

Laser engraver



Marking



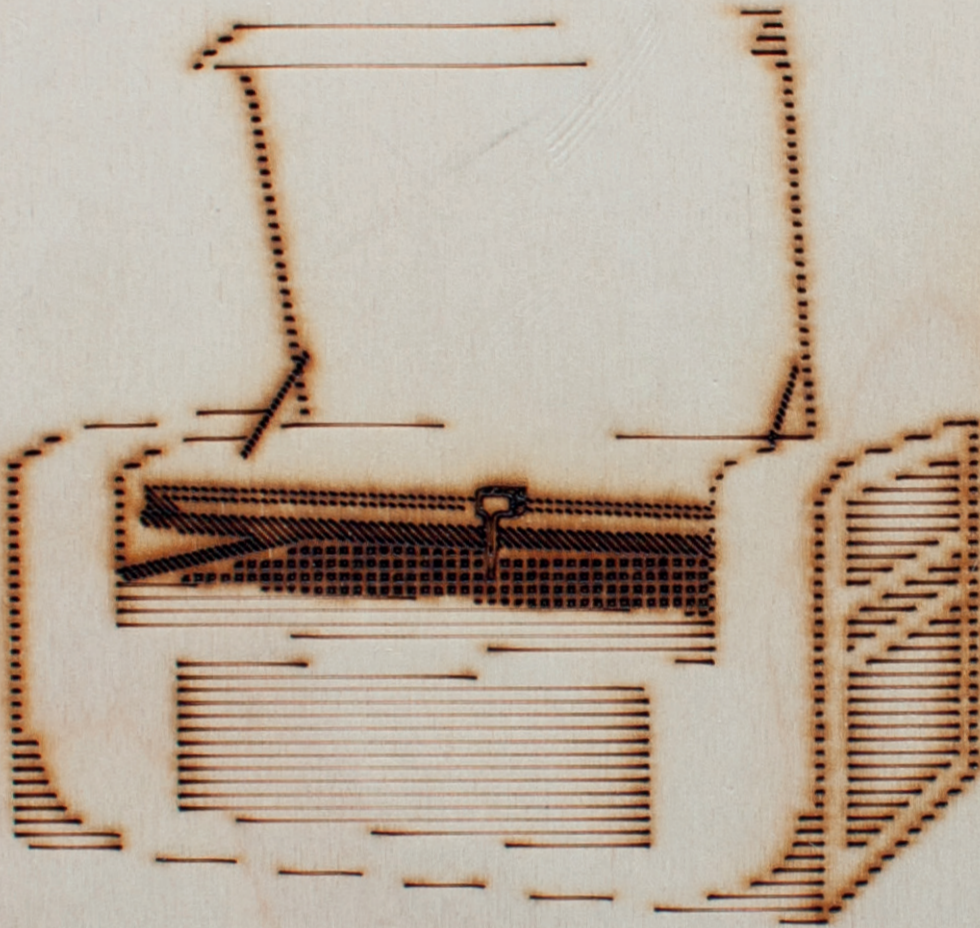
Introduction : The laser engraver have two option, cut and engrave, it does have two data on this option than you can decide, the speed calculated between 10mm/sec to 500mm/sec,

Cut



And power calculated between 0% to 100%, With the option cut you can cut but also marking with a low power. So it is possible to make engraving with the option marking, engraving pattern.

Engrave



Poster data

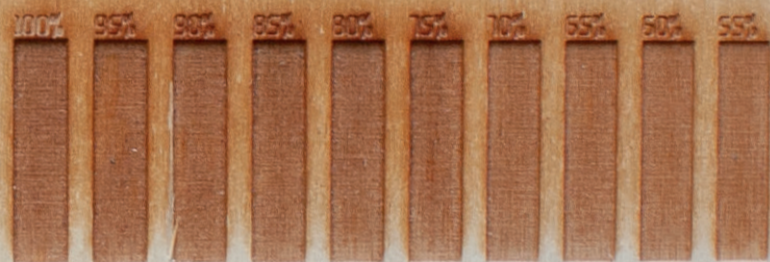
Font :

- Text : 12pt marking
- Title : 24pt engrave

Symbol :

- Introduction : engrave
- Astuce : engrave
- Machine : marking
- Marking pattern : marking
- Controller : engrave
- Contouring : cut

- Marking : 500mm/sec, 15%
- Cut : 10mm/sec, 50%
- Engrave : 500mm/sec, 35%

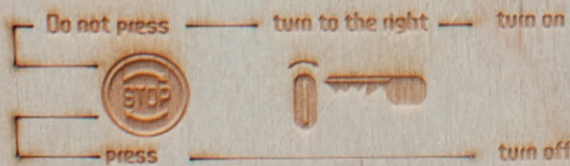


Machine : Laser engraver
Test : power scale of engrave

Support : Wood
Speed : 500mm/sec

WARNING : Over 80% of power damages the laser

Controller



Laser : Test the laser()

Test : Show the limit of the projet

Menu : Open the menu()

Return : mount the tray to its highest point()

← : Lead the menu

Stop : Stop the projet

Start : Start the projet

⊕ ⊖ : Lead the laser head

Machine are cool | 12pt

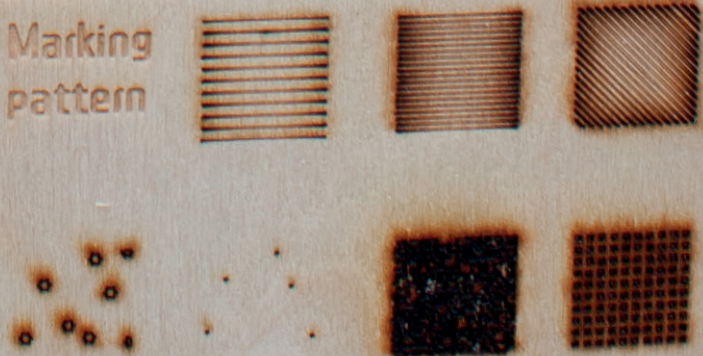
Machine are cool | 18pt

Machine are cool | 24pt

Machine are cool | 36pt

Machine are cool | 48pt

Marking pattern





Pattern test

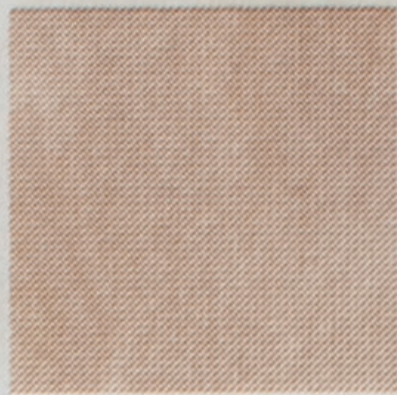


A lot of machine used which is the basic one can often process in one color, or matter. The way to create variation in color and degraded is to use pattern. This patterns are created into Illustrator. Using engrave in the engraver laser.

Some of them (embroidery and 3d printer) can use more than one color is often a machine which is often industrial so less accessible for citizens. In case of CNC and laser engraver, pattern is the only way to create mass and volume.



origine pattern (o.p.) :
square, 0,5 mm,
espacing, 0,5 mm,
forming a square, 60 mm.



o.p. with zigzag effect :
size, 0,5 mm, absolut,
ridges per segment, 0,5mm, corner.



o.p. with tweak effect :
horizontal, 0,5 mm,
vertical, 0,5mm, absolute,
points, anchor, in, out control.



o.p. with stylize round corners effect :
radius, 5 mm.



origine pattern (o.p.) :
line, 90°, 1 pt, 0,353 mm,
espacing, 0,6 mm,
forming a square, 60 mm.



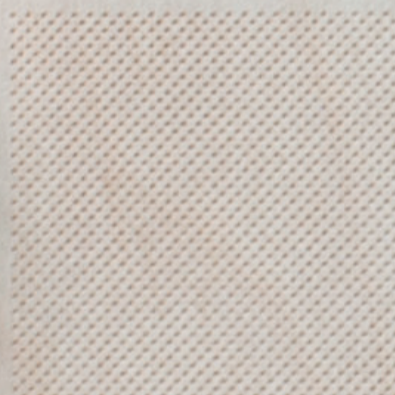
origine pattern turn to a 45° angle.



origine pattern with :
espacing, 1,553 mm.



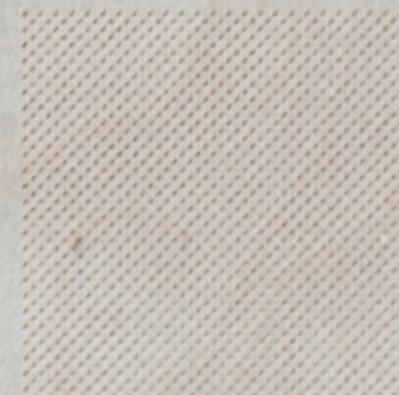
origine pattern with :
espacing, 3,121 mm.



origine pattern (o.p.) :
square, 0,5 mm,
espacing, 1,8 mm,
forming a square, 60 mm.



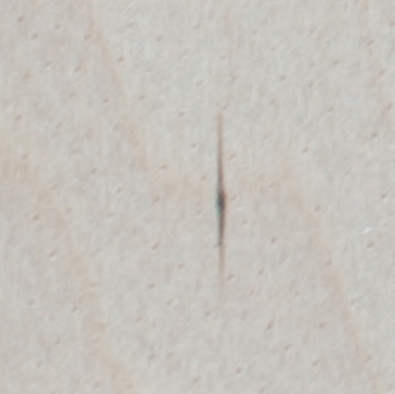
o.p. with zigzag effect :
size, 0,5 mm, absolut,
ridges per segment, 0,5mm, corner.



o.p. with wave option :
style, wave, horizontal,
inflexion, -100%,
horizontal, 100%, vertical 0%.



o.p. with stylize scribble effect :
option, loop,
angle, 60°.



origine pattern (o.p.) :
round, 0,433 mm,
disposition, random,
forming a square, 60 mm.



o.p. with tweak effect :
horizontal, 2 mm,
vertical, 2 mm, absolute,
points, anchor.



o.p. with roughen effect :
size, 10 mm, absolute,
detail, 10/in
points, corner.



o.p. convert shape rectangle effect :
size, absolute,
width, 0,5 mm,
height, 2 mm.

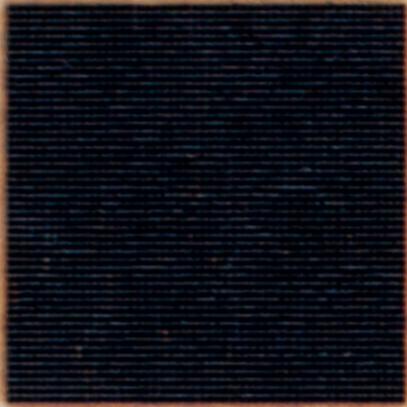


Pattern test

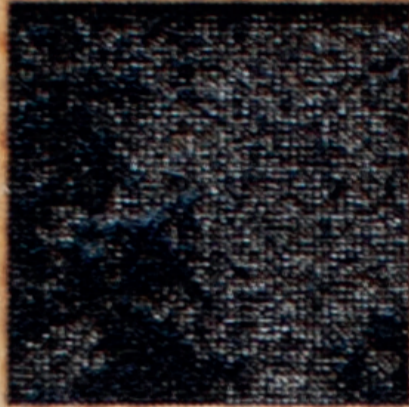


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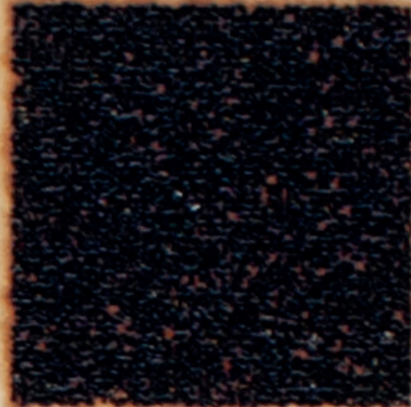
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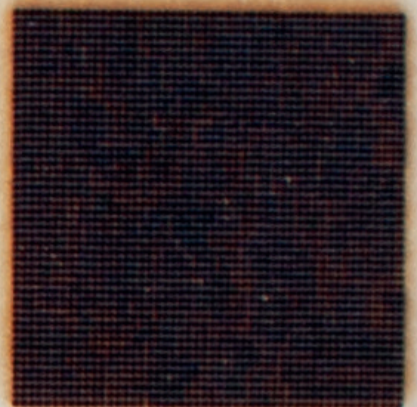
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size, 0,5 mm, absolut,
ridges per segment, 0,5mm, corner.



o.p. with tweak effect :
horizontal, 0,5 mm,
vertical, 0,5mm, absolute,
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o.p. with stylize round corners effect :
radius, 5 mm.



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line, 90°, 1 pt, 0,353 mm,
espacing, 0,5 mm,
forming a square, 60 mm.



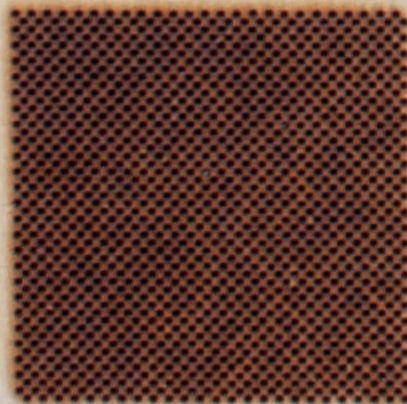
origine pattern turn to a 45° angle.



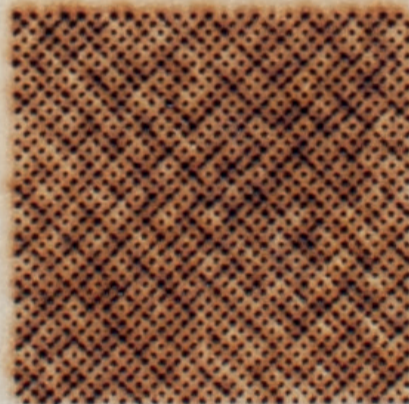
origine pattern with :
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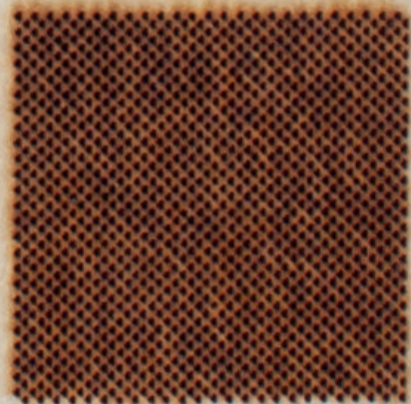
origine pattern with :
espacing, 3,121 mm.



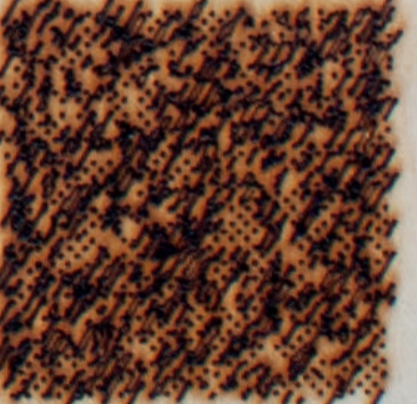
origine pattern (o.p.) :
square, 0,6 mm,
espacing, 1,8 mm,
forming a square, 60 mm.



o.p. with zigzag effect :
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ridges per segment, 0,5mm, corner.



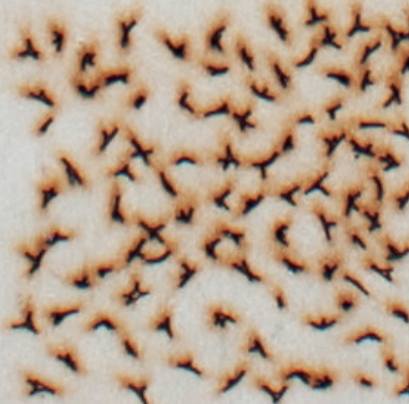
o.p. with warp option :
style, wave, horizontal,
inflexion, -100%,
horizontal, 100%, vertical 0%.



o.p. with stylize scribble effect :
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angle, 60°.



origine pattern (o.p.) :
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points, anchor.



o.p. with roughen effect :
size, 10 mm, absolute,
detail, 10/in,
points, corner.



o.p. convert shape rectangle effect :
size, absolute,
with, 0,5 mm,
height, 2 mm.



Pictogram test



Test of the limit on the pattern. A set of pictogram to show the limit for the laser engraver. We see this limit between marking and engrave option. My process to achieve these pictograms. First, I create the form, second I fill it with pattern.

The first and second steps are repeated. Finally, I delete the pictogram (with pattern inside) and revectorize the picture, and delete the white. By this way, vector points does not covers each other and the engraver will work. If it covers, engrave will not work.

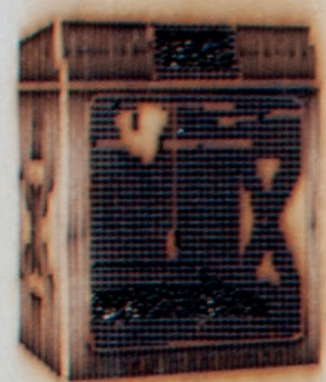


figure 1 - marking



figure 2 - marking

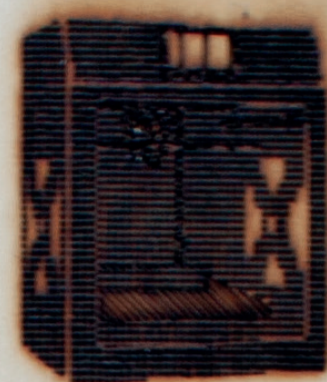


figure 3 - marking

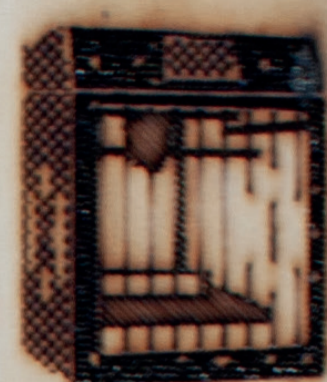


figure 4 - marking



figure 5 - marking

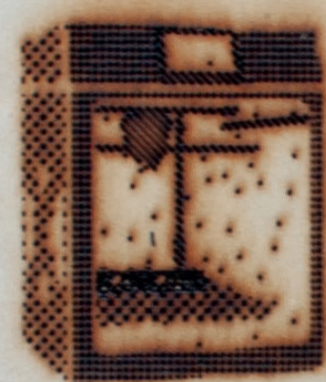


figure 6 - marking

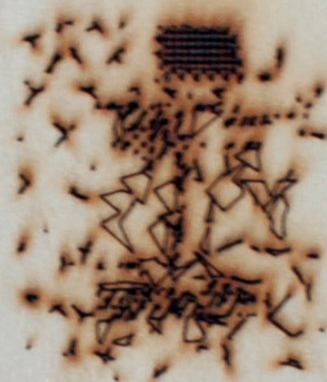


figure 7 - marking



figure 8 - marking



figure 9 - marking / engrave

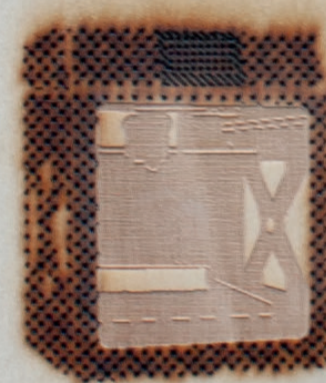


figure 10 - marking / engrave

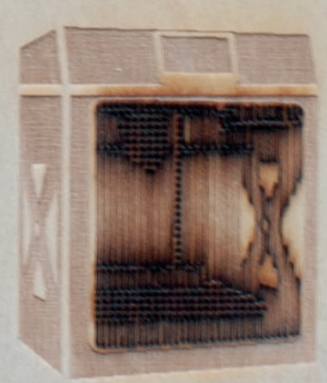


figure 11 - marking / engrave



figure 12 - marking / engrave



figure 13 - engrave



figure 14 - engrave

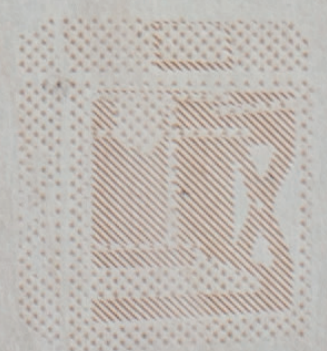


figure 15 - engrave



figure 16 - engrave



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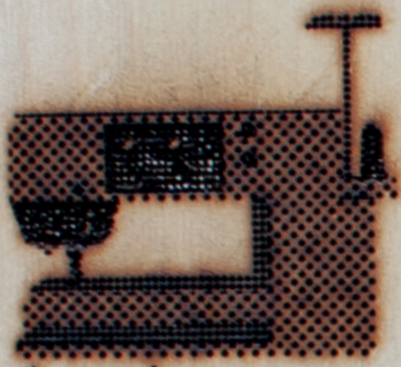


figure 1 - marking



figure 2 - marking



figure 3 - marking

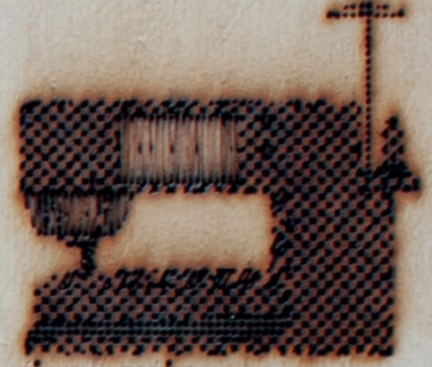


figure 4 - marking



figure 5 - marking

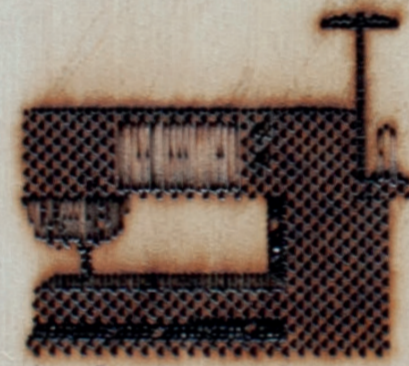


figure 6 - marking

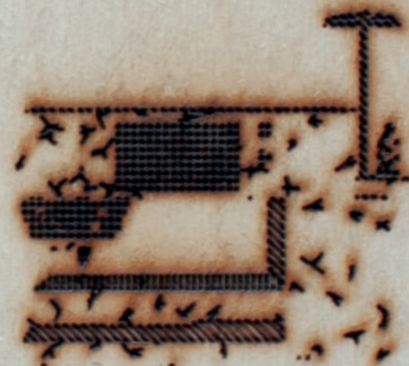


figure 7 - marking

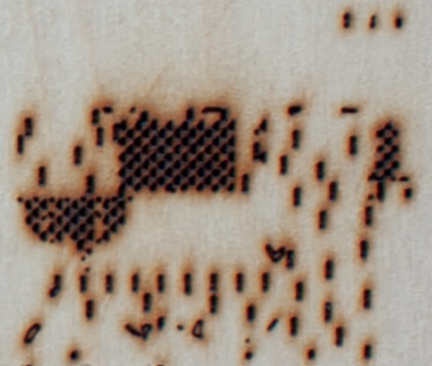


figure 8 - marking

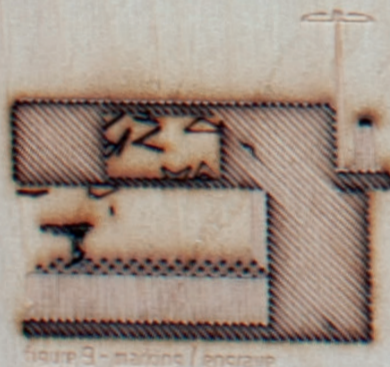


figure 9 - marking / engrave

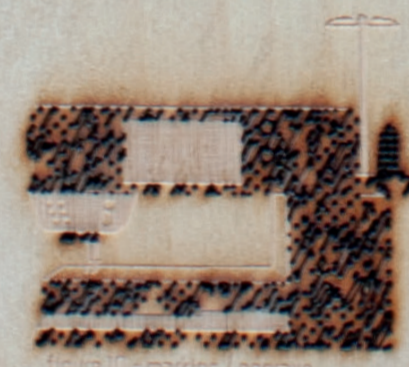


figure 10 - marking / engrave

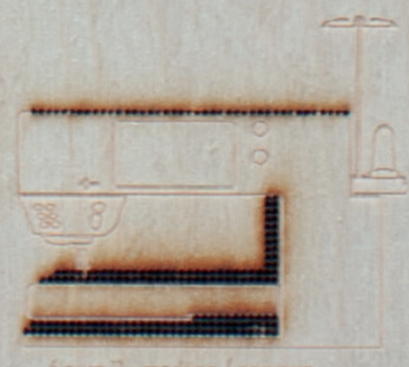


figure 11 - marking / engrave



figure 12 - marking / engrave



figure 13 - engrave



figure 14 - engrave



figure 15 - engrave



figure 16 - engrave



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figure 1 - marking

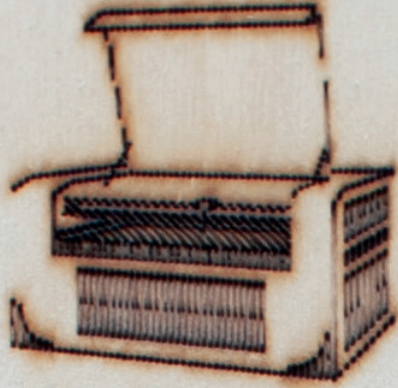


figure 2 - marking

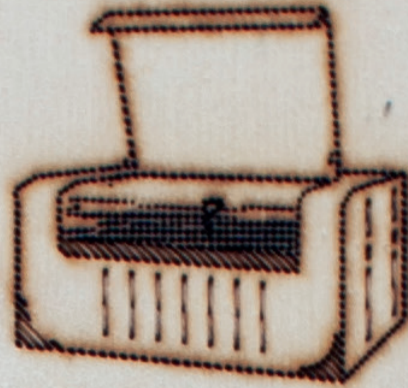


figure 3 - marking



figure 4 - marking

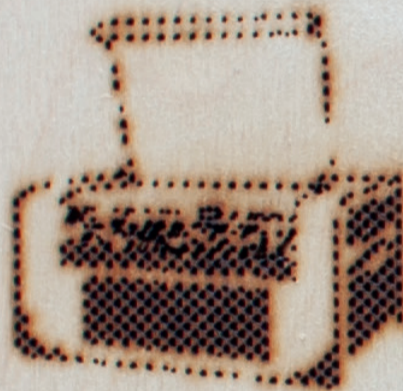


figure 5 - marking

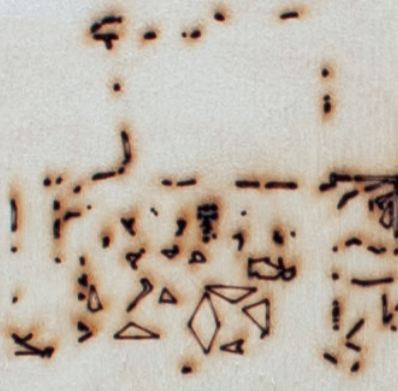


figure 6 - marking



figure 7 - marking



figure 8 - marking



figure 9 - marking / engrave



figure 10 - marking / engrave

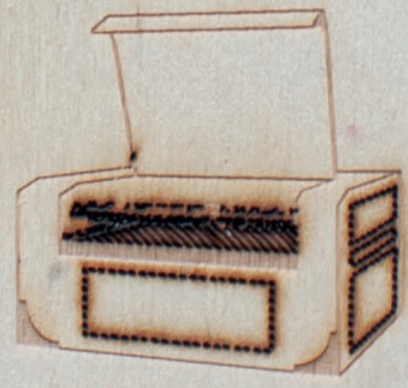


figure 11 - marking / engrave



figure 12 - marking / engrave



figure 13 - engrave



figure 14 - engrave



figure 15 - engrave



figure 16 - engrave



Font test



ZCool (QingKe Huang) was designed and produced by Zheng Qingke, and donated to the ZCOOL font project for public use. It features innovative character shapes and rounded lines, with right angles adjusted to a rounded 4pt corner radius.

The lower right corner of the radicals are notched at a 45 degree angle. Mainly the engraver needs less details and less angle in the typography. So the point to take this font is than it keeps its identity (point cited above) after its processing in a machine.

Each machine can be a graphic tool.

6pt

Each machine can be a graphic tool.

12pt

Each machine can be a graphic tool.

18pt

Each machine can be a graphic tool.

24pt

Each machine can be a graphic tool.

36pt

Each machine can be a graphic tool.

48pt

Each machine can be a graphic

60pt

Each machine can be a

72pt

Each machine can

108pt

Each machine

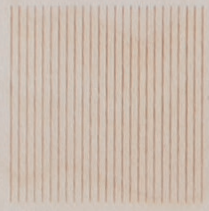
132pt

Each machine

156pt



L1



L2



L3

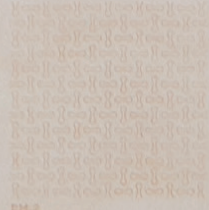


L4

L1: by myself 0.4 x 50 mm line. Engrave power: 20%, speed: 600 mm/s, 30mm.
 L2: by myself 0.4 x 50 mm line. Engrave power: 20%, speed: 600 mm/s, 30mm.
 L3: by myself 0.6 x 50 mm line. Engrave power: 20%, speed: 600 mm/s, 30mm.
 L4: by myself 0.6 x 50 mm line. Engrave power: 20%, speed: 600 mm/s, 30mm.



DH1



DH2



DH3



DH4

DH1: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.
 DH2: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.
 DH3: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.
 DH4: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.



DH5



DH6



DH7



DH8

DH5: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.
 DH6: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.
 DH7: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.
 DH8: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.



DH9



DH10



DH11



DH12

DH9: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.
 DH10: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.
 DH11: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.
 DH12: by David Makes Living Hinge Pattern. Engrave power: 20%, speed: 600 mm/s, 30mm.



D1



D1+D1



D2+D2



D2



D3+D3



D4+D4



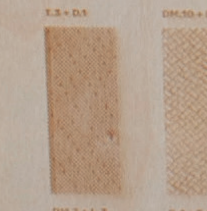
D3



T1



X1



D1.3+D1



DH.10+DH.10



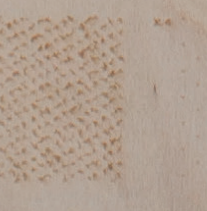
T.3+D3



DH.1.3+L.3



D4+T4



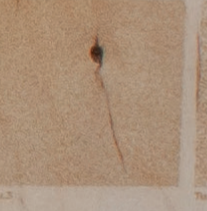
T4+X4



T1.1



T1.2



T1.3



T1.4



R1



R2



R3

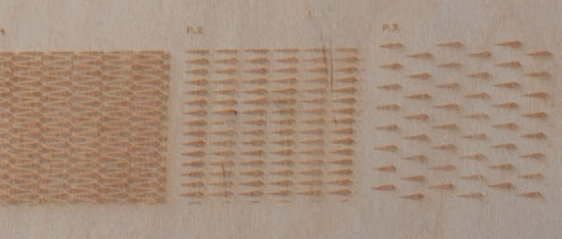


R4

A GraphLab

astuce outils graphiques

Machines are cool!
 Machines are cool!
 Machines are cool!
 Machines are cool!
 Machines are cool!
 Machines are cool!
 Machines are cool!
 Machines are cool!
 Machines are cool!
 Machines are cool!



10%

20%

30%

40%

50%

60%

70%

80%

90%

100%

30 Quai des Charbonnages, 1080 Brussels

GraphLab (MAL) Ingrave laser printing



Tu.1



Tu.2



Tu.3



Tu.4



R.1



R.2



R.3



R.4



GraphLab

outils graphiques

6pt Machines are cool!
 7pt Machines are cool!
 8pt Machines are cool!
 9pt Machines are cool!
 10pt Machines are cool!
 12pt Machines are cool!
 14pt Machines are cool!
 18pt Machines are cool!
 21pt Machines are cool!
 24pt Machines are cool!
 36pt Machines are cool!
 48pt Machines are cool!
 60pt Machines are cool!
 72pt Machines are cool!

Machines are cool!

72pt

Machines are cool!

60pt

Machines are cool!

48pt

Machines are cool!

36pt

Machines are cool!

24pt

Machines are cool!

21pt

Machines are cool!

18pt

Machines are cool!

14pt

Machines are cool!

12pt

Machines are cool!

10pt

Machines are cool!

9pt

Machines are cool!

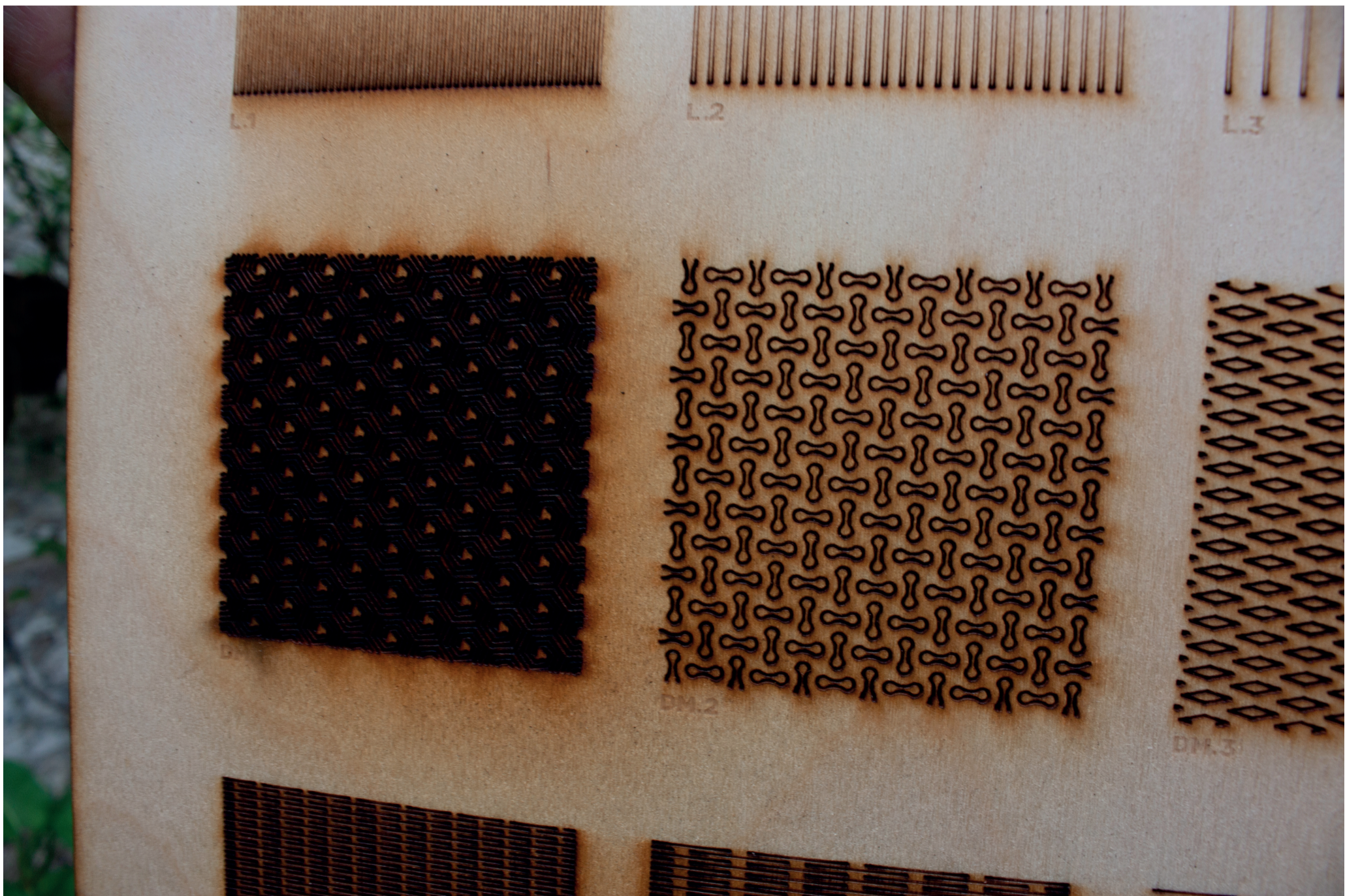
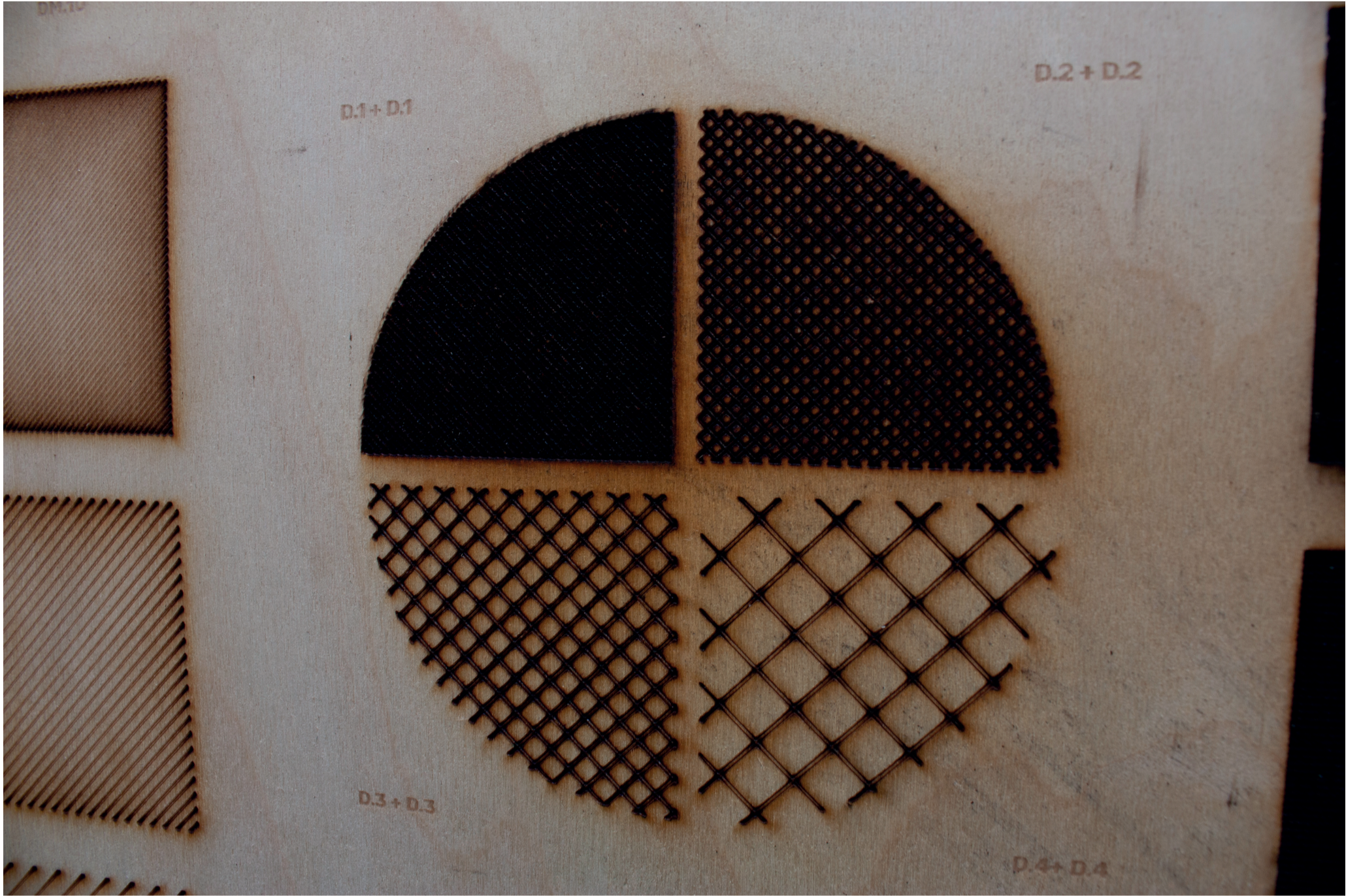
8pt

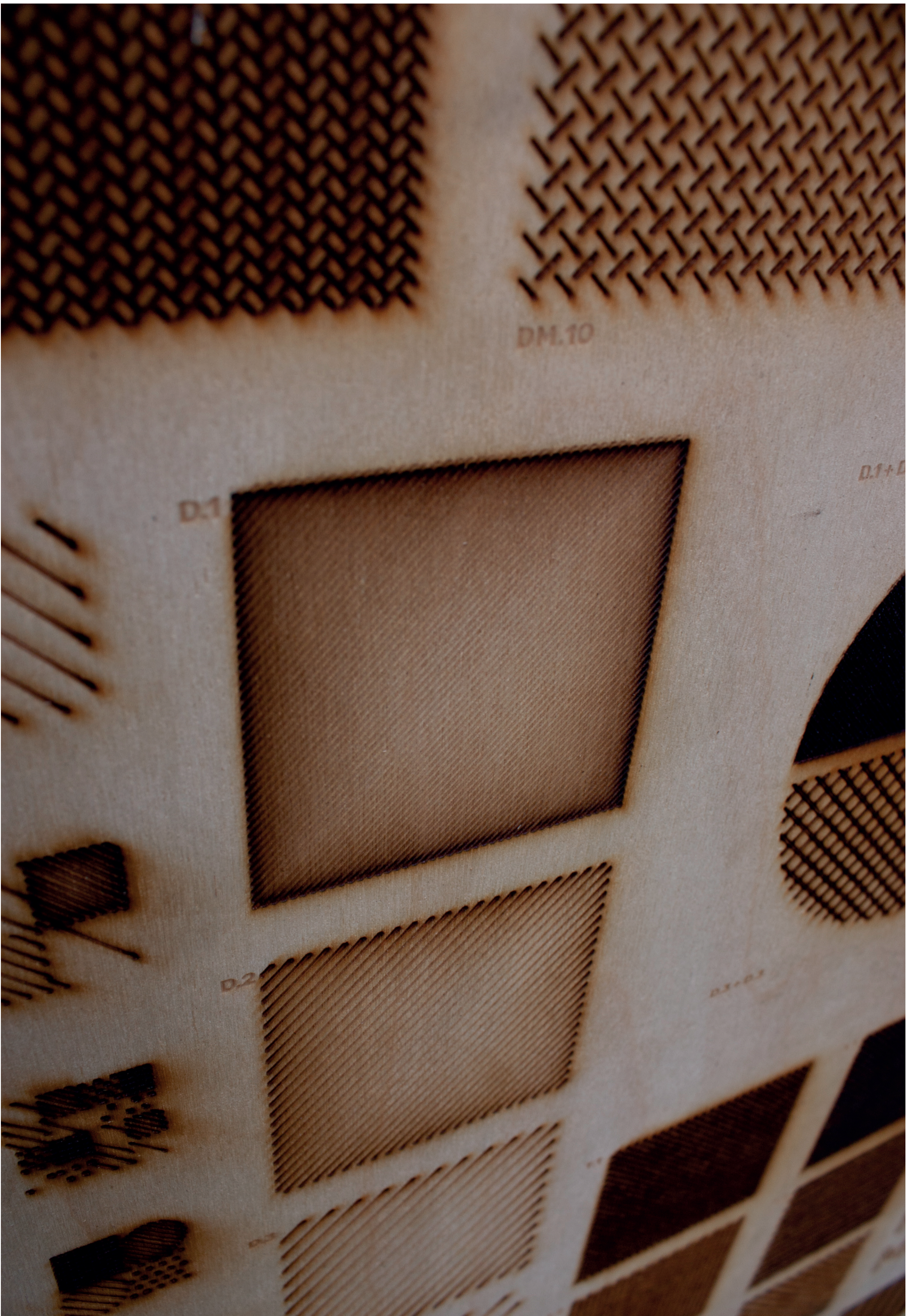
Machines are cool!

7pt

Machines are cool!

6pt





DM.10

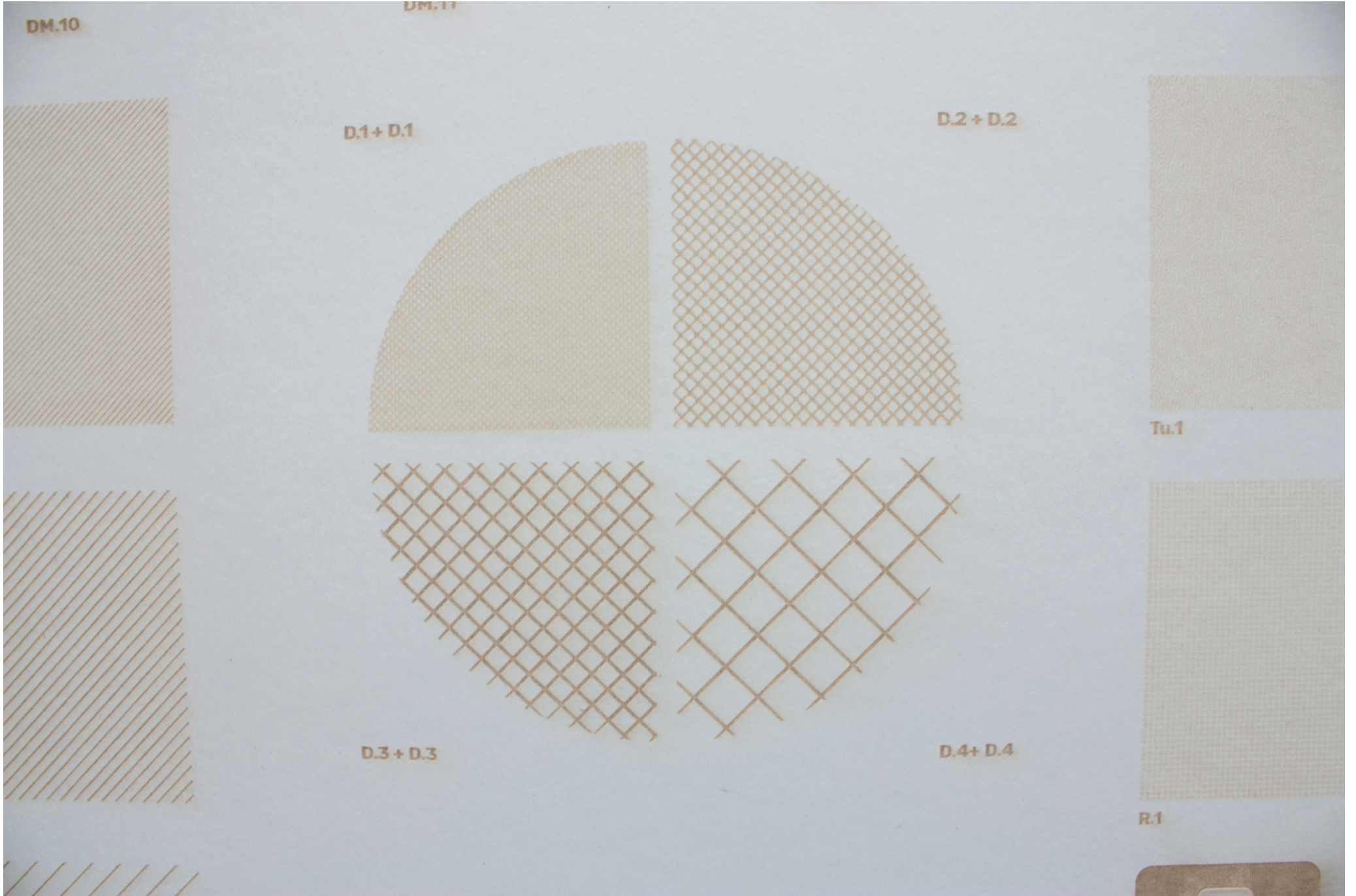
D.1

D.1+D

D.2

D.3-D.3

D.5



P.1 : by myself. 2.5 x 9.5 mm spike. Marking, power : 15%, speed : 800 mm/s, .bitmap.

P.2 : by myself. 2.5 x 9.5 mm spike. Marking, power : 10%, speed : 600 mm/s, .bitmap.

P.3 : by myself. 2.5 x 9.5 mm spike. Marking, power : 20%, speed : 600 mm/s, .bitmap.

P.4 : by myself. 2.5 x 9.5 mm spike. Marking, power : 15%, speed : 700 mm/s, .bitmap.

FONT TEXT : Rubik regular & bold. Engrave & marking, power : 20%, speed : 600 mm/s, .dxf.

FONT TITLE : ZCOOL QingKe HuangYou. Engrave & marking, power : 20%, speed : 600 mm/s, .dxf.

The « **A astuce** », user guides include all the tests and creations of « **GraphLab : outils graphiques** ».

They show and understand the spectrum of graphic possibilities of the laser engraver.

Power test

Speed : 600 mm/s

8% 9% 10% 11% 12% 13% 14% 15% 16% 17%

Fablab iMAL, Ingrave laser printing

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