

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 | | |
| 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 | | | |
| 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 | | | |

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