



























- The results would be different in even same material with different finishing or different colors, so you need to adjust the speed and power rate based on different objects. Also, please adjust the focal length to be the best, make the focal spot to be the smallest.
- It couldn't engrave or cut directly: Glossy metal plate, Transparent materials, Reflecting materials, Some materials in white color or pervious to light, etc. Then, you need to use the marker pen to black it to engrave.
- It is recommended that the minimum cutting speed of 10W and above laser modules should not be less than 200mm, otherwise the cutting materials may easily catch fire!
- When the laser engraver is working, the operator must pay close attention and not place it alone to prevent the engraved material from catching fire. Please set up the laser engraver in a fireproof area and ensure good ventilation. If possible, we recommend that you purchase a fire extinguisher and keep it close to the machine.
- Please check the documentation of ortur, find the corresponding software tutorial, and modify the corresponding value.

| To Engraving                  | Material | ≤ 2.1W  | = 5W   | = 10W  | = 20W  |
|-------------------------------|----------|---|--|--|--|
| M D F                         |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 3000mm<br>Power Min (%) : 0   Power Min (%) : 70  | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 40  |
| Plywood                       |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 3000mm<br>Power Min (%) : 0   Power Min (%) : 70  | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 15000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 80  |
| Pine                          |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 3000mm<br>Power Min (%) : 0   Power Min (%) : 70  | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 100 |
| Paulownia                     |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 3000mm<br>Power Min (%) : 0   Power Min (%) : 70  | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 70   | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 40  |
| Paperboard<br>(Cardboard Box) |          | Image Mode: Grayscale<br>Interval (mm) : 0.06<br>Speed (mm/m) : 3000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 9000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 70   | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 35  |
| A4 Paper<br>(Not White)       |          | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 3000mm<br>Power Min (%) : 0   Power Min (%) : 60  | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 9000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 3000mm<br>Power Min (%) : 0   Power Min (%) : 15   | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 35  |
| Kraft Paper<br>250g           |          | Image Mode: Grayscale<br>Interval (mm) : 0.06<br>Speed (mm/m) : 2000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 9000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 60  | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 100 |
| Leather                       |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 3000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 60   | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 30  |
| Black Acrylic                 |          | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 2000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 50  |
| Cobblestone                   |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 100mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 100mm<br>Power Min (%) : 0   Power Min (%) : 100   | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 1000mm<br>Power Min (%) : 0   Power Min (%) : 25    | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 2000mm<br>Power Min (%) : 0   Power Min (%) : 100  |
| Ceramics                      |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 500mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 1000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 5000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 |
| Coated Metal                  |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 2500mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 5000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 25   | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 25  |
| Plated Metal                  |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 100mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 100mm<br>Power Min (%) : 0   Power Min (%) : 100   | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 1000mm<br>Power Min (%) : 0   Power Min (%) : 25   | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 8000mm<br>Power Min (%) : 0   Power Min (%) : 100  |
| Stainless Steel               |          | X   | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 100mm<br>Power Min (%) : 0   Power Min (%) : 100   | Image Mode: Grayscale<br>Interval (mm) : 0.05<br>Speed (mm/m) : 2000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 4000mm<br>Power Min (%) : 0   Power Min (%) : 100   |
| Glass                         |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 500mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 1500mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 5000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 |
| Knit                          |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 4000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 50  |
| Cotton                        |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 4000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 50  |
| ABS Plastics                  |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 4000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 50  |
| Bamboo                        |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 3000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 7000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 15000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 65  |
| Silica Gel                    |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 400mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 1000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 2000mm<br>Power Min (%) : 0   Power Min (%) : 100   | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 4000mm<br>Power Min (%) : 0   Power Min (%) : 100  |
| Rubber                        |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 2000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 5000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 10000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 20000mm<br>Power Min (%) : 0   Power Min (%) : 100 |
| Ceramic Tile                  |          | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 2000mm<br>Power Min (%) : 0   Power Min (%) : 100 | Image Mode: Grayscale<br>Interval (mm) : 0.07<br>Speed (mm/m) : 4000mm<br>Power Min (%) : 0   Power Min (%) : 100  | Image Mode: Grayscale<br>Interval (mm) : 0.1<br>Speed (mm/m) : 8000mm<br>Power Min (%) : 0   Power Min (%) : 100   | Image Mode: Grayscale<br>Interval (mm) : 0.12<br>Speed (mm/m) : 16000mm<br>Power Min (%) : 0   Power Min (%) : 100 |
| Tin Lead Ore                  |          | X   | X  | X  | X  |

| To Engraving        | Material  |  ≤ 2.1W |  = 5W |  = 10W |  = 20W |
|---------------------|---|--|--|---|---|
| Copper              |  | ×  | ×  | ×   | ×   |
| Silver              |  | ×  | ×  | ×   | ×   |
| Gold                |  | ×  | ×  | ×   | ×   |
| Pure Aluminum       |  | ×  | ×  | ×   | ×   |
| Soap                |  | ×  | ×  | ×   | ×   |
| White Foam          |  | ×  | ×  | ×   | ×   |
| Transparent Acrylic |  | ×  | ×  | ×   | ×   |



| To Cutting    | Material  |  ≤ 2.1W |  = 5W |  = 10W |  = 20W |
|---------------|---|--|--|---|---|
| Black Acrylic |    | ×  | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 3        | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 3           | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 1           |
| 8mm           |   | ×  | ×  | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 4           | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 2           |
| 20mm          |   | ×  | ×  | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 11          | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 5           |
| 25mm          |   | ×  | ×  | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 14          | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 8           |
| 30mm          |   | ×  | ×  | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 19          | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 12          |
| PVC           |    | ×  | Image Mode: Line<br>Speed (mm/m): 500mm<br>Power Min (%): 100<br>Pass Count : 1        | Image Mode: Line<br>Speed (mm/m): 1000mm<br>Power Min (%): 100<br>Pass Count : 1          | Image Mode: Line<br>Speed (mm/m): 1000mm<br>Power Min (%): 100<br>Pass Count : 1          |
| 5mm           |   | ×  | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 1        | Image Mode: Line<br>Speed (mm/m): 700mm<br>Power Min (%): 100<br>Pass Count : 1           | Image Mode: Line<br>Speed (mm/m): 600mm<br>Power Min (%): 100<br>Pass Count : 1           |
| 7mm           |   | ×  | ×  | Image Mode: Line<br>Speed (mm/m): 200mm<br>Power Min (%): 100<br>Pass Count : 1           | Image Mode: Line<br>Speed (mm/m): 400mm<br>Power Min (%): 100<br>Pass Count : 1           |
| Leather       |    | ×  | ×  | Image Mode: Line<br>Speed (mm/m): 300mm<br>Power Min (%): 100<br>Pass Count : 1           | Image Mode: Line<br>Speed (mm/m): 500mm<br>Power Min (%): 100<br>Pass Count : 1           |
| A4 Paper      |    | Image Mode: Line<br>Speed (mm/m): 1000mm<br>Power Min (%): 100<br>Pass Count : 1         | Image Mode: Line<br>Speed (mm/m): 2500mm<br>Power Min (%): 100<br>Pass Count : 1       | Image Mode: Line<br>Speed (mm/m): 4500mm<br>Power Min (%): 100<br>Pass Count : 1          | Image Mode: Line<br>Speed (mm/m): 8000mm<br>Power Min (%): 100<br>Pass Count : 1          |
| Knit          |    | ×  | Image Mode: Line<br>Speed (mm/m): 500mm<br>Power Min (%): 100<br>Pass Count : 1        | Image Mode: Line<br>Speed (mm/m): 1000mm<br>Power Min (%): 100<br>Pass Count : 1          | Image Mode: Line<br>Speed (mm/m): 2000mm<br>Power Min (%): 100<br>Pass Count : 1          |
| Cotton        |  | ×  | Image Mode: Line<br>Speed (mm/m): 500mm<br>Power Min (%): 100<br>Pass Count : 1        | Image Mode: Line<br>Speed (mm/m): 1000mm<br>Power Min (%): 100<br>Pass Count : 1          | Image Mode: Line<br>Speed (mm/m): 2000mm<br>Power Min (%): 100<br>Pass Count : 1          |
| ABS Plastics  |  | ×  | Image Mode: Line<br>Speed (mm/m): 500mm<br>Power Min (%): 100<br>Pass Count : 1        | Image Mode: Line<br>Speed (mm/m): 1000mm<br>Power Min (%): 100<br>Pass Count : 1          | Image Mode: Line<br>Speed (mm/m): 2000mm<br>Power Min (%): 100<br>Pass Count : 1          |
| Bamboo        |  | ×  | ×  | Image Mode: Line<br>Speed (mm/m): 200mm<br>Power Min (%): 100<br>Pass Count : 10          | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 3           |
| Silica Gel    |  | ×  | ×  | Image Mode: Line<br>Speed (mm/m): 200mm<br>Power Min (%): 100<br>Pass Count : 8           | Image Mode: Line<br>Speed (mm/m): 100mm<br>Power Min (%): 100<br>Pass Count : 4           |