

## **Oil Finishes and Cold Weather**

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It's that cool time of the year again. Are you having problems with your oil finishing?

Start by reading the directions on the can. Oils cure by a process of polymerization where the smaller liquid molecules link together to form a larger solid molecule that we call a "finish". The thinners in the oils give them a pool so that they can swim around and get linked together. In ideal conditions, the solvents evaporate as this linking takes place, and all is well. We use the word "dry" to describe what is happening.

This process generates heat that is carried away as the thinners evaporate. Left to dry in a confined space this heat can reach a temperature that will cause combustion of an oily rag.

All oil finishes work the best when the temperature is 70 deg. F. At much higher temperatures the thinners can evaporate too fast, and the molecules of the oil never get a chance to link together to form a finish.

At the lower temperatures, the finish and the wood are too cold for the heat to generate. No heat, no polymerization.

You can figure that the drying time will double for each 5 degrees of temperature below 70 deg., and that it might never cure for temperatures well below 45 deg. That means that the finish that dried overnight at 70 deg. can take several days at a temperature of 45 deg., and you might be lucky if it dries at all below that.

The solution is to make sure that the oil and wood are at room temperatures when the oil is applied. If you're applying an oil finish and your shop is unheated during these cold mornings and evenings, take the piece in the house to dry.