

Focus of This Issue: Septic Systems

Who Cares If It Leaks?

“Who cares if it leaks? It’s a septic tank, and just a few feet away there’s perforated pipe.” 25% of Americans have an on-site system in their back yard and most don’t know how it works. Septic tanks must not leak because raw sewage contains disease causing germs and viruses, and unwanted nutrients that can damage waterways. Water leaking into a tank, disrupts the natural process that converts toilet flushing water into drinking water.



The Federal agency, EPA has a very useful site: www.epa.gov/septic-smart. Everyone involved in the on-site industry will find informative articles and links here. Including, what not to flush, how the systems work, and how to maintain a healthy system.

Interest in watertight septic tanks is growing. This photo from 2005 shows a demonstration that drew visitors to watch tank testing for leakage. The tank on the left is filled with water, the other two are under a vacuum. Note that the top seam and the mid-seam tank are equally tested and both are watertight. As of May, 2012 every single septic tank installed in New Jersey is tested for watertightness. The test is performed by the installer, after all the pipe connections are made and before backfill. ASTM-1227 is the governing specification. Both water testing, where the tank is filled with water and left for 24 hours, and vacuum testing are permitted. If the water level holds, and there are no visible leaks, the tank passes. With a vacuum test, the gauge must remain steady for 4 minutes. Most installers use the vacuum test due to the time involved. PCANY listed tanks carry a red tag that indicates the precast manufacturer has

submitted to rigorous scrutiny by a Professional Engineer, licensed in the state of New York. He certifies that those tanks are watertight, structurally sound, and meet the regulations applicable to the state requirements. Visit www.pcany.org to see which producers are listed as complying with red tag requirements. That red tag is an assurance of quality.

Pipe entries, covers and seams are all potential problems for leakage. A good installation requires attention to these spots. In this picture, the seams of the risers and the tanks have been gasketed with good butyl mastic and the external surface has been sealed with a rubber wrap. The orange color is from a water-based adhesive that bonds the wrap to the concrete. Notice the level. Tanks have to be properly set on a compacted gravel layer of four inches of stone. Wrongly set, the inlet could be lower than the outlet. In that case, the venting is shut off and the tank will not fill properly. If the outlet is too low, the scum layer will flow into the drainfield, causing thousands of dollars of damage. The wheeled machine sitting next to the tanks is a portable vacuum testing device. Before backfill, each of these tanks was tested and passed the watertightness requirement. Concrete septic tanks with the red tag are your best choice for a septic system. They are made by a local manufacturer, not some far away company who does not have any interest in the community. Red tag tanks are delivered and set by members you can trust.

Thanks to Ed Pennypacker, Jepco Sales, for submitting this and the next article.

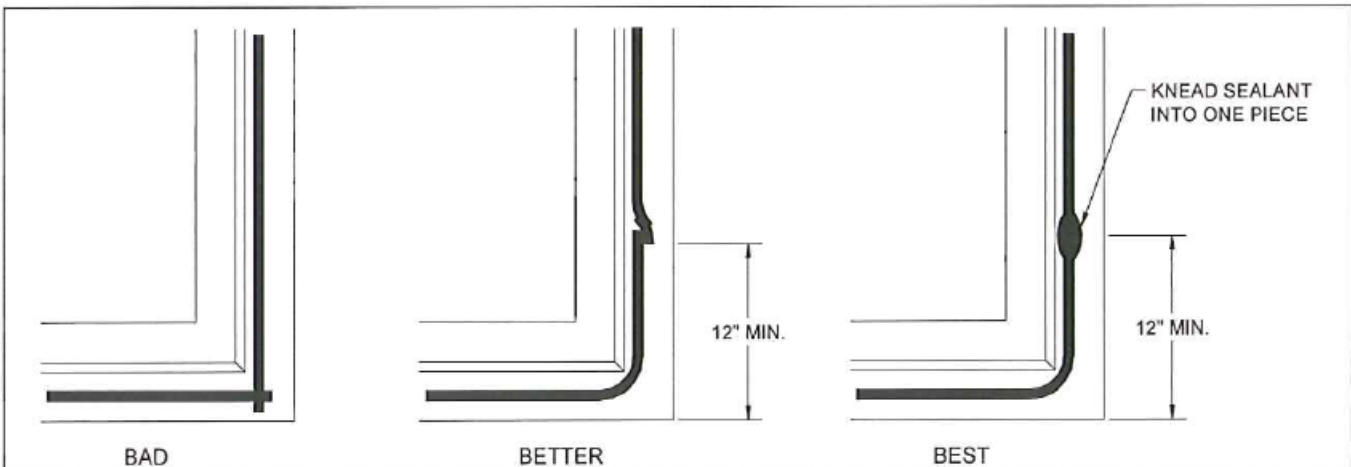


Typical Sealant Installation Procedure



When installing sealant, it is optimal to place the sealant where the concrete touches the tightest. In the case of a ship-lap or offset style joint, it is also beneficial to fill the annular space. This can be accomplished with one or two rows of sealant, depending on the size of the structure. This example shows the optimal placement when using two rows.

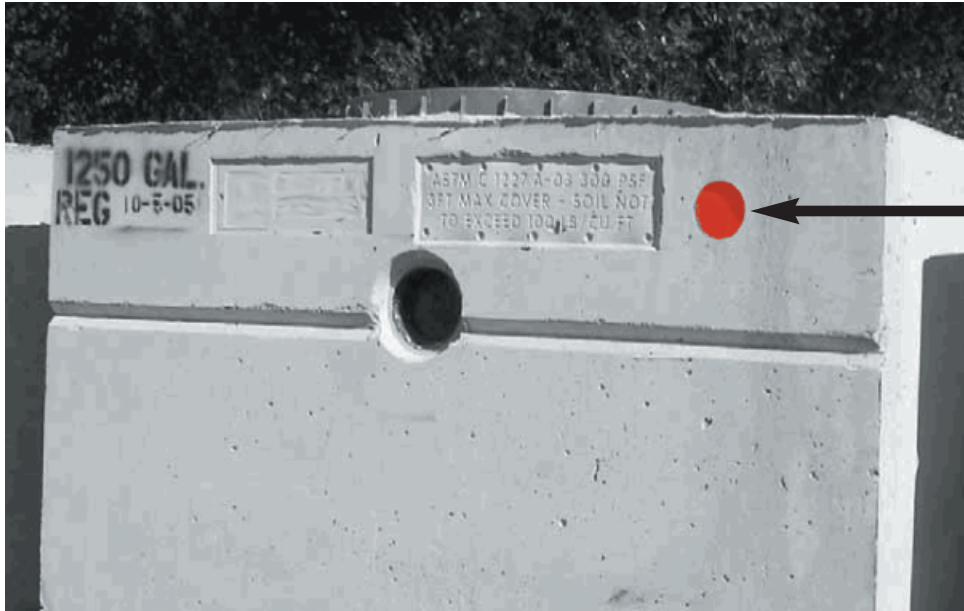
As force is applied, the sealant “flows” to fill the annular space. The sealant also flows laterally along the inside and outside mating surfaces. The sealant will resist additional “flow” once it has reached an equilibrium point of 10 to 15 psi. Time and ambient temperature will influence this. The result will be a gasket that fills the joint as shown in this photo.



Installation procedure around a corner

Do you know why septic tanks with the cast in red disk are being required, and installed, more and more?

Because they are your assurance that tanks which include this three-inch red-plastic disk have been scrutinized by a Licensed Professional Engineer to insure compliance with PCANY's Certification Program.



**PCANY
LISTED
Red Tag**

What is the Purpose of the PCANY Certification Program, and How Does it Work?

The Certification Program's purpose is to assure the public, specifying and approving agencies that concrete tanks or chambers achieving certification have been subjected to a rigorous testing and evaluation process, all for the benefit and protection of the Public and the Environment. Manufacturers of precast concrete products wishing to be included in the program must comply with the requirements of this Program.

The PCANY Certification Program for Water and Wastewater Products specifies procedures to test products made to high industry standards in compliance with state, local, and industry specifications. Initially, the program was limited to precast concrete tankage intended for the treatment of sewage, but it has been expanded to encompass a broader origin of wastewater, such as grease interceptors and oil-water separators. The program involves maintaining and publishing a central registry of precast concrete manufacturers including a comprehensive list of each company's certified products. The registry is a public document, available to all concerned parties, on the PCANY website (www.pcany.org).

Getting Septic Smart

By Ted J. Rulseh, Editor, *Breaking Ground*, Onsite Installer, February 2013

It's pretty much unanimous in the on-site industry: Homeowners need more education on how to care for their septic systems.

That's whether those owners have just built new homes or have lived in the country on a septic system for decades. Many people simply would rather forget they have a wastewater treatment system buried in the yard.

Some universities, some state agencies, some counties — and for

that matter, a number of on-site practitioners — do a great job with education. But there are, to say the least, major gaps in coverage.

Going National

Now there's a national approach to education that may help fill in some of the "bare spots" in the educational map of the country. The U.S. EPA late last year launched the SepticSmart campaign (www.epa.gov/septicmart). In a way, it repli-

cates the methods of the ENERGY STAR program, which promotes energy efficiency, and the WaterSense program, which promotes water conservation.

A key difference is that ENERGY STAR and WaterSense go so far as to rate and certify products for their performance. That isn't the case with SepticSmart, but the program does include a variety of good informational materials.

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Getting Septic Smart

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The program website includes the links to pages with basic information about system care, and fact sheets on various more technical topics like large-capacity systems and recovery after flooding.

Likely of more interest to on-site professionals is an Outreach Toolkit that includes a variety of print-ready materials you can download from the website and take straight to a local print shop. These items include:

- A doorhanger advising homeowners to take care of their systems

- A 9-page “Homeowner’s Guide to Septic Systems”
- A 4-page homeowner’s guide in a “rack brochure” format
- Postcards with basic system maintenance advice

Good Information

These seem well suited for installers, service contractors and local regulators who would like good educational “leave-behinds” or mailers, but lack the resources to create their own and haven’t yet found publicly available items they can use. There’s also a SepticSmart logo graphic that you can easily post on your website.

The EPA says SepticSmart aims to inform homeowners who have

septic systems about the importance of maintaining them, and to provide valuable resources to help those owners make sound decisions where their systems are concerned.

Now there’s no good reason for an on-site practitioner to shy away from education. The big roadblock to educational material has always been the time it takes to develop and design high-quality presentations. Now all that work has been done, and it’s just a matter of getting the items printed locally in an appropriate quantity.

Printing is cheap these days, and so it should be easy for just about any entity, public or private, to get a supply of materials that offer sound advice.

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