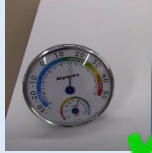


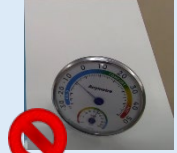
HOW TO AVOID GELCOAT WRINKLING (ALLIGATORING)

STORAGE

Firstly, make sure you have a good workshop temperature. Ideally, you shouldn't be working below 10 degrees Celsius, and certainly not in freezing temperatures.

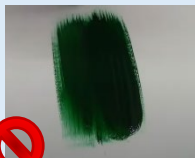


The ideal temperature to use this material is around 15-20 degrees Celsius.



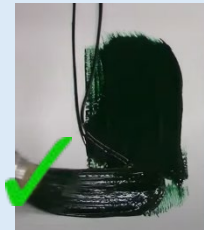
If your **materials and mould** are coming from a **cold storage** area, then it is important to **condition these also**, 24 hours before you plan to use them.

APPLICATION



When applying gelcoat, avoid applying the gel coat thinly as if it was a household paint. Thin gelcoat will easily be attacked by the styrene solvents present in polyester resins.

The gelcoat should be **applied liberally**, with more of a laying motion than painting. You're looking for a film thickness that hides the mould, roughly around **0.6mm thick**. Coverage at this thickness is approximately 600g per square meter. Once liberally coated, it can be neatly tipped off with a brush to tidy the surface ready for laying your fibreglass.



Your gel coat should feel **tacky to the touch** when cured, but when dragging your fingers over the surface there should be **no colour on your fingertips**. Check the deep areas of the mould too, these areas take longer to cure. This is because the styrene vapours collect at the deepest areas of the mould and can slow the gelcoat's curing process.



To combat this, simply turn the mould on its side to help the vapours flow out, use a localized extraction system, or simply fan the vapours out of the mould.



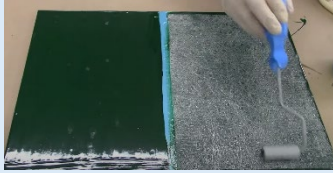
The gel coat is ready once no colour is present on your fingertips following the touch and drag test.

APPLICATION OF RESIN + MATTING

When you apply the resin and matting to the gel coat, you should also have a good working temperature of the same 15-20 degrees Celsius and the average dosage of 2% catalyst to your resin.

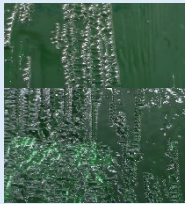
DEMO

Do not 



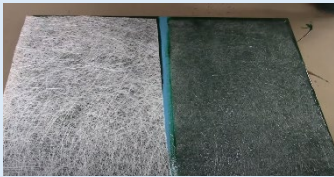
On the right side of our test panel, we used a polyester resin with only **1% catalyst** added, and applied in a very **cold working environment** so that the resin will **cure very slowly**. After approximately **1.5-2 hours** this extremely slow curing resin should **cause the gel coat to wrinkle**, as the styrene solvent inside the product starts to attack the gel coat.

Polyester resins and gel coats contain a solvent known as styrene. To demonstrate what styrene does to a gel coat when resin takes too long to cure, or if your gel coat is too soft, we brushed pure styrene onto a cured gelcoat sample.



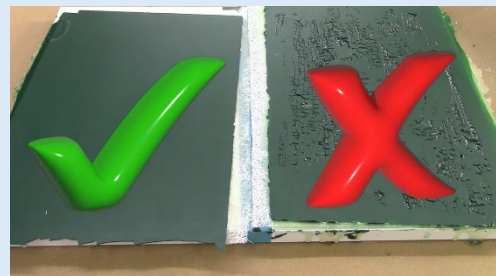
See in the pic to the left how the **styrene attacks the gel coat** in straight lines, following the shallow brush marks first where the gelcoat is most likely at its softest straight after curing. The same will happen if you're applying a second layer of gelcoat which takes too long to cure. If your resin or second gelcoat cures within a decent time scale, the styrene will not have a chance to do this to your gelcoat.

Do 



Here, on the left-hand side of our sample panel, we applied a resin mixed at a **2% catalyst dosage** and at a **perfect working temperature of 18 degrees Celsius**. The product is also conditioned to the same working temperature, so it should cure within a reasonable time scale. It is also worth mentioning that catalyst should be thoroughly mixed into both your gelcoat and resin, poor catalyst dispersion can also cause some areas to cure slower than the rest of the laminate.

RESULTS



As you can see our cold, slow curing resin has attacked our gel coat as expected, Whereas the sample cured within reasonable temperatures and at a much quicker rate has come out perfect.

QUICK STEPS / OVERVIEW:

1. Ensure a good working temperature and condition the mould and products to 15-20 degrees Celsius.
2. Ensure a good thickness of gel coat and avoid thin application.
3. Ensure gelcoat is fully cured before laminating.
4. Ensure you have sufficient catalyst added to your resin. A slow curing resin will most likely attack your resin.
5. Ensure all products are mixed thoroughly after adding the catalyst.