-0.098	0.5	0.02
	6	0.24	6.5	256			15	3.0S	-3	-0.118	0.5	0.02
	8	0.31	3.65	144			15	3.0S	-4	-0.157	0.5	0.02
	10	0.39	1.8	71			15	3.5S	-6	-0.236	0.5	0.02
	12	0.47	1.1	43			16	3.5S	-7.5	-0.295	0.5	0.02
	14	0.55	0.9	35			16	4.0S	-9	-0.354	0.5	0.02
	16	0.63	0.55	22			18	4.0S	-10.5	-0.413	0.5	0.02
	18	0.71	0.45	18			20	5.0S	-11	-0.433	0.3	0.012
	20	0.79	0.27	11			20	5.0S	-12	-0.472	0.3	0.012
Aluminum alloy	1	0.04	40	1575	6000	N_2	12	1.5S	0	0	1	0.039
	2	0.08	22.5	886			12	2.0S	-1	-0.039	0.5	0.02
	3	0.12	15	591			14	2.5S	-1.5	-0.059	0.5	0.02
	4	0.16	9	354			14	2.5S	-2	-0.079	0.5	0.02
	5	0.2	5.5	217			14	3.0S	-3	-0.118	0.5	0.02
	6	0.24	3.75	148			16	3.0S	-3	-0.118	0.5	0.02
	8	0.31	1.75	69			16	3.0S	-4	-0.157	0.5	0.02
	10	0.39	1.1	43			18	3.5S	-4.5	-0.177	0.5	0.02
	12	0.47	0.65	26			18	4.0S	-5	-0.197	0.5	0.02
	14	0.55	0.5	20			18	4.0S	-5	-0.197	0.3	0.012
	16	0.63	0.35	14			20	5.0S	-8	-0.315	0.3	0.012
brass	1	0.04	35	1378	6000	N_2	12	1.5S	0	0	1	0.039
	2	0.08	19	748			12	2.0S	-1	-0.039	0.5	0.02
	3	0.12	13	512			14	2.5S	-1	-0.039	0.5	0.02
	4	0.16	8.5	335			14	3.0S	-1.5	-0.059	0.5	0.02
	5	0.2	5.25	207			14	3.0S	-2	-0.079	0.5	0.02
	6	0.24	3.5	138			16	3.0S	-2.5	-0.098	0.5	0.02
	8	0.31	1.65	65			16	3.5S	-3	-0.118	0.5	0.02
	10	0.39	0.9	35			16	3.5S	-3	-0.118	0.5	0.02
	12	0.47	0.65	26			18	4.0S	-4	-0.157	0.3	0.012
Copper	1	0.04	27.5	1083	6000	O_2	14	2.0S	-0.5	-0.02	1	0.039
	2	0.08	16.5	650			14	2.0S	-1	-0.039	0.5	0.02
	3	0.12	9	354			12	2.0S	-2	-0.079	0.5	0.02
	4	0.16	5.5	217			12	2.0S	-2	-0.079	0.5	0.02
	5	0.2	3.5	138			10	2.5S	-3	-0.118	0.5	0.02
	6	0.24	1.75	69			10	2.5S	-3	-0.118	0.5	0.02

Note: The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing, and are only suitable for small batch production, and are not recommended for mass production and processing, and higher power lasers are recommended.

12kw Laser Cut Charts

material	Thickness [mm]	Thickness	Speed [m/min]	Speed	Power [W]	gas	pressure [bar]	Nozzle	Focus position [mm]	Focus position	Cutting height [mm]	Cutting height
carbon steel	1	0.04	55	2165	12000	N_2/Air	12	1.5S	0	0	1	0.039
	2	0.08	40	1575			12	2.0S	0	0	0.5	0.02
	3	0.12	32.5	1280			13	2.0S	0	0	0.5	0.02
	4	0.16	24	945			13	2.5S	0	0	0.5	0.02
	5	0.2	16.5	650			13	2.5S	0	0	0.5	0.02
	6	0.24	11.5	453			13	2.5S	0	0	0.5	0.02
	8	0.31	9	354			13	3.0S	-1.5	-0.059	0.5	0.02
	10	0.39	6.5	256			13	4.0S	-3	-0.118	0.5	0.02
	12	0.47	4.5	177			13	5.0B	-4	-0.157	0.5	0.02
carbon steel	10	0.39	2.15	85	7000	O_2 positive focus	0.6	1.2E	8	0.315	0.8	0.031
	12	0.47	2	79	7500		0.6	1.2E	8	0.315	0.8	0.031
	14	0.55	1.75	69	8500		0.6	1.4E	9	0.354	0.8	0.031
	16	0.63	1.5	59	9500		0.6	1.4E	11	0.433	0.8	0.031
	20	0.79	1.3	51	12000		0.6	1.6E	11	0.433	0.8	0.031
	22	0.87	0.95	37			0.7	1.8E	9	0.354	0.8	0.031
	22	0.87	1	39			0.7	1.4SP	11	0.433	0.5	0.02
	25	0.98	0.65	26			0.7	1.8E	11	0.433	0.8	0.031
	25	0.98	0.95	37			0.7	1.5SP	12	0.472	0.5	0.02
	30	1.18	0.45	18			1.3	1.8E	11	0.433	1.2	0.047
	30	1.18	0.7	28			0.8	1.5SP	12	0.472	0.5	0.02
	40	1.57	0.28	11			1.5	1.8E	11.5	0.453	1.2	0.047
carbon steel	12	0.47	3.25	128	12000	O_2 Negative focus	1	1.6SP	-10	-0.394	1.5	0.059
	14	0.55	3.1	122			1	1.6SP	-10	-0.394	1.5	0.059
	16	0.63	2.9	114			1	1.6SP	-12	-0.472	1.5	0.059
	20	0.79	2.15	85			1.2	1.6SP	-12	-0.472	1.5	0.059
	25	0.98	1.2	47			1.3	1.8SP	-14	-0.551	1.5	0.059
	30	1.18	0.95	37			1.4	1.8SP	-14	-0.551	1.5	0.059
stainless steel	1	0.04	55	2165	12000	N_2	10	2.0S	0	0	1	0.039
	2	0.08	42.5	1673			12	2.0S	0	0	0.5	0.02
	3	0.12	32.5	1280			13	2.0S	0	0	0.5	0.02
	4	0.16	26	1024			12	2.0S	0	0	0.5	0.02
	5	0.2	16.5	650			15	2.5S	0	0	0.5	0.02
	6	0.24	14	551			8	3.5B	0	0	0.5	0.02
	8	0.31	9	354			7	5.0B	0	0	0.5	0.02
	10	0.39	7	276			5	5.0B	-1	-0.039	0.5	0.02
	12	0.47	5.25	207			6	6.0B	-4	-0.157	0.5	0.02
	14	0.55	3.25	128			6	7.0B	-6	-0.236	0.3	0.012
	16	0.63	2.15	85			6	7.0B	-8	-0.315	0.3	0.012
	18	0.71	1.4	55			6	7.0B	-9	-0.354	0.5	0.02
	20	0.79	1.3	51			6	7.0B	-11	-0.433	0.3	0.012
	25	0.98	0.8	31			6	7.0B	-13	-0.512	0.3	0.012
	30	1.18	0.275	11			10	7.0B	7	0.276	0.3	0.012
	40	1.57	0.175	7			15	7.0B	8	0.315	0.3	0.012
stainless steel	1	0.04	55	2165	12000	Air	10	2.0S	0	0	1	0.039
	2	0.08	42.5	1673			10	2.5S	0	0	0.5	0.02
	3	0.12	32.5	1280			10	2.5S	0	0	0.5	0.02
	4	0.16	27.5	1083			10	3.5B	0	0	0.5	0.02
	5	0.2	17.5	689			10	3.5B	0	0	0.5	0.02
	6	0.24	15.5	610			10	3.5B	0	0	0.5	0.02
	8	0.31	10	394			10	3.5B	0	0	0.5	0.02
	10	0.39	7.5	295			10	3.5B	-1	-0.039	0.5	0.02
	12	0.47	5.5	217			10	5.0B	-4	-0.157	0.5	0.02
	14	0.55	3.75	148			10	5.0B	-6	-0.236	0.5	0.02
	16	0.63	2.15	85			10	5.0B	-8	-0.315	0.5	0.02
	18	0.71	1.75	69			10	5.0B	-9	-0.354	0.5	0.02
	20	0.79	1.4	55			10	5.0B	-11	-0.433	0.3	0.012
	25	0.98	0.85	33			10	5.0B	-13	-0.512	0.3	0.012
	30	1.18	0.45	18			10	5.0B	-14	-0.551	0.3	0.012
Aluminum alloy	1	0.04	47.5	1870	12000	N_2	12	2.0S	0	0	0.8	0.031
	2	0.08	32.5	1280			12	2.0S	-1	-0.039	0.5	0.02
	3	0.12	22.5	886			12	2.0S	-1	-0.039	0.5	0.02
	4	0.16	19	748			12	2.0S	-2	-0.079	0.5	0.02
	5	0.2	15	591			14	2.5S	-3	-0.118	0.5	0.02
	6	0.24	11	433			14	2.5S	-3	-0.118	0.5	0.02
	8	0.31	7	276			14	2.5S	-4	-0.157	0.5	0.02
	10	0.39	5	197			14	5.0B	-5	-0.197	0.5	0.02
	12	0.47	2.5	98			16	5.0B	-5	-0.197	0.5	0.02
	14	0.55	2	79			16	5.0B	-5	-0.197	0.5	0.02
	16	0.63	1.6	63			16	5.0B	-5	-0.197	0.5	0.02
	18	0.71	1.3	51			16	5.0B	-5	-0.197	0.5	0.02
	20	0.79	1	39			16	7.0B	-5	-0.197	0.3	0.012
	25	0.98	0.6	24			16	7.0B	-5	-0.197	0.3	0.012
	30	1.18	0.275	11			18	7.0B	7	0.276	0.3	0.012
	40	1.57	0.18	7			18	7.0B	8	0.315	0.3	0.012
brass	1	0.04	40	1575	12000	N_2	12	2.0S	0	0	1	0.039
	2	0.08	32.5	1280			12	2.0S	-1	-0.039	0.5	0.02
	3	0.12	20	787			12	2.0S	-1	-0.039	0.5	0.02
	4	0.16	16.5	650			12	2.0S	-2	-0.079	0.5	0.02
	5	0.2	13.5	531			14	2.5S	-3	-0.118	0.5	0.02
	6	0.24	9	354			14	2.5S	-3	-0.118	0.5	0.02
	8	0.31	6	236			14	2.5S	-4	-0.157	0.5	0.02
	10	0.39	4.5	177			14	5.0B	-5	-0.197	0.5	0.02
	12	0.47	1.9	75			14	5.0B	-5	-0.197	0.5	0.02
	14	0.55	1.3	51			16	5.0B	-8	-0.315	0.5	0.02
	16	0.63	0.9	35			16	5.0B	-11	-0.433	0.3	0.012
Copper	1	0.04	27.5	1083	12000	O_2	5	2.0S	-0.5	-0.02	1	0.039
	2	0.08	22.5	886			5	2.0S	-1	-0.039	0.5	0.02
	3	0.12	17	669			6	2.0S	-2	-0.079	0.5	0.02
	4	0.16	11	433			8	2.0S	-3	-0.118	0.5	0.02
	5	0.2	7	276			8	2.5S	-4.5	-0.177	0.5	0.02
	6	0.24	4.5	177			8	2.5S	-5	-0.197	0.5	0.02
	8	0.31	2.25	89			10	3.0S	-6	-0.236	0.5	0.02
	10	0.39	1.1	43			12	4.0S	-8	-0.315	0.5	0.02

Note: The red marked parameters in the table are proofing parameters, which are greatly affected by various factors in actual processing, and are only suitable for small batch production, and are not recommended for mass production and processing, and higher power lasers are recommended.