

Kineco.

mycelium materials

Guidelines

Hedelcomposite is an organic material consisting of residual sawdust and mycelium. Because organic matter is sensitive to contamination, it is critical to work clean and sanitize your work environment. Here you will find guidelines to work with Hedelcomposite and grow your own mycelium materials.

Note!

Storage

Hedelcomposite should be stored in refrigerated conditions (1-4°C) when not used immediately. Use within 3 weeks.

Gear

Always wear sterile (nitrile) gloves and clean your workspace with disinfect spray when working with the material.

Perfect grow conditions:



Temperature
21 - 26°C°

CO₂

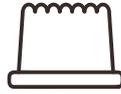
Co₂ level
1 - 3%



Moisture content
50 - 55%

Mycelium naturally produces carbon dioxide. With the right ambient temperature and moisture levels, the substrate will regulate its own environment. This will only succeed when the growing particle is sealed, so no CO₂ can escape. Additionally, the biomass present must be sufficient to generate enough CO₂ for that growth environment. Low CO₂ levels can produce weak objects.

Preperation



Choose your mold

Mycelium materials can be easily shaped into the desired part by using a reusable mold. The surface of your mold should be smooth and easy to clean. Slight flexibility of your mold will help pop the part out of the mold after the material completed the growing process.



Clean your tools

Avoid contamination by cleaning any surface that comes into contact with the substrate. We recommend using disinfect/70%IPA. Avoid spraying the substrate with disinfect as this will effect growth performance.



Check moisture level

The moisture content of the substrate should be between 50 and 55% to ensure proper growth. As we intentionally choose to not transport more water than needed, it is often essential to add some water before processing the material. Use a disinfected spraycan to evenly wet the substrate when the substrate feels to dry. Be aware that the substrate should feel damp, but not soaked.

To precisely measure the moisture level of your material, take a 100g sample of the substrate. dry your sample using a microwave untill all water is evaporated. measure the dry weight of the sample and subtract dryweight from wet weight (100g sample - DryWeight sample = moisture level in %). When your sample weighs more than 55g, it means you have to add water untill the moisture level reaches between 50 and 55%.

Step by step proces

1.

Fill your mold

Grind the substrate (if needed) and fill up your mold. Gently press down the substrate. When working on bigger objects it is best to gradually build up from layers. Don't press down too hard as the mycelium need some space to grow.

2.

Seal your mold

Seal the opening of your mold with plastic and add some pinholes for ventilation.

3.

The growing process

Keep the mold stored at 20 - 26C for 5 till 7days. The mycelium starts to form a network of threads that binds the part together.

4.

Remove from mold

Carefully remove the object from your mold. It is recommended to execute an additional growing process of 1 or 2 days outside the mold to achive exterior growth (whiter finish and extra strength). Once again it is important to seal the mycelium object for it to maintain it's own micro-environment and no CO2 can escape. You can use reusable plastic coverage to seal the object, but be sure to leave open space arround your casted myelium object as it need space and air to grow an outer shell. Monitor your object daily to ensure the growth is stopped at a proper time.

5.

Dry product

The drying process is determent by the volume of the casted object and the temperature that is used to dry. Therefore, drying times may vary from 2 days to 1 or 2 weeks. The mycelium material is considered dead when moisture readings of the dried objects register 13% moisture or less. Generally, brick-sized objects will dry within 48 hours at 60 to 80C°. Larger objects will take more time to dry. Use a moisture indicator to monitor the moisture level daily. Flip your object periodically, as bending may accure when drying on higher temeratures. When your object is dry, it has lost approximately 50% of it's weight.