



Resin & Wood Coffee Table

CASE STUDY

Resin and wood coffee table made with Deep-Cast Clear Casting Resin

This resin and wood coffee table has been a journey taken over 4 months in partnership with the super talented team at @llukaLondon.

Objective: to see if we could increase the quantity of Deep-Cast resin possible in a single pour. The challenge with deep pours is exothermic heat release caused by the huge mass during the chemical reaction phase. High exotherm causes rapid expansion of the casting, then cloudiness, cracking and stress lines when it cools and shrinks back to its original volume. The resin can also discolour and turn yellowish due to oxidation at elevated temperatures during exotherm.

We wanted to step up the pour quantity and casting depth (thickness) to test out different cooling methods to dissipate heat and draw it away from the casting. By testing the limits and gathering data we are now in a better position to offer customers advice on the maximum amount and depth that can be poured in a single process.

It's not possible to simulate these very large pours on a smaller scale, you just have to go for it and see what happens. There was every chance of it being ruined and resulting in a useless block of cracked, cloudy and warped resin afterwards.

resin used

130 litres of Eli-Chem Deep-Cast Clear Casting Resin. Deep-Cast is un-accelerated for the express purpose of minimising exotherm build up and avoiding the nasty side effects mentioned above. However, this also means it is slow setting (5-6 days). Having to allow that long between layers can be an inconvenience when working in successive layers.



the wood

Branches were dried, charred & stabilised using the ancient Japanese Shou Sugi Ban tradition. It shows off the woods' character.



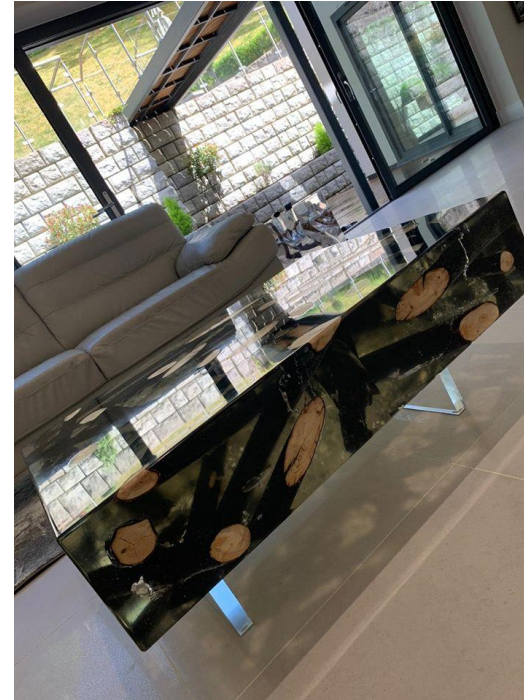
the mould

The mould is made of aluminium to conduct heat away from the casting. It sat in a pool of cold water being circulated by pump and cooled to +9°C through an aquatic chiller. Fans were blowing cold air over the surface of the resin and mould sides throughout the curing process. A laser temperature probe was used throughout to “babysit” the pour and monitor changes in the temperature of the curing resin.





Hours of routing & sanding through the grit range followed by the final polishing process. These steps ensure a geometrically perfect shape, removal of surface imperfections and a smooth, glossy finish.



Final dimensions : 95cm long x 79cm wide x 22cm thick
Weight : 130kgs

We were really delighted with the organic effect of trailing bubbles and optical imperfections. The effect is quite natural and looks like the wood was plunged underwater and frozen in time simultaneously. To end up with solid data and a usable / functional piece of furniture was a bonus. Mission accomplished!