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Guide to Drying Insulated Floors

To work out how many systems you will need, you will need to measure the M2. Once you have that, choose which system and quantity you need:

T200's will dry 35-40M2 concrete or 50-60m2 wooden floors.

T150's/T2ES Turbines will dry 25-30M2 concrete or 45-50m2 wooden floors.

The above units will need to be connected to a CTR desiccant to provide the dry air.

If the floor has under floor heating you will need to use a thermal camera to find where it is safe to drill, once you have marked out the hot pipes, have a qualified plumber were possible to switch over the Hot & Cold feed, this will then show up the locations of any Cold feed pipes in the floor, even after all this you could still hit one or two pipes, **so please get it in writing that someone will pay for the repair.** Once you have carried out your survey please turn off the under floor heating as this affects the systems, and switch the Hot & Cold feed back.

For each system you will need to have a C25 pipe kit, each kit has a manifold with 6 pipes that need to go into the slab. To do this you will need to drill approximately 20 x 28mm holes through the concrete/wood staying away from the walls by 0.4mtrs approximately (please use a quality drill bit as it is quicker and you get neater holes) until you get into the insulation, then you can either remove the drill and dig out the insulation or pull and let go of the trigger on the drill and let the last spin and weight of the drill take it to the bottom. Sometimes there is what seems to be a DPM above the insulation this is not a DPM and you must go through it until you get to the bottom of the insulation. After the 1st hole, you can place a marker on the drill bit to let you know when you are approaching the insulation. Please note that a level floor can be + or – 5%.

Once you have done that and as long as there is no standing water, you will need to thoroughly vac out the holes (try using a piece of hose in your vac to get to the bottom). It is then recommended you use a snake camera to inspect the holes to make sure all debris has gone and also to see if the DPM has been punctured. As long as you have been careful with the drilling, you should only have caused a small puncture to the DPM if at all. At the end of the job you can inject some builder's silicone into the hole to seal any punctures. **Do not** do it straight away as you will seal the air gap.

Setting up the pipes in the slab is straight forward, what you want is an even distribution of the air, so please spread the pipes out and put them in the neatest holes as you will get a better seal.

Connect the manifold to the turbine outlet on the machine and turn the system on. Check that the flow-meter on the system (n/a if using the T2ES Turbine) is not in the red, if it is then re vac the holes. If it is still in the red, then you may need to drill a few more holes. If it's in the amber, leave it running for 15-30mins and it should drop down into the green. You don't want air to be coming out of the holes with the pipes in, so if it is, refit them. If you can't get a good seal, then place it into a different hole. You can use an anemometer to check for air flow from the vent holes, if you don't have one then sprinkle some of the drill dust over the vent holes and you should see movement.

Once all that is done make sure the systems are vented to the outside, stay on site for 30-45 mins to make sure the turbines carry on working, as long as they are working you can leave but make an appointment to go back in two days to check they are all still working. As we are pressurising the air we will generate heat. If the system has tripped off, it is probably because it got too hot in the environment. Remove the black cap and press the reset pin and this should turn the system back on. I would recommend leaving some windows on ½ lock to allow the heat to escape as it will only trip off again if you don't. If this is not possible then call CAS-Hire for some advice. **IMPORTANT** These machines need to run 24/7 and should not be turned off until the drying is complete as this can trip the thermal switch in the system. You may then struggle to get it back on, if this happens then please call Corroventa and we will advise you on what you need to do.

Monitoring the drying: Make regular visits to site and take g/kg readings from a dry air pipe and the vent holes. You will then see how well it is drying. Within the process you will need to change the holes the pipes are in and put them into holes that are not drying as well. Once the dry air and vented air are close to being in balance you can shut the systems down. Place humidity boxes over some

vent holes with a hygostat in and return and take final g/kg readings after three days. As long as they are not climbing above your target you can remove the equipment. If the g/kg is still climbing above your target then turn the equipment back on for a week, but take a look for any reasons why the slab could be getting wet.

STANDING WATER IN THE SLAB: DO NOT vac the holes with a standard vac, ask for water separators and **PLUG IN** the turbines into the back of the water separators, **NOT** into a mains power supply. This process will remove the water and debris, the water separators have a course filter which will catch the debris and this will need to be removed and emptied regularly. The systems have a drain pipe on them and this will need to go to a drain, the water separators are normally on site for 3-7 days then I would recommend you start positive pressure drying . If you find you are still getting water into the water separators then you may have another leak or ingress from another source. If you have a water separator, I would always recommend using this at the start of every job as it will remove any free water and debris from the holes, this will help dry the floor quicker and assist with air flow.

Time scale of drying. If there is standing water then 5-6 weeks, small amount or no standing water then 3-4 weeks. These time scales are approximate and can be shorter or longer depending on many factors.

Q&A

1. Q, Will they be a lot of water in the floor?
A, If the DPM has been installed correctly then yes they could be, if the DPM has not been installed correctly then the water will be allowed to drain away in places, but moisture will still be trapped.
2. Q, Can I just install standard drying equipment to dry the floor?
A, The simple answer is no, the reason for this, is you will dry the screed or top layer of concrete and the base of the walls after a few weeks, but you will not have addressed the moisture under the insulation, physics dictates wet goes to dry!
3. Q, What would happen if I carried out reinstatement works after drying with standard drying equipment?
A, Moisture after a few weeks will pick up the wall by capillary action, causing damage to wall/floor coverings, physics dictates wet goes to dry!
4. Q, Can I not just turn the under floor heating on to help dry the floor?
A, Unfortunately this will not work as the insulation will protect the moisture which is trapped below the insulation.
5. Q, What are the savings on drying the floor compared to stripping it out?
A, Depending on the property and loss, it typically works out 20 – 30% of the cost, compared to stripping out, ever job is different and the odd few jobs may incur extra cost, then you may be looking at just a 50% saving, but that is still 50% less than strip out.