Prescription Specification or Performance Specification

Ed Pennypacker October, 2016

There is a running battle in the precast industry. On one side are the defenders of status quo. For example, ASTM C-478 has a prescription that calls for steel reinforcement in a precast manhole. For years, specifiers have simply had to write a line, in the invitation to bid, that calls for manholes built according to ASTM C-478, and they get steel reinforced manholes.

It has worked. Inspectors are required to look for steel in the manholes and when they find it, they are satisfied. Manholes have been performing just fine over the years.

Amish farmers have been farming in the same way since 1843. For religious reasons, they reject new technology. They are good farmers; their method works on small family farms.

The downside of following prescriptions is that the industry gets frozen in time, like the Amish. With manholes, technology shows that synthetic reinforcement works just as well as steel, and in many cases, even better. If the buyer relies on ASTM C-478, he cannot take advantage of new technology with better performance. It is just too darn easy to keep writing a prescriptive specification.

Virginia DOT says they are not satisfied with the performance of pipes that have been installed in various locations. “It is the joint”, we are told. Their solution to the problem is to require all of the manufacturers to perform testing to prove that their pipe, and the gaskets they use with those pipes, can pass a test where water is introduced at pressure.

Clearly, they are looking for a performance of watertightness.

Loudin County Department of Health had a problem. Septic tanks, some of precast concrete, and some made with plastic or fiberglass, were failing. Collapses, leaks, cracks, even tanks floating out of the ground were seen.

In 2009, Loudin County, in Virginia, adopted a performance specification where every septic tank and associated vessel is tested before backfill, at the home owner’s site. A Loudin County inspector witnesses the test. Since enforcing this test regimen, the number of failing precast tanks went to zero. Leakers for plastic and fiberglass have been greatly reduced, almost eliminated.

I predict that all of the pipes will pass the plant test with flying colors. The problem is not the pipe, nor the gasket. It is improper installation that is the problem. Find a way to inspect the installed pipes, enforce a performance standard, flunk the leakers, and the problem will go away.