



The “why’s and wherefores” of Solid Surface as a material for Turning.

CORIAN [®]

AND OTHER SOLID SURFACE MATERIALS

Some Manufacturers and Brand Names

- ▶ DuPont - CORIAN
- ▶ Samsung - Staron
- ▶ LG Hausys – HI-MACS
- ▶ Avonite
- ▶ Formica Solid Surface
- ▶ Wilsonart Solid Surface
- ▶ Hanwha Hanex
- ▶ Swanstone
- ▶ And more



The material that is know today as
“Solid Surface Material”
was invented by DuPont in 1964
and introduced in 1967 under the
brand name CORIAN, firstly in the
US, basically as a counter top
(worktop) material.
Available in UK since 1979.

What is Solid Surface Material ?

- ▶ Solid Surface is a Generic name given to a Polymerised decorative surfacing material
- ▶ Thickness ranges normally are 3mm, 6mm and 12mm (12mm being the most commonly used)

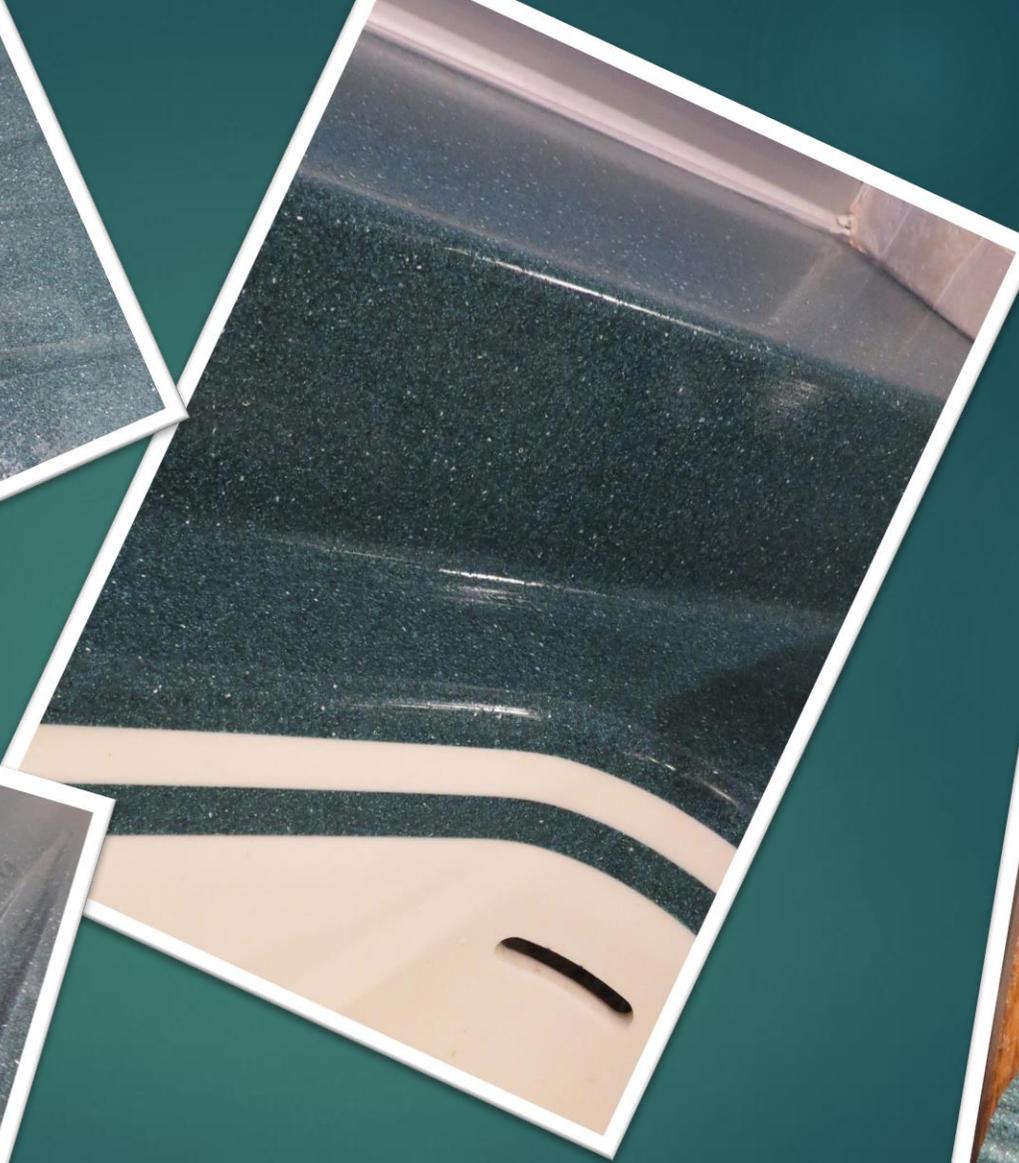
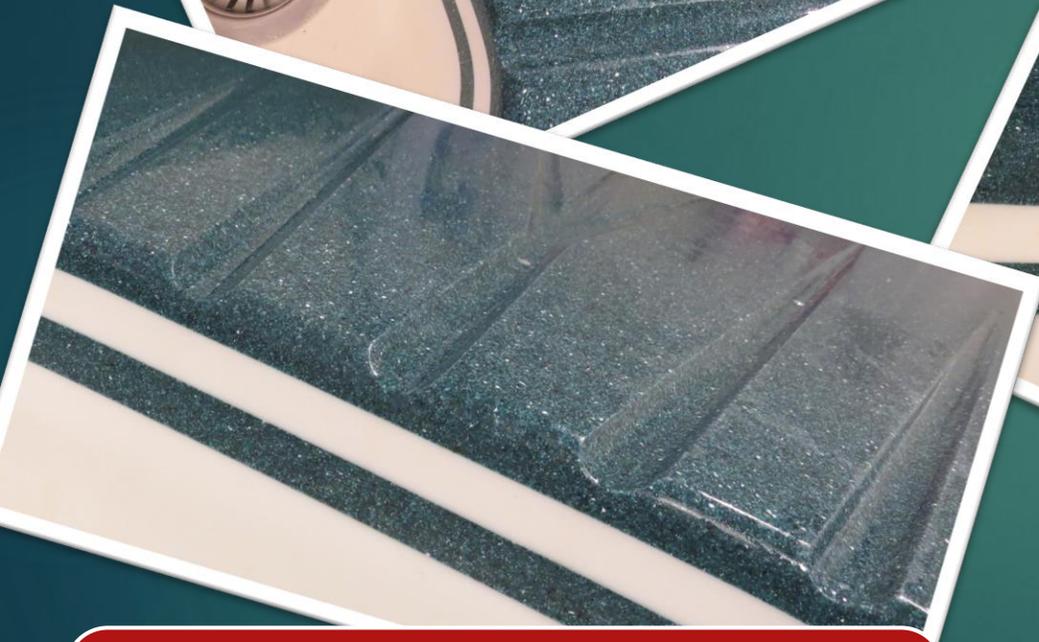
The Make Up of Solid Surface

- ▶ Generally either an Acrylic or Polyester resin as a bonding agent with solids such as Aluminium Trihydrate (ATH) normally 30% resin to 70% ATH.
- ▶ ATH is a natural rock-form product which is excavated from quarries.
- ▶ Acrylic resin is the most commonly used of the two resins.

Properties of Solid Surface

- ▶ Non-Porous material
- ▶ Hygienic
- ▶ Inert and Non-Toxic
- ▶ Environmentally friendly
- ▶ Solid colour throughout its entire thickness
- ▶ Inconspicuous joints
- ▶ Workable like wood and more
- ▶ Thermoformable
- ▶ Some brands have less than dozen or so colours, but some have almost 100 colours

**Examples of
Coved
Upstands**



**Routed Drainer
Grooves**

**Internal &
External
Thermoformed
corners**



**Examples of
Thermoforming**



Safe working requirements

Over and above normal SAFE WORKING PRACTICES and PPE the following should be considered.

Full face/eye protection required at all times including when sanding.

Edges can be razor sharp, a righthand fingerless glove may also be required when shaping, due to the shavings becoming very hot.

Dust is not normally a problem as the material is inert, non-toxic and very heavy.



**Solid Surface
Pens & Pencils**

Glacier White Corian



Purplewood

with Glacier White Corian





Workshop pencil stubs holders

Made from different types of

Solid Surface Materials





Fridge Magnet Pen

using cheap biro type refill





Denatured Alcohol



Glue and Glue Gun



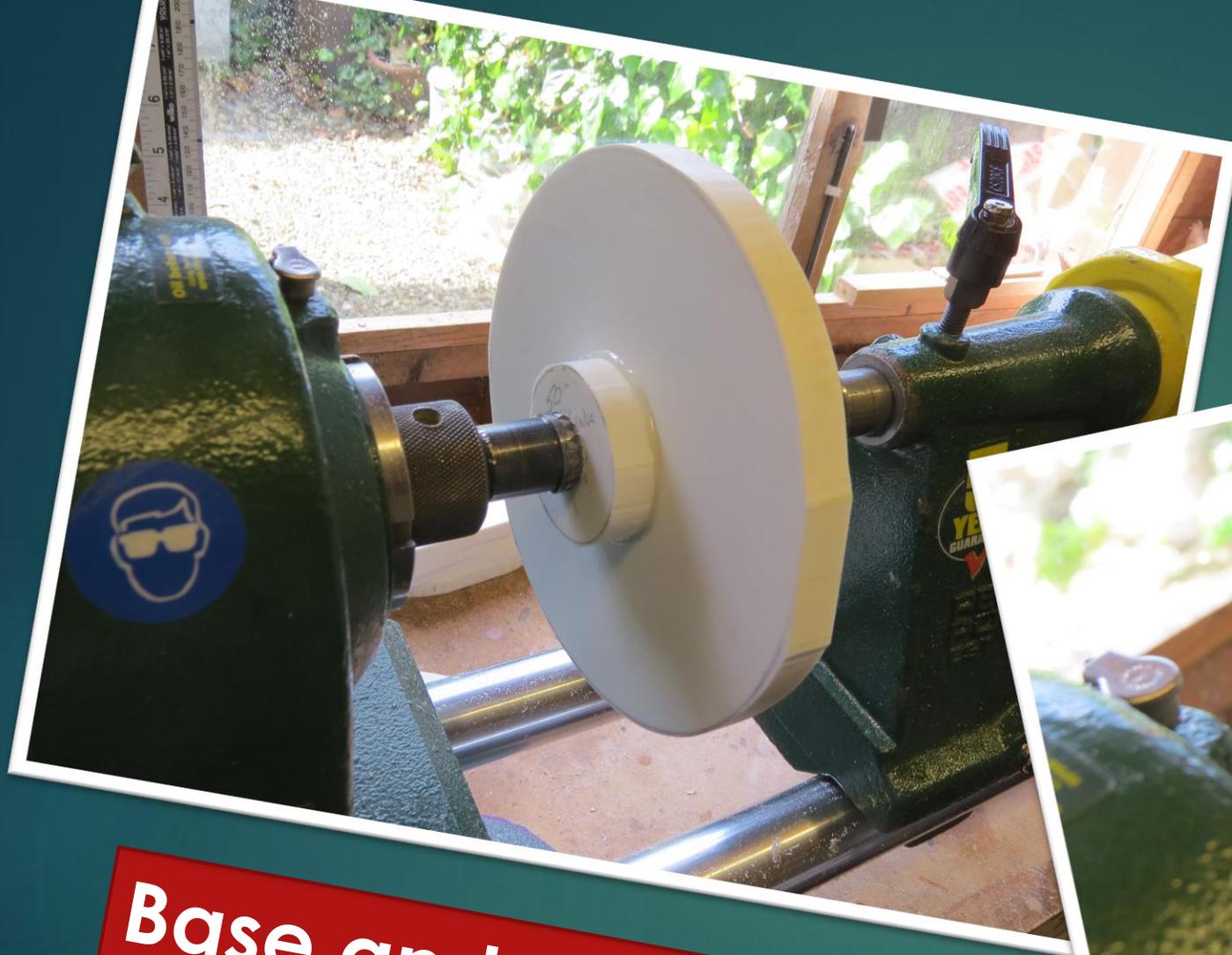


**Top of
finished bowl**



**Bottom
of
finished
bowl**





Hot glue timber pad
to allow stebcetre
to grip

**Base and
chucking point**

12mm Corian Evergreen

Second layer

made in two

sections from cuttings

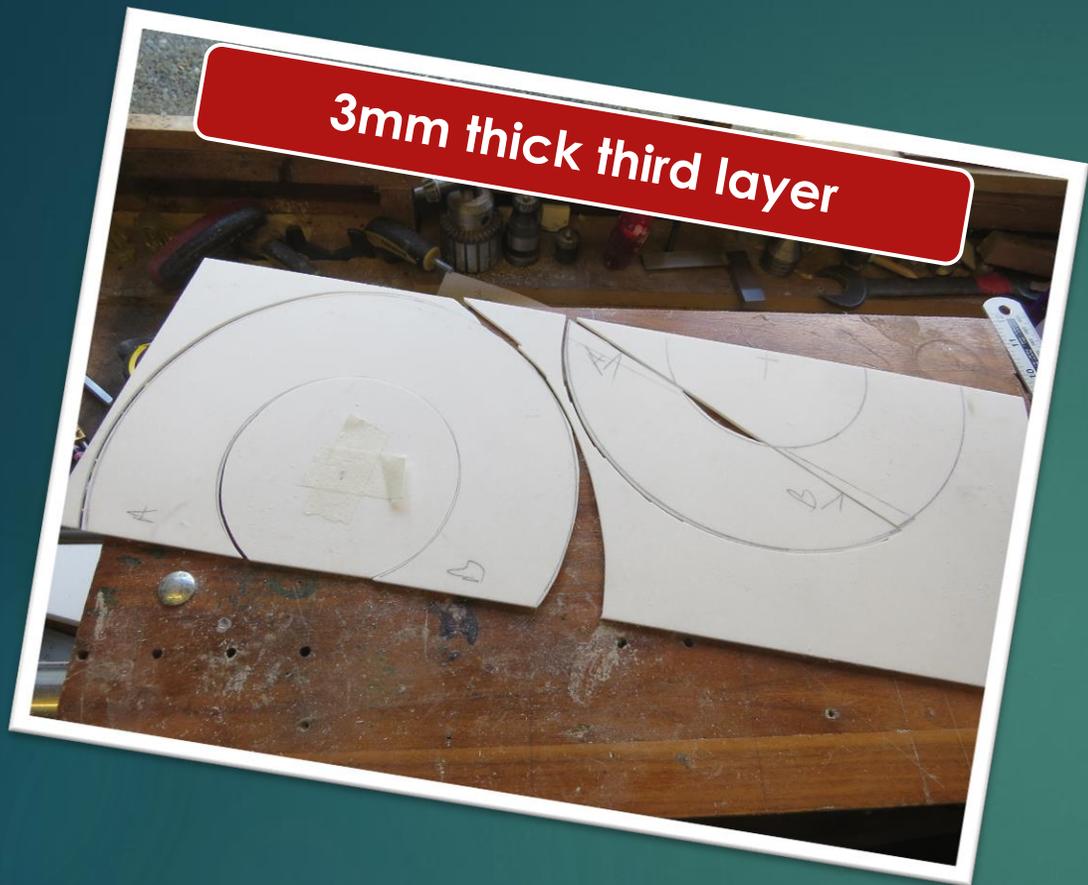
Fourth layer



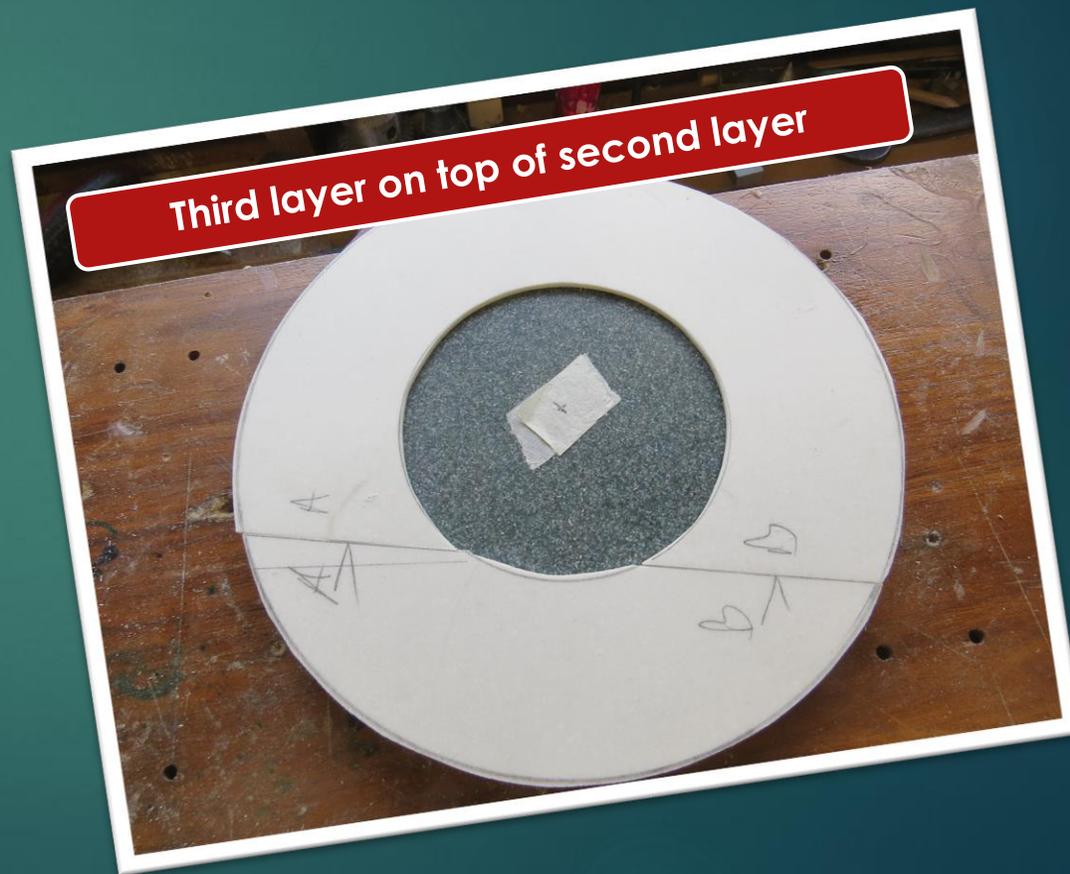
Second layer made in two and 3mm thick x 15mm added as decorative feature



3mm thick third layer



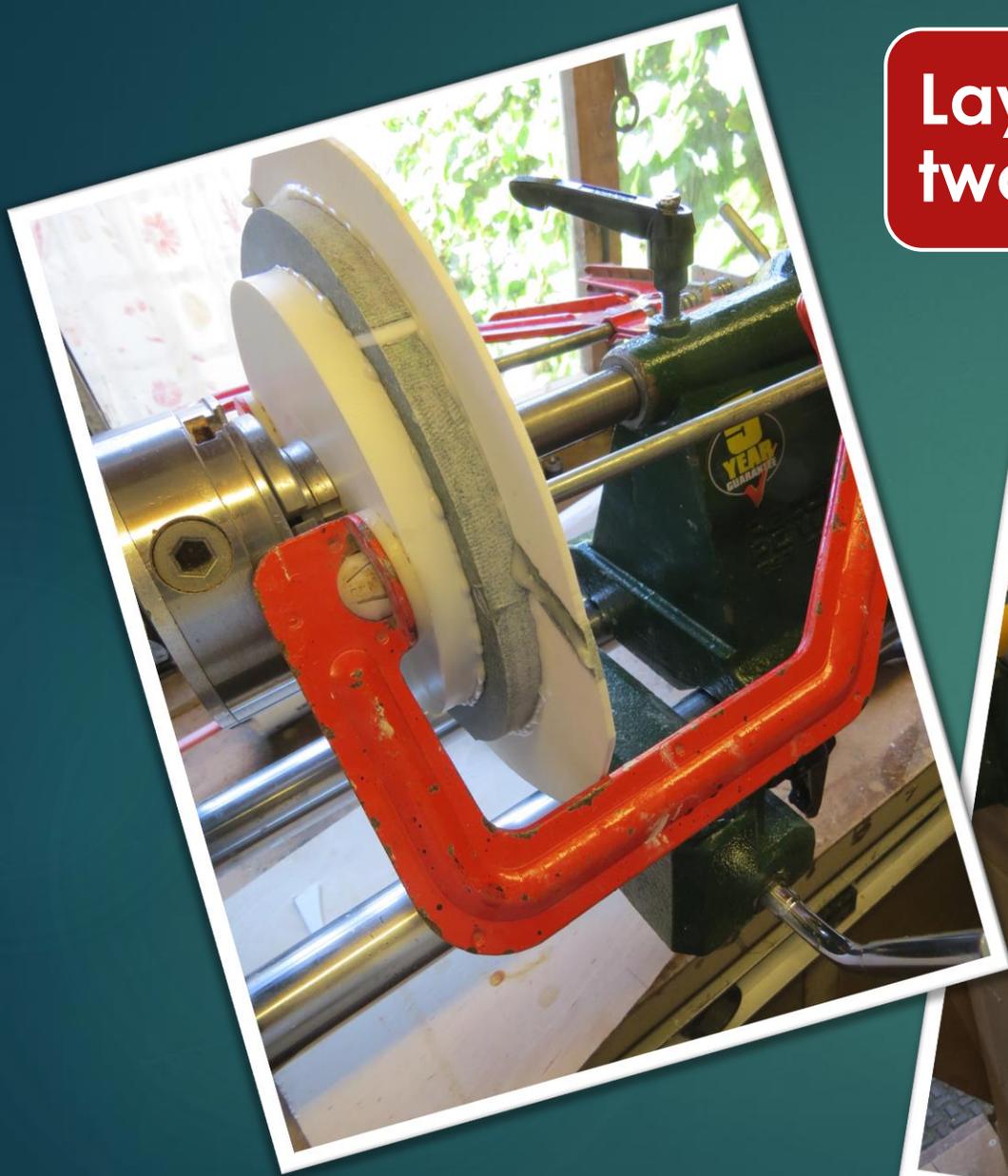
Third layer on top of second layer



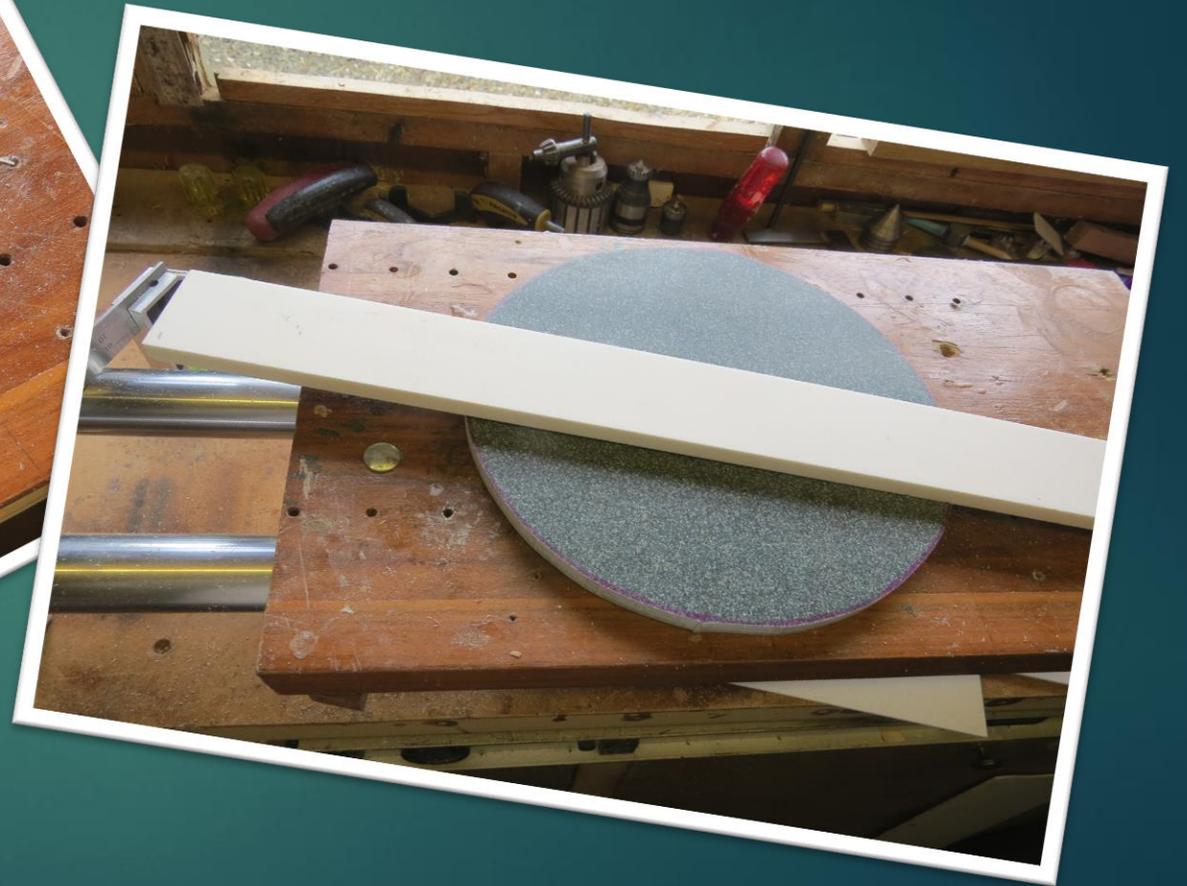
A photograph showing a circular concrete mold assembly on a wooden workbench. The mold consists of a white outer ring and a central circular insert made of grey aggregate. Several metal clamps are used to hold the mold together. Various tools, including a hand saw, a utility knife, and a pair of pliers, are scattered around the mold. A red text box is overlaid on the right side of the image, providing instructions for the next step in the process.

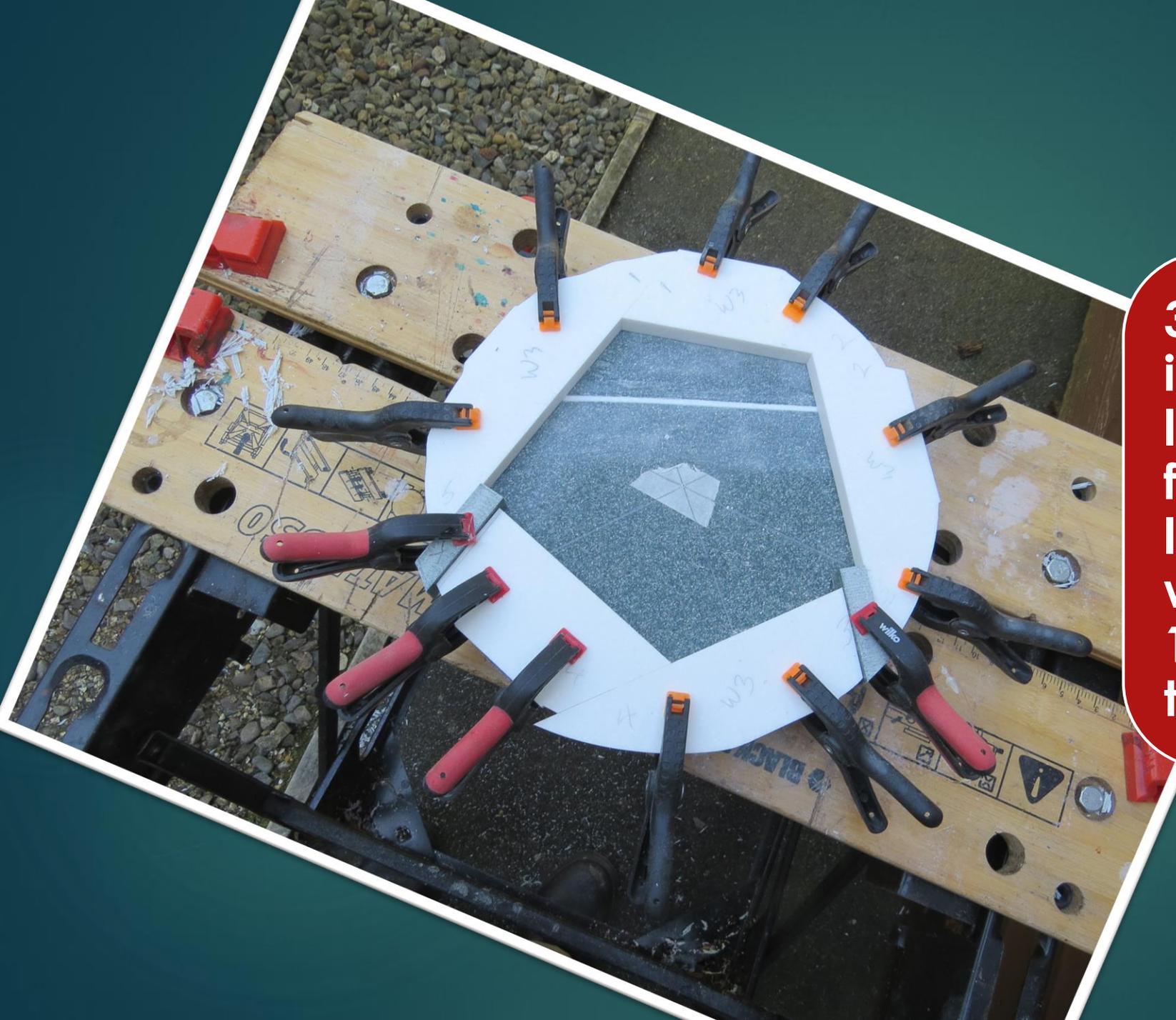
Second and third layers bonded together with 12 mm wide insert added to third layer at joints.

Layer one bonded to layers two and three on the Lathe



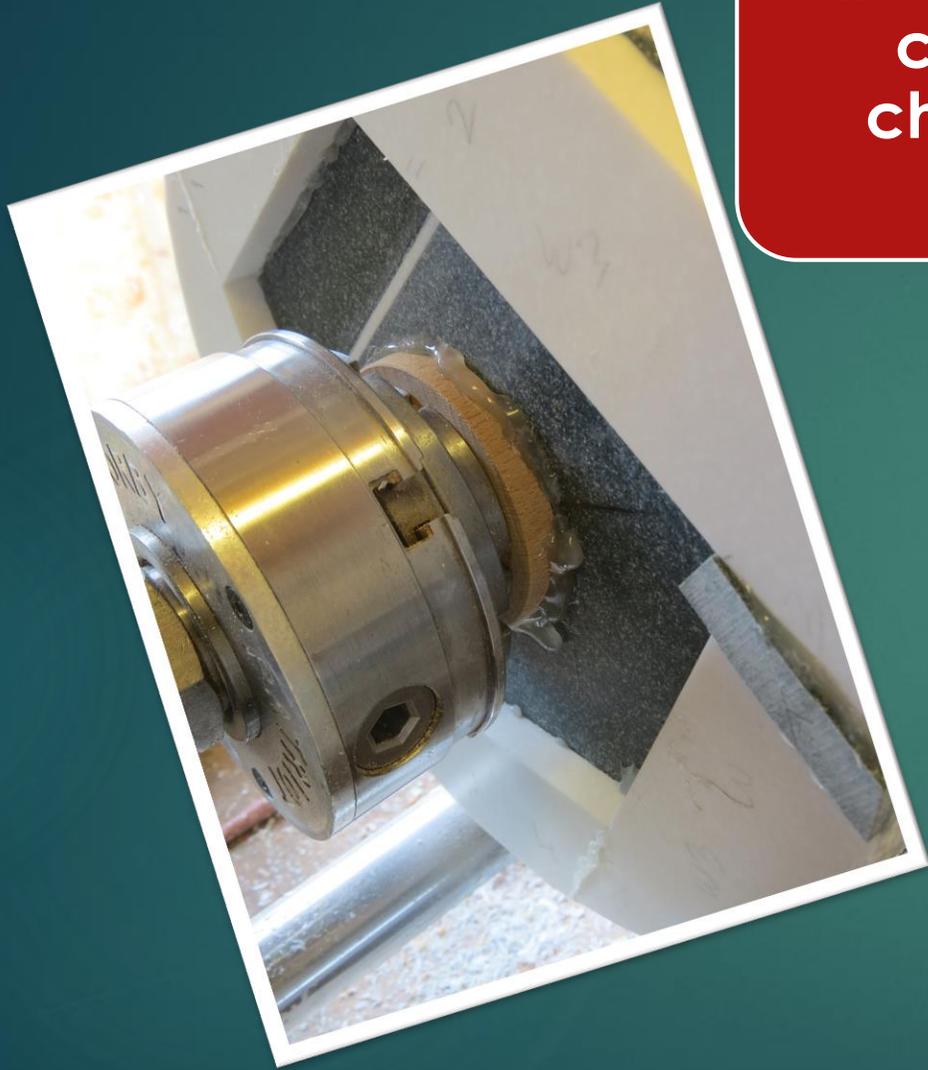
**Fourth layer and 40mm x 12mm
strip of White for top layer**





3mm white decorative insert added to fourth layer, fifth layer made from five random lengths of 12mm thick white. With two 12mm x 12mm green between two joints.

All five layers bonded together and re-chucked on temporary wooden chucking point hot glued to fourth layer.





**Outside of Bowl
turned ready for
sanding**



Wet sand through 14 grades 180 grit to 12000 grit



Re-chucked



Start turning the inside

Making shavings





“OH” dear me!

Bad joints. What do I do now?

**A Design
opportunity**

Solution.

Routed 3mm grooves through bad joints and insert green into grooves to form another decorative feature.





**Ready to sand
the inside**



Remove chucking point





**Finished
Bowl**

Simple Twist pen made from
off cut of Solid Surface
Material from the bowl



Note centre ring
made from Same
material



**Any
Questions?**



**Question for you
how many
colours in the
bowl?**



**Thank you
and
Good Night**

