FIND THE POWER FOR YOUR PLATE WORK

LASER CUTTING SPEED AND THICKNESS CHART

Start with the plate you cut and the thicker jobs you want to bring in-house. Compare speeds by material, thickness and laser power. These are reference speeds in meters per minute. Your results depend on material grade, assist gas and setup.

SEE THE THICKEST PLATE LISTED BY POWER

3 kW | **6 kW** | 12 kW | 20 kW | 30 kW | 40 kW

CARBON STEEL

30 mm 1.18"

Thickest plate listed at 6 kW.

STAINLESS STEEL

16 mm 0.63"

Thickest plate listed at 6 kW.

ALUMINUM

16 mm 0.63"

Thickest plate listed at 6 kW.

SEE CUT SPEEDS BY THICKNESS →

O_2 / N_2 / AIR

CARBON STEEL

3 kW: up to 20 mm (0.79 in). 6 kW: up to 30 mm (1.18 in). 12 kW: up to 40 mm (1.57 in). 20 kW: up to 50 mm (1.97 in). 30 kW: up to 50 mm (1.97 in). 40 kW: up to 50 mm (1.97 in).

Compare reference speeds in m/min for your thickness. Multiply by 3.28 for ft/min. A dash means that cut is not recommended at that power.

THICKNESS (MM)	INCH	3 KW	6 KW	12 KW	20 KW	30 K
1 mm	0.039"	20–25	30–35	30–45	30–55	30–5
2 mm	0.079"	17–22	30–35	30–35	30–55	30–5
3 mm	0.12"	2.6–3.3	15–20	20–25	20–30	30–3
4 mm	0.16"	2.4–3	9–13	15–20	20–25	23–2
5 mm	0.20"	2.4–2.8	7–9	12–15	20–22	22–2
6 mm	0.24"	2.2–2.6	6–8	10–13	18–20	20–2
8 mm	0.31"	1.8–2.1	2.2–2.6	7–10	14–16	18–2
10 mm	0.39"	1.4–1.6	2–2.4	6–6.5	9–12	14–1
12 mm	0.47"	1–1.2	1.6–2	1.6–2	7–8	9–12
16 mm	0.63"	0.6–0.7	1–1.2	1.5–1.6	2–3	4–6
20 mm	0.79"	0.55–0.65	0.6–0.7	1.3–1.4	1.3–1.4	4–5
25 mm	0.98"	–	0.5–0.6	0.7–0.9	1–1.2	1–1.

30 mm	1.18"	–	0.25–0.35	0.4–0.6	0.9–1.1	0.9-
40 mm	1.57"	–	–	0.2–0.3	0.4–0.6	0.4-
50 mm	1.97"	–	–	–	0.3–0.4	0.4-

N_2 / AIR

STAINLESS STEEL

3 kW: up to 12 mm (0.47 in). 6 kW: up to 16 mm (0.63 in). 12 kW: up to 30 mm (1.18 in). 20 kW: up to 30 mm (1.18 in). 30 kW: up to 30 mm (1.18 in). 40 kW: up to 30 mm (1.18 in).

Compare reference speeds in m/min for your thickness. Multiply by 3.28 for ft/min. A dash means that cut is not recommended at that power.

THICKNESS (MM)	INCH	3 KW	6 KW	12 KW	20 KW	30 KW
1 mm	0.039"	20–25	30–35	30–45	30–55	30–55
2 mm	0.079"	17–22	30–35	30–35	30–55	30–55
3 mm	0.12"	6–8	15–20	20–30	20–30	30–35
4 mm	0.16"	4–6	9–13	15–20	20–25	23–28
5 mm	0.20"	2.5–3.5	8–11	12–15	20–24	22–26
6 mm	0.24"	1.8–2.3	6–8	10–13	10–13	22–25
8 mm	0.31"	0.9–1.2	3–4	7–10	13–16	18–22
10 mm	0.39"	0.4–0.6	1.5–2.5	6–6.5	10–12	13–16
12 mm	0.47"	0.1–0.2	1–1.4	5–5.5	8–10	10–12

16 mm	0.63"	–	0.6–0.8	2–2.3	3.2–4	5–6
20 mm	0.79"	–	–	1.2–1.4	2.5–3	3–4
25 mm	0.98"	–	–	0.7–0.9	1.5–2	1.5–2
30 mm	1.18"	–	–	0.3–0.5	1–1.2	1–1.2

N_2 / AIR

ALUMINUM

3 kW: up to 6 mm (0.24 in). 6 kW: up to 16 mm (0.63 in). 12 kW: up to 25 mm (0.98 in). 20 kW: up to 30 mm (1.18 in). 30 kW: up to 30 mm (1.18 in). 40 kW: up to 30 mm (1.18 in).

Compare reference speeds in m/min for your thickness. Multiply by 3.28 for ft/min. A dash means that cut is not recommended at that power.

THICKNESS (MM)	INCH	3 KW	6 KW	12 KW	20 KW	30 KW
1 mm	0.039"	20–25	30–35	30–45	30–55	30–55
2 mm	0.079"	14–16	30–35	30–35	30–45	30–45
3 mm	0.12"	6–8	20–25	20–25	20–30	30–35
4 mm	0.16"	3–5	8–13	15–17	20–25	20–25
6 mm	0.24"	1.2–2	4–7	10–12	10–12	10–12
8 mm	0.31"	–	2–3.5	6–8	10–12	10–12
10 mm	0.39"	–	1.5–2	4–6	9–10	10–12
12 mm	0.47"	–	1–1.2	2–3	5–6	9–10

16 mm	0.63"	–	0.2–0.4	1.3–2	3–4	5–6
20 mm	0.79"	–	–	0.5–0.7	1.5–2	3–4
25 mm	0.98"	–	–	0.2–0.3	1–1.2	1.5–2
30 mm	1.18"	–	–	–	0.8–1	1–1.2

THICKNESS BY LASER POWER

How thick can a 3 kW fiber laser cut?

On our reference chart, a 3 kW fiber laser cuts carbon steel up to 20 mm (0.79 in), stainless steel up to 12 mm (0.47 in), aluminum up to 6 mm (0.24 in). Real limits depend on material grade, assist gas and set-up.

How thick can a 6 kW fiber laser cut?

On our reference chart, a 6 kW fiber laser cuts carbon steel up to 30 mm (1.18 in), stainless steel up to 16 mm (0.63 in), aluminum up to 16 mm (0.63 in). Real limits depend on material grade, assist gas and set-up.

How thick can a 12 kW fiber laser cut?

On our reference chart, a 12 kW fiber laser cuts carbon steel up to 40 mm (1.57 in), stainless steel up to 30 mm (1.18 in), aluminum up to 25 mm (0.98 in). Real limits depend on material grade, assist gas and set-up.

How thick can a 20 kW fiber laser cut?

On our reference chart, a 20 kW fiber laser cuts carbon steel up to 50 mm (1.97 in), stainless steel up to 30 mm (1.18 in), aluminum up to 30 mm (1.18 in). Real limits depend on material grade, assist gas and set-up.

How thick can a 30 kW fiber laser cut?

On our reference chart, a 30 kW fiber laser cuts carbon steel up to 50 mm (1.97 in), stainless steel up to 30 mm (1.18 in), aluminum up to 30 mm (1.18 in). Real limits depend on material grade, assist gas and set-up.

How thick can a 40 kW fiber laser cut?

On our reference chart, a 40 kW fiber laser cuts carbon steel up to 50 mm (1.97 in), stainless steel up to 30 mm (1.18 in), aluminum up to 30 mm (1.18 in). Real limits depend on material grade, assist gas and set-up.

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