Embellishing, engraving materials using laser technology to create innovative surfaces for recycled and sustainable materials.

Helen Ann Howells

September 2015

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Referenced photographs submitted to the University of Huddersfield in partial fulfilment of the requirements for the degree of Masters of Research.

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Figure 1

Howells,Helen

(2015)

Teak wood veneer weave.

Laser cut strips of veneer into 2cms width x 25cms length. Textile process of weaving used with strips (plain weave).

Laser etched 'Time piece'design over the surface of the woven structure.

Varnish applied over surface as a protective and gloss finish.

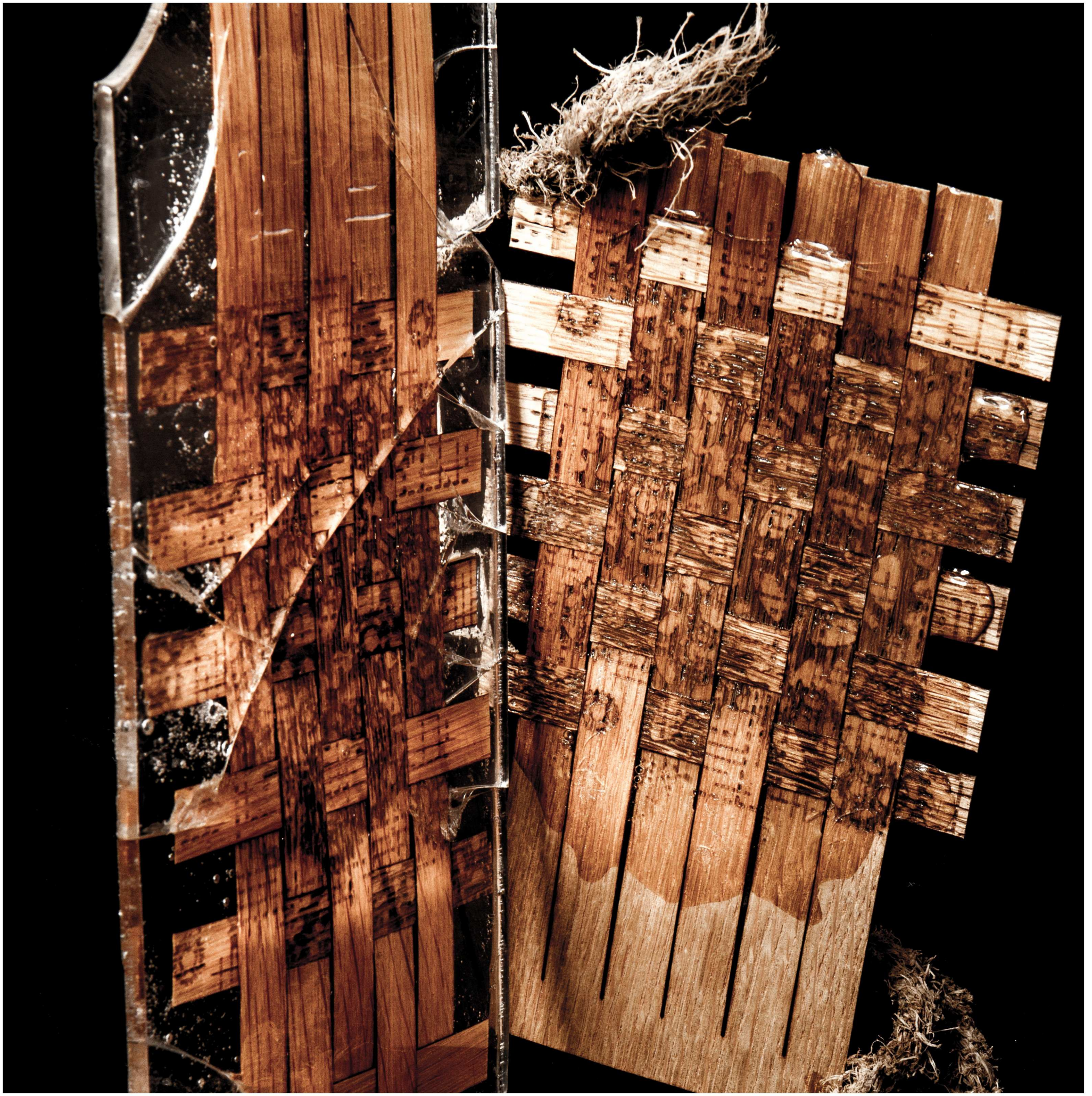


Figure 2

Myers,Daniel

(2013)

Venner trapped in resin.

Laser cut strips of veneer into 2cms width x 25cms length (warp) and 2cms x10cms (weft). Textile process of weaving used with strips (plain weave).

Laser etched design added before weave process.

Plastic resin applied over the whole weave structure to trap and protect the fragile sample.

Figure 3

Myers,Daniel

(2013)

Barkweave laser engraved Cogs.

Laser engraved over barkweave and a stitched together wood material from the Amazon.

Etched with 'Cogs' and 'Dots' design. Dark branding images of 'Cogs' overlaid fine 'Dots' design.

Figure 4

Myers,Daniel

(2013)

Recycled cork laser etched.

Recycled cork with a wood backing. Raster 'Dots' design as background and overlaid with 'Binary code' design.

Added red hues to embellish design with a rubber roller and ink.

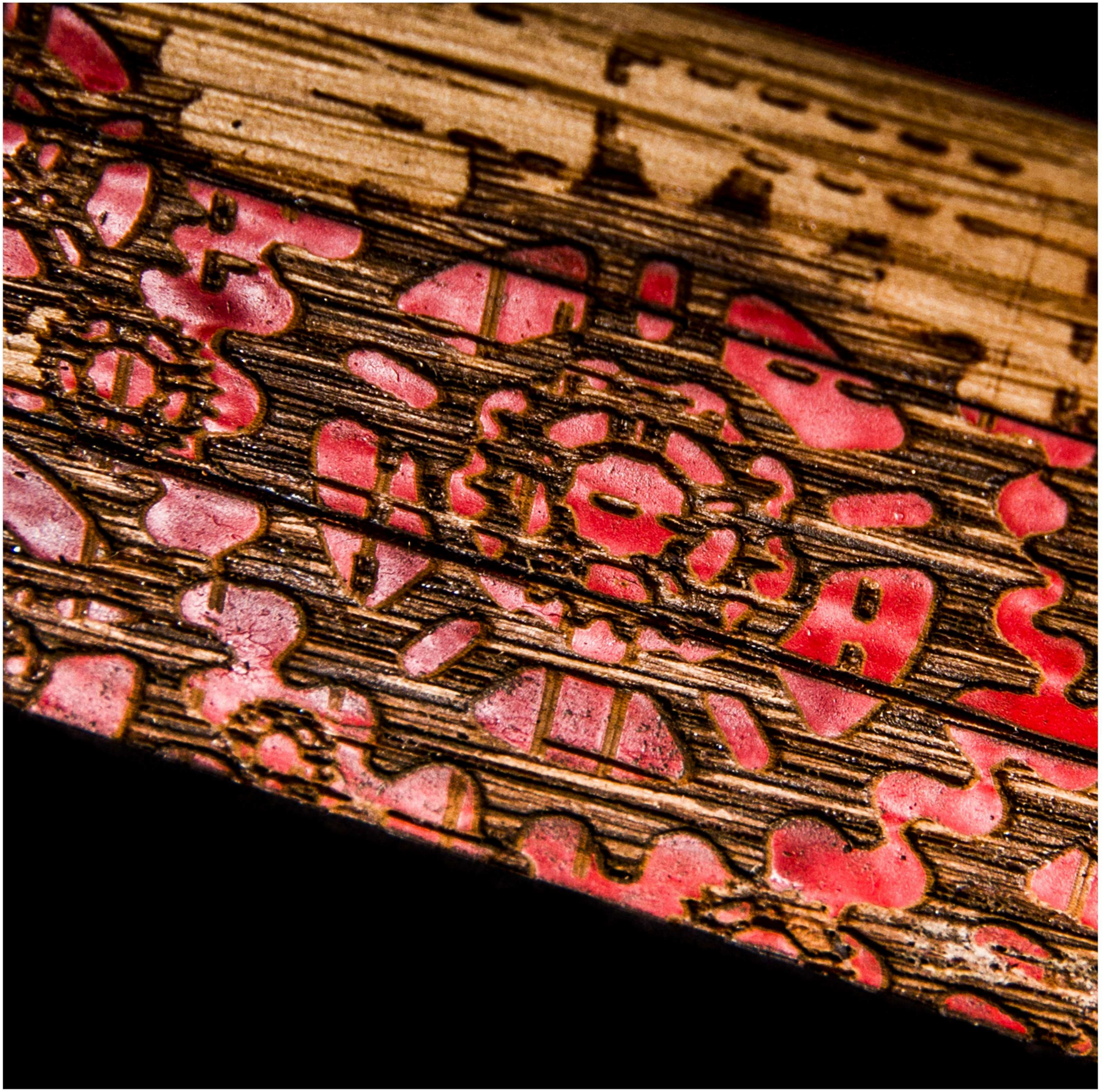


Figure 5

Myers,Daniel

(2013)

Veneer wood with a layer of vinyl sheeting.

Laser cut strips of veneer 2cms width x 25cms lengths.

Laser etched 'Cog' design on Vinyl (70 Micron monometric) layer attatched via adhesive. Laser 'burn out' to wood.

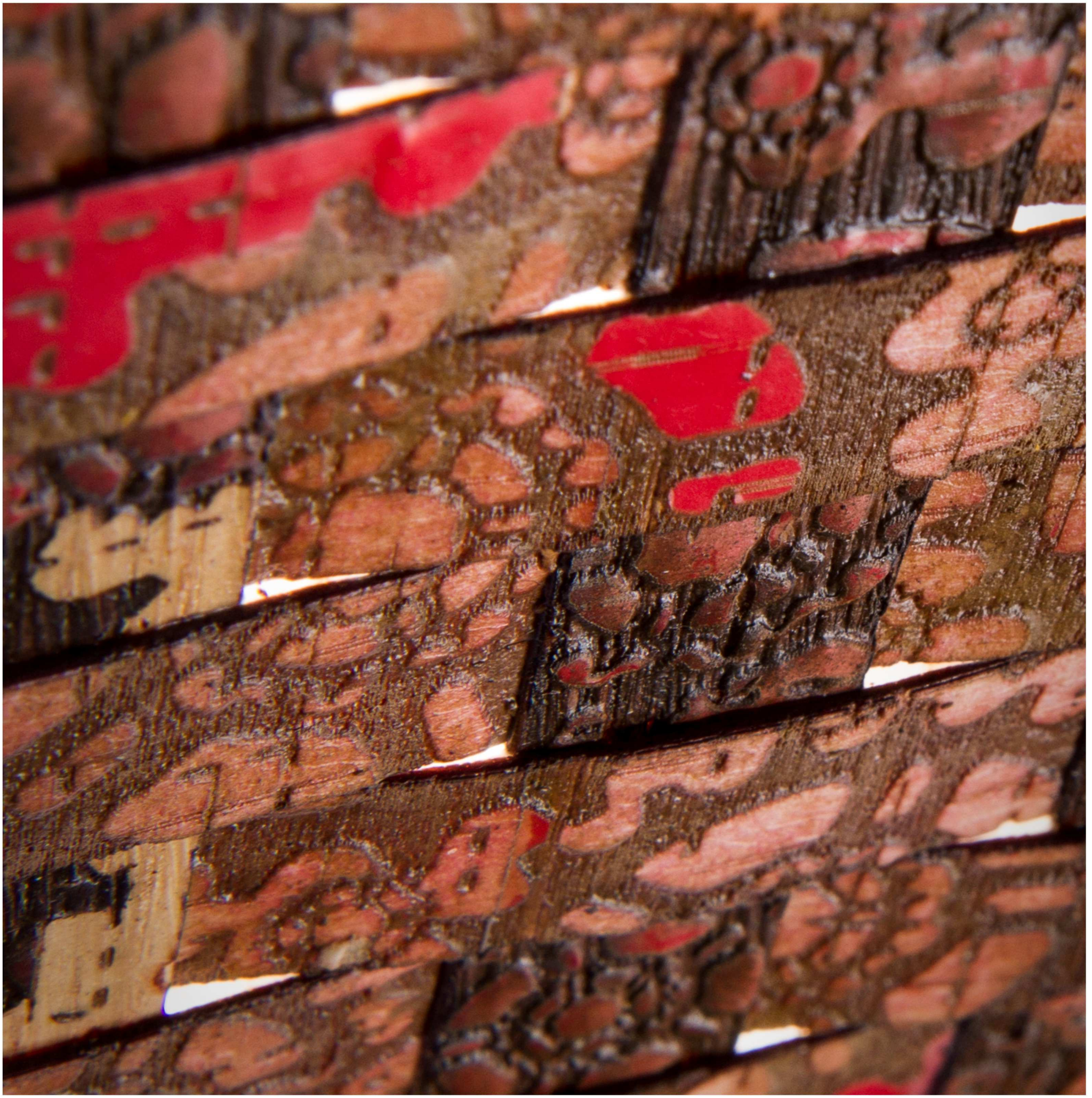


Figure 6

Myers,Daniel

(2013)

Plain weave with vinyl layer engraved.

Laser cut strips of veneer 2cms width x 25cms length (warp) and 2cms x10cms (weft).

Laser etched 'Cog' design on Vinyl (70 Micron monometric) layer attatched via adhesive. Laser 'burn out' to wood.

Textile process of weaving used with strips (plain weave).

Figure 7

Howells,Helen

(2015)

Pencil shavings trapped in glue.

Pencil shavings collected from wate paper bin. Soaked in PVA glue and dried on a flat steel surface.

Laser enraved over uneven wood shavings with 'Cog' design.

Figure 8

Howells,Helen

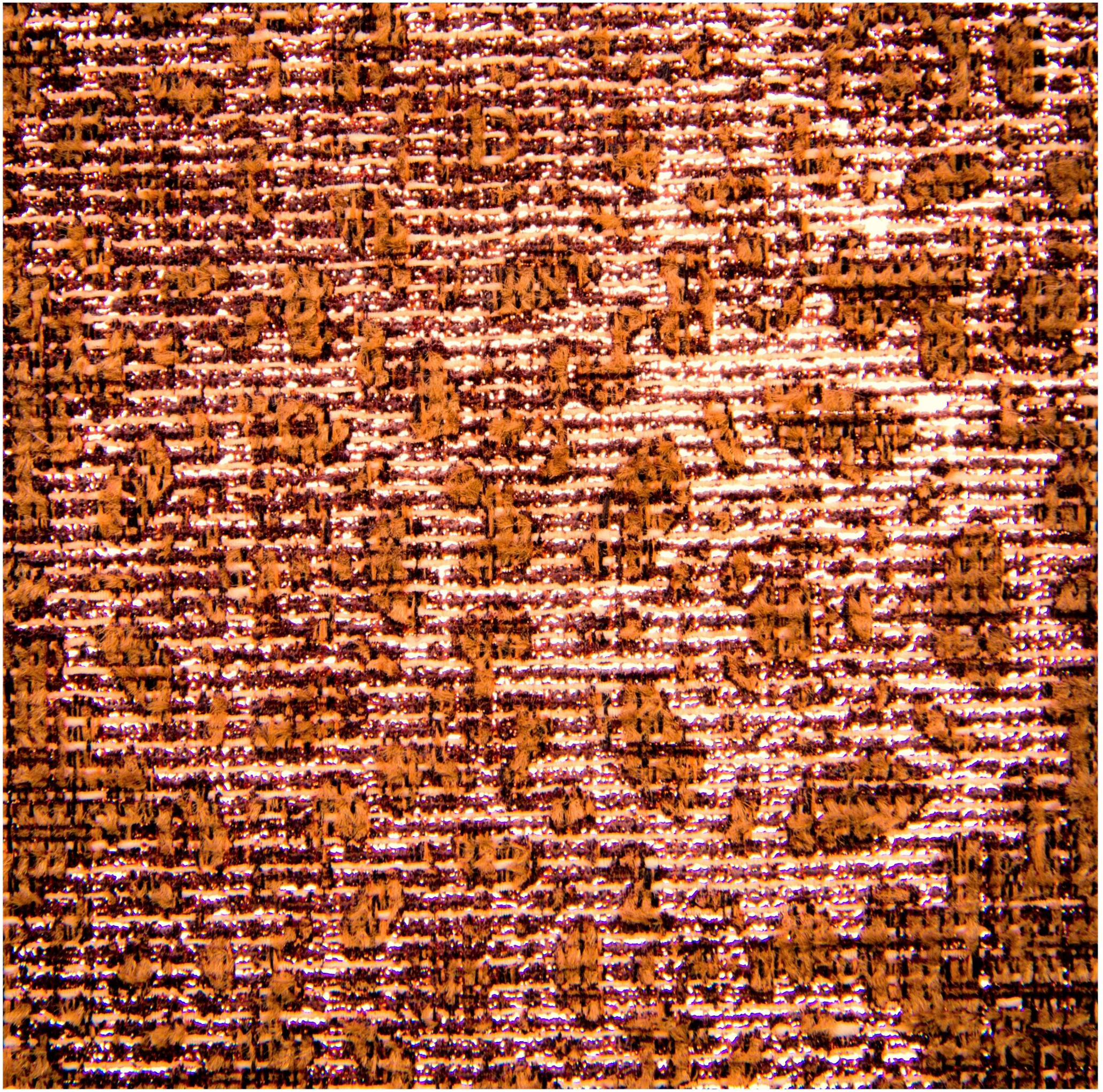
(2015)

MDF raster etched wood for casting process.

MDF raster etched wood with 'Mechanical ' design. Mdf engraved areas a pale orange brown. Cut to dimentions of the design.

Sand papered edges to eliminate contamination of aluminium casting.

A mirror image of this design was also produced for the process of casting aluminium.



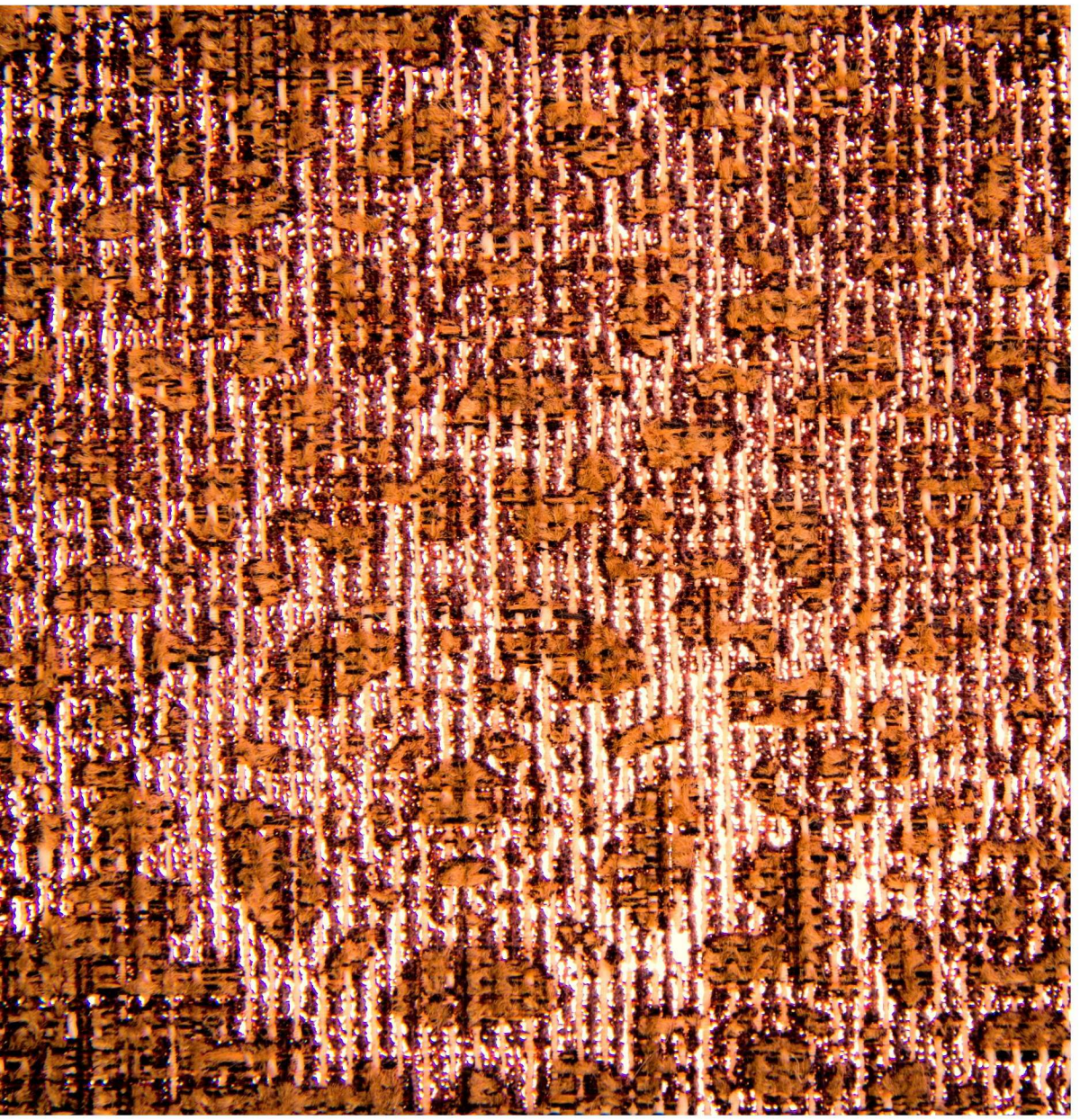


Figure 9

Myers,Daniel

(2013)

Laser etched micro fibre.

Fabric sourced from a interior shop as one of a batch of fabric swatches that was destined for landfill.

Material contains 63% acrylic
21% polyester
16% viscose

Laser engraved with 'Cogs' design (laser burn).

Cut to dimentions of the design with laser cutter. Edges sealed by laser heat (melted).

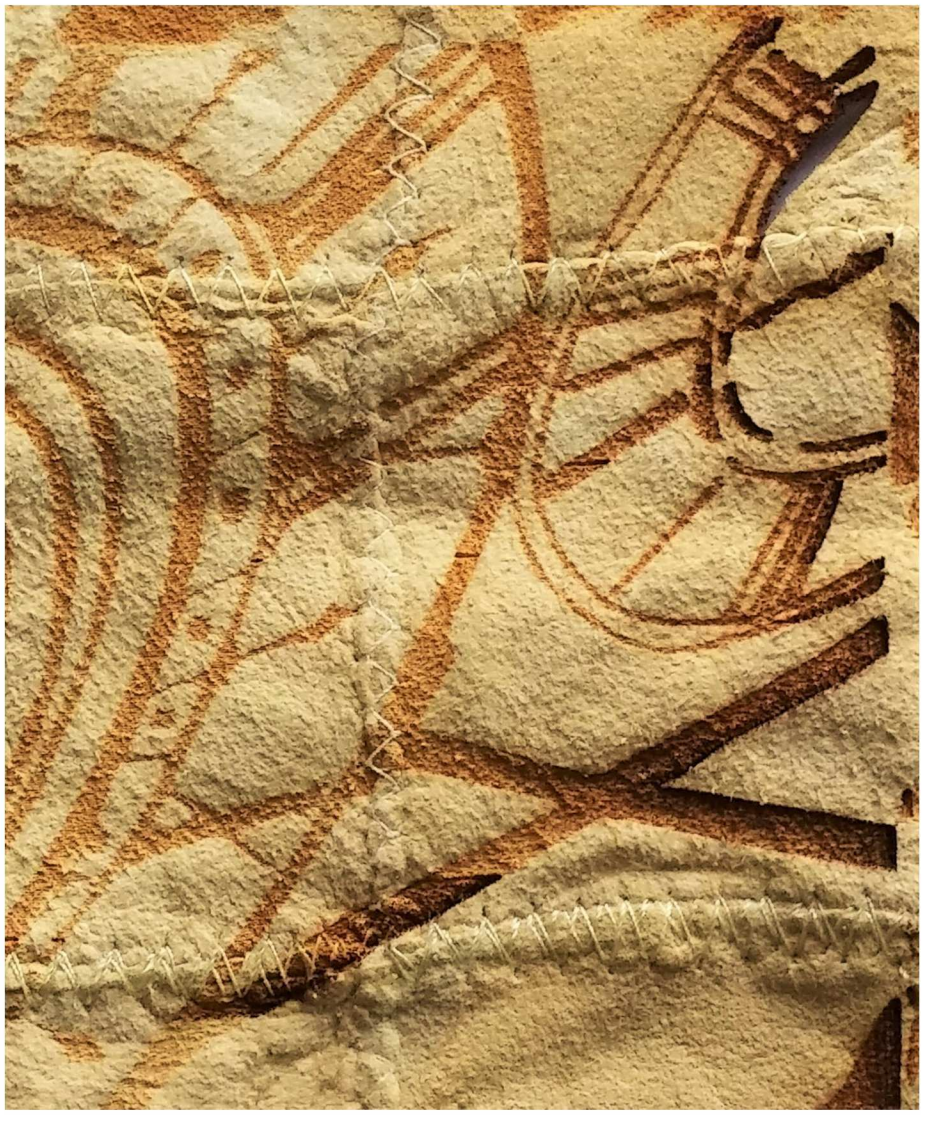


Figure 10

Howells,Helen

(2015)

Branded Chamois leather

Laser engraved chamois leather bought at a pound shop.

Laser vaporised surface giving the image a branded, permanent and distinctive aesthetic quality.

Different speeds and power were used over the textured surface to achieve a variation of hues.

Figure 11

Howells,Helen

(2015)

Laser etched hessian sacking.

Laser etched onto a loose weave hessian fabric 'Cog' design.

Material was washed and ironed before laser eteched. Design achieves a printed effect to the surface of the material.

PVA solution added after process to give structure strength.

Figure 12

Howells,Helen

(2015)

Blue craft ribbon 'burn through'

Polyester craft ribbon bought at pound shop for experimentation purposes.

Laser burnt away fibres to give a 'burn out' effect similar to devoré. Some areas are totally burnt out by the laser and the fabric has a lace quality.

Figure 13

Howells,Helen

(2015)

Blue foam etched and cut for block printing.

50mm dense Styrofoam Polystyrene Modelling Foam. Rigid Blue Extruded Polystyrene Foam used in schools for prototypes due to its versatility and can be cut, sawn, filed, drilled, sanded and shaped.

This piece of foam was an offcut that had been discarded. Laser engraved at low power as material melts quickly with the energy from the laser.

Figure 14

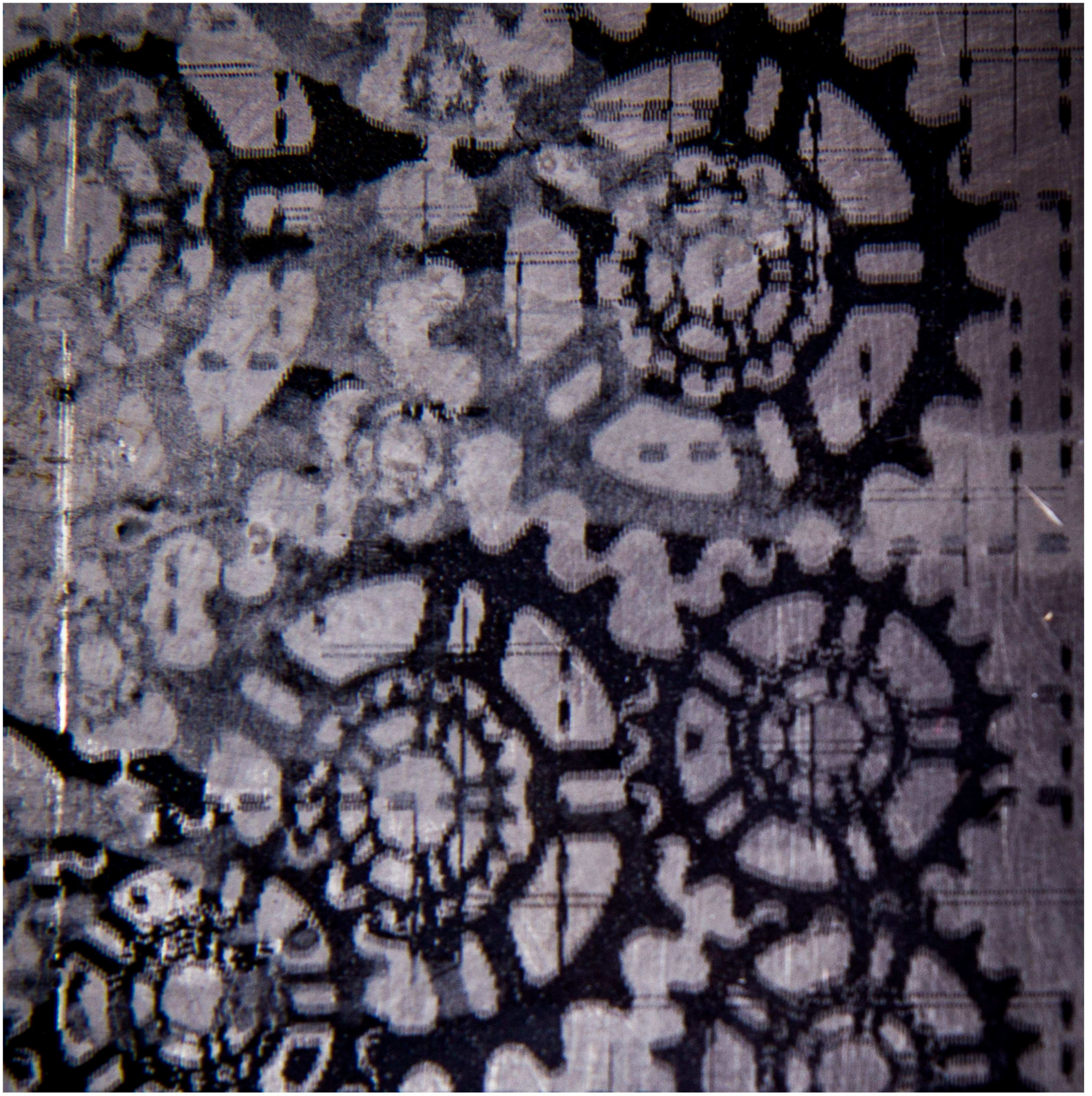
Howells,Helen

(2015)

Aluminium casting of a laser engraved piece of MDF.

Wood mould laser engraved and cut to dimensions of design. Wood mould used to make a imprint for the casting process.

Mould was filled with aluminium recycled materials from a local scrap yard. It was once part of a car engine.



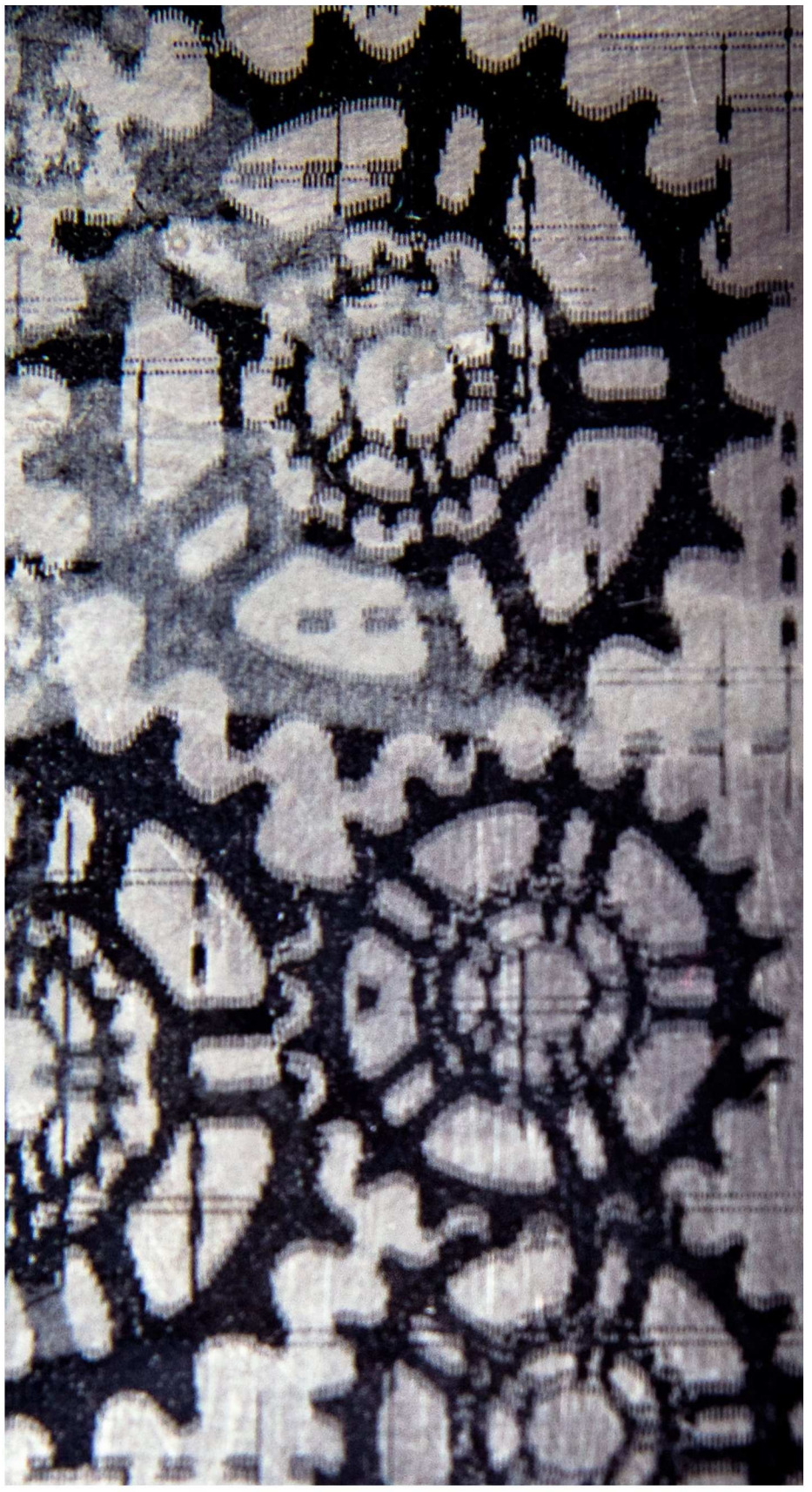


Figure 15

Myers,Daniel

(2013)

Recyled Steel thermark marking.

Material found in artroom cupboard. Steel had some film coating on the material. Wirewool used to prepare surface for chemical compound.

Thermark chemical compound sprayed onto the material and laser etched design fusing permanent marks to the steel surface.


blurb