



Dave's Corner

Mitigation System Winter Freeze-ups

This winter has been colder than normal in many parts of the country with extended periods when the temperatures stayed below freezing. As a result, many mitigators received phone calls from homeowners about problems with their mitigation systems. The symptoms are generally that the fan continues to run normally but the u-tube manometer gauge reads zero or the u-tube reading has dropped below its normal reading. The problem is caused by ice that has formed in the pipe, usually at the top. The ice is caused by condensation that forms inside the pipe from the air being drawn through the cold pipe.

Correcting the problem could entail disassembling the pipe to clear the ice. You could also possibly do nothing if the weather is expected to moderate. The warmth from the sun and the fan motor will eventually clear the ice.

How do you prevent the problem? It is a very tall order indeed and is not too easily accomplished. The problem occurs on systems with long lengths of pipe exposed to the cold temperatures so you can minimize the exterior pipe on a system. An interior pipe system will not freeze except perhaps in extreme climates. Using 4-inch pipe instead of 3-inch pipe will help minimize the possibility of the pipe freezing completely closed and using Schedule 40 pipe can also help by providing additional insulation from the cold. Insulating the exposed pipe will also help. You should also avoid the use of vent caps in cold climates, as the cap grates can easily freeze solid. Some mitigators will use black ABS pipe to absorb the solar energy or even add heat tape to the pipe.