



Why do drying times for compounds differ?



As we head into cooler weather, stoppers will find that compounds can take a lot longer to dry than in summer.

Drying rates are dictated by several things:

- The mass of compound to be dried (thick layers take longer).
- The temperature on the day.
- The set time of the compound.
- The movement of air.
- The humidity in the air.
- The amount of water added to the compound.

The drying rates shown on GIB® packaging are achieved in conditions of around 20°C, and 70% humidity (a warm day with an average humidity level).

Cold air and high humidity slow drying rates significantly. Drying can become significantly longer in winter, and time should be allowed for this.

Allowing air flow through the structure during cooler weather will replace the air which has become high in humidity due to water transfer from wet joints.

The air flowing in will have a lower humidity enabling drying to continue overnight. This can be achieved by leaving a window open about 50mm at each end

of the house. This is enough to enable an air flow of appropriate volume to lower humidity thereby continuing the drying process. This does not work in fog or tropical cyclones.

Heating the structure, which raises the temperature and lowers relative humidity, could also be employed. For normal houses use 2kW fan heaters at the rate of one per 50m² of floor area. Leave internal doors open and two windows open to allow fresh air in. Run at night time. This will elevate the temperature of the room just enough to assist drying and will move the air around, which also aides drying. Make sure you check with the main contractor before doing this and remove all flammable items that could be sucked into the fan heater and cause a fire.

Dehumidifiers do work in winter, provided the house is closed to the outside. Close all windows and doors and run overnight. During the day, doors and windows will be opened by other trades and running a dehumidifier becomes ineffectual.



Approximate drying times for air drying compounds

Relative humidity	Temperature				
	10°C	16°C	21°C	27°C	32°C
98%	26 days	18 days	12 days	9 days	6 days
94%	10 days	7 days	5 days	3 days	2 days
90%	6 days	4 days	3 days	49 hours	36 hours
80%	3 days*	2 days*	38 hours	27 hours	19 hours
60%	42 hours*	29 hours*	20 hours	14 hours	10 hours
40%	29 hours*	20 hours*	14 hours	10 hours	7 hours