

JEPCO NEWS

SPRING

by Ed Pennypacker

JUNE 1998

CONSEAL BEATS O-RING TEST

ConSeal CS102 and Jefferson Concrete manholes passed the test usually reserved for rubber O-ring gaskets. ASTM C-443 requires water tight joints that withstand 13psi for ten minutes. CS 102 butyl gasket stayed completely dry for over 25 minutes at that pressure.

Members of the New York Central Region of the APWA met at Jefferson Concrete on April 23, 1998 to learn about



CONCRETE SEALANTS PROVIDES THEIR TESTING EQUIPMENT TO TEST JEFFERSON CONCRETE MANHOLES AND CONSEAL BUTYL

pipe to manhole connections, vacuum testing, flow channels, and butyl gaskets. Tim Queior and Mark Thompson, partner owners of Jefferson hosted the event which included several demonstrations.

Jefferson asked Concrete Sealants Inc. of New Carlisle, Ohio to test the butyl gasket in front of about sixty attending engineers and supervisors from various municipalities in the region. The object? To prove that ConSeal butyl gasket meets and exceeds the spec for O-ring.

To perform the test, strips of one inch ConSeal are placed at the inner and outer planes of the manhole joint. Once joined, the sections are clamped together to prevent separation when pressure is applied. A metal fixture on the inside of the manhole isolates the joint by inflating bladders above and below the separation. Water under 13 pounds of steady pressure is forced against the butyl gasket. Observers look for leaks on the outside of the manhole. After 25 minutes there were none.



VACUUM TESTING SHOWED BOOTS AND CONSEAL CS102 EXCEED THE TEST REQUIREMENTS.

Clamps holding the joint together were removed while pressure was continued, still the joints did not leak! In fact, Jefferson had to drive wedges into the joint to separate the two pieces while they were suspended off the ground.

Concrete Sealants provides the use of their test equipment as a free service to ConSeal customers. Howard Wingert, owner of Concrete Sealants says, "Our commitment to quality is evidenced by our ongoing test program and research. Since we began using this test van, we have learned so much that we never knew before. Knowledge of how to gauge the correct size of butyl gasket, where to put it, and how to ensure water tight joints came from tests just like these at Jefferson. It matters a lot what size you use., and there are quality issues to consider. We know the answers because we've tested it hundreds of times. "

HOW TO SELECT BUTYL SEALANTS THAT MEET OR EXCEED ASTM C-990

Butyl sealants come in all sizes, shapes, and formulations. Even though two may seem alike to the naked eye, they may differ greatly. Testing for chemical make-up and performance testing are the only true measures of compliance. At least 50% of the compound shall be butyl rubber (hydrocarbon blends). Also, the gasket has to endure 10 psi water pressure for 10 minutes of hydrostatic testing. These two criteria are not the only specs for ASTM C-990, BUT THEY MAY WELL BE THE MOST IMPORTANT.

HOW TO SELECT.... CONT'D

THERE ARE SOME USEFUL RULES OF THUMB:

Higher is better than wider. In order for butyl gaskets to be effective; compression is required. While there is no firm data on just how much compression is needed, experience shows that at least 50% is always effective. For example, if the joint is known to present openings of one-half inch, then a one inch thickness of sealant is called for. To determine the open space in joints, wet the area and place short strips of sealant cross-wise to the joint. Then join the precast. After a short wait, the pieces are separated and these "bite-wing" strips examined. the tightest (and loosest) portions of the fitted pieces will be clearly shown. This hints at where the sealant is best placed; or it may tell the thickness of sealant needed to ensure water tightness.

Sealants can be too soft. Likewise they can be too hard. A good way to gauge these properties is to squeeze a bit of the gasket between your thumb and fingers. It should yield to firm pressure. Naturally climate can cause changes in the sealant. Select a blend that matches the season. Softer grades may be ideal in winter and too soft for summer use. No matter what, there will be a day too hot or too cold. To beat the heat, immerse the gasket in cold water for a few minutes. Cold winter morning? Put the gasket in the cab of the truck for a few minutes.

Rubber is good. To see if there is rubber in a butyl gasket. Pull it like taffy. Butyl gaskets that meet the 50% spec will stretch. They will stretch a lot. Lesser grades break suddenly. They are so loaded with fillers that they have no resilience.

Sticky sealants work better. While you squeeze the sealant to test for softness, you will automatically test the stickiness. Good butyls will adhere to your skin and "web" a stringy film as you part your fingers.

ASK FOR THE TEST RESULTS. Holding ten pounds per square inch of pressure is not easy. Not everyone's gasket can do it. ConSeal can .

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WHEN IS AN INCH NOT AN INCH?



1" SIZE

CONSEAL

VOL.=.784



1" SIZE

THEIRS

VOL.=.625

RUBBER CONTENT IS LESS IN "THEIRS" BY TEST RESULTS: ONLY 28.7 PERCENT RUBBER. THAT'S OVER 70% FILLERS.

If you buy a dozen eggs, don't you expect to get twelve in the box? ConSeal 's name is an assurance of quality and honesty. With ConSeal you get what you pay for. No cheating on rubber, no tricks on size.

LAY IT ON ME !

PLACE A ROLL OF THEIR SEALANT ON A ROLL OF CONSEAL. SEE FOR YOURSELF WHO IS STRETCHING THE TRUTH.