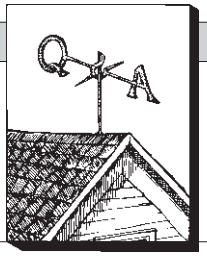
What's Behind Septic Code?



by Henry Spies

Suspicious Septic Systems

Q. *How does an aeration plant compare to a septic tank? Why aren't aeration plants accepted by some codes?*

A. Sewage in a septic tank is broken down by anaerobic bacteria (those that live without oxygen), that devour and digest the effluent. In the leach field, additional purification occurs via the aerobic (oxygen-using) bacteria when the effluent percolates through the soil. In an aeration treatment plant, air is pumped into the tank and the sewage is broken down by aerobic bacteria only. But the breakdown is just as complete. The effluent from an aerobic system can be discharged to the surface, since it doesn't depend on soil bacteria.

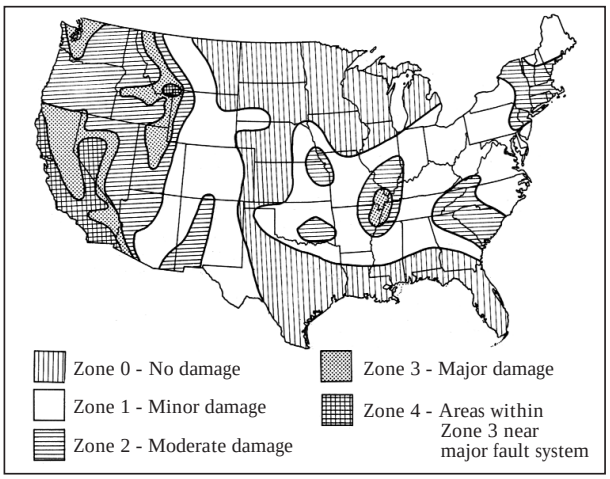
Code approval of aeration systems often requires the chlorination of the effluent. This can be done easily with slow-dissolving chlorine tablets. A maintenance contract on the system is also required in many areas because the sludge in the system must be pumped out periodically and the moving parts must be lubricated.

I do not know why an aeration system would be flat out rejected by some codes, especially since it works in the same way as most municipal systems. One possibility is that if the unit breaks down, it could discharge raw sewage. But the sewage would be much less harmful than that from an overflowing septic system. And even leach fields can become clogged and discharge sewage to the surface.

Ground Shaking News

Q. *In what regions besides the West are earthquakes possible?*

A. As indicated on the map, above, there is some chance of earthquake damage in all regions of the country. Areas that are exempt are the southern halves of Florida and Texas, a portion of the Gulf Coast, and the far islands of Hawaii. It's worth noting that the most severe earthquake recorded in the United States was along the New Madrid fault, which extends from Arkansas, through Tennessee, to Illinois.



Seismic Zone Map of the United States. Adapted from the 1988 edition of the Uniform Building Code with the permission of the International Conference of Building Officials.

Stress-Skin Structure

Q. *Do stress-skin panels have any structural capacity of their own or does the framing have to carry the entire load?*

A. Stress-skin panels with plywood or OSB facing on both sides resist both compression and bending. The skins alone have enough compressive strength to carry the vertical load, and the bonding to the foam core provides the necessary resistance to buckling. The core also provides the spacing for the skins to form a beam in bending, just as the web of an I-beam spaces the flanges to carry the load. Occasionally a purlin or beam is built into the roof system. Since most panel manufacturers provide engineering assistance as a matter of course, and to reduce their liability, any required reinforcement will be included in the panels.

Taping To Wood

Q. *Can glue be added to joint compound when taping a drywall-to-wood joint?*

A. Some tapers apply a coat of carpenter's glue on the wood and a coat of joint compound on the drywall to set the tape in. The second and third coats can be done with joint compound alone. The new adhesive-backed cloth tapes might also do the job without the use of wood glue. Even with these steps, however, there is a good chance a drywall-to-wood joint will crack. Wood tends to expand and contract much more than drywall from the initial drying and later changes in the humidity. ■

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