

Preparing the Pellet Mill

Start Up

Please follow the instructions in the product manual, to properly start the PelHeat unit.

Die Conditioning

Before you can make pellets from your chosen biomass, the die plate needs to be prepared. The Die is made from Carbon Steel, this makes them very hard wearing with a long life, however they are susceptible to surface corrosion. If there is corrosion on the inside of the die holes then material will find it difficult to pass through. The die plate will then become blocked, and must be drilled out. Using a material like Sand & bran with vegetable oil will remove the corrosion, and polish the holes as it passes through. Follow the steps below to condition the die.

1. Use 5Kg of the abrasive material (Sand), Wheat Bran, with 300-400g of vegetable oil, and mix
2. Remove the clutch to start, and place the material in the pellet mill
3. Collect the material from the mill, and repeat 4-5 times
4. Keep the waste oily material, as this can be used again, to protect against corrosion

Post Conditioning

The die is now polished, so the biomass can now be pelleted. However as heat is a key factor, material needs to be fed in slowly to begin with, to warm up. Below are the steps to full production.

1. Slowly feed the material into the pellet mill, if a carpet is forming then continue, if not the material needs to be prepared.
2. As you slowly add material into the pellet mill, it will be added to the carpet, and the bottom of the carpet will be compressed through the die holes, and pellets will emerge.
3. As you continue the constant pressure heats up the pellet mill, steam will be released making the material more malleable, and releasing lignin.
4. When the pellet mill is up to temperature, you can add material as quickly as the pellet mill can process it. This depends on the density of the material, and how easy it is to compress. For example straw compresses easier than wood.
5. Do not over fill the pellet mill though, stop with material input before the top of the roller is covered. Too much material in the pellet mill will decrease performance due to unnecessary pressure from material above the rollers, and keeps steam produced from being released.

Preparing the die with an oily abrasive material, and slowly building up to full production are very important steps. Without these steps you stand a high chance of blocking the die, then drilling is required to remove the blocked material.