natureTECH™
ENGINEERED GREEN BUILDING SYSTEMS

Testing Your Insulation Machine

In order to dense pack cellulose insulation into enclosed cavities; your insulation machine must be capable of generating at least 80 inches of water column (in H_2O), or 2.9 psi of air pressure according to the Department of Energy (DOE). Machines failing to meet these minimum air pressure requirements should be serviced and retested before putting them back into dense pack operation. Below is the testing protocol:

1. Disconnect the blowing hose from the outlet of the insulation machine.
2. Close the material feed gate completely or remove all the material from the hopper to prevent material from falling into the air lock.
3. Place an empty grain bag, or any ventilated bag, over the hose outlet of the machine and run both the blower and agitator to blow all the material out of the air lock.
4. Turn the blower speed control to its maximum setting or full air.
5. Tightly hold the base plate of your pressure gauge over the hose outlet of the machine.
6. Turn on both the blower and agitator on and observe both the highest and lowest pressures.
7. If the lowest pressure observed is below 80 in H_2O or 2.9 psi of air pressure, then the machine should be removed from service and repaired. Steady low air pressure readings are usually a sign of a plugged air filter, air leaks between the blower and the air lock or a worn out blower motor. Large fluctuations in the air pressure readings are typically an indication of bent air lock paddles and/or worn air lock seals.
8. After repair, the machine should be retested and put back into service only after achieving at least 80 in H_2O or 2.9 psi air pressure.
9. Record the maximum and minimum air pressures along with the date. We recommend retest your insulation machine monthly.

You can also check the condition of your blowing hoses by reconnecting them to the machine and blowing them clear of any material. Your pressure gauge can now be attached to the end of your hose and the air pressure test above repeated. If the air pressure difference from the hose outlet and the end of the insulation hose is greater than 7 in H_2O or 0.25 psi, then either your hose connections are leaking air or your hoses have holes in them and are worn out. Repair connections or replace leaky hoses before dense packing.

Air pressures falling below the DOE minimum requirements will likely result in low installed densities and poor overall production levels. The cost of these repairs is frequently offset quickly by increased production levels.

For further information, please contact our VP of Insulation Technology Bill Hulstrunk at bhulstrunk@nature-tech.com .