



Indiana Application of 410 IAC 6-8.2-60(c): Septic Tank Pipe Connectors

The Indiana State Department of Health 410 IAC 6-8.2, *Residential Onsite Sewage Systems*, effective on January 1, 2011, requires that precast concrete tanks include cast-in-place flexible, watertight pipe connectors that conform to ASTM C 1644-06, *Standard Specification for Resilient Connectors Between Reinforced Concrete On-Site Wastewater Tanks and Pipes*. The Indiana State Department of Health has received numerous inquiries as to the application of this standard.

ASTM C1644-06 is a relatively new standard, published in 2006. Not all manufacturers have tested their pipe connectors using the test methods and requirements of ASTM C 1644 to verify that their product meets the minimum performance and material requirements of that standard. However, as ASTM C1227-10a, *Standard Specification for Precast Concrete Septic Tanks*, now requires the use of pipe to tank connections that conform to ASTM C1644, we expect that more of the connectors will be tested against that standard.

Many manufacturers of pipe connectors have tested their products using the test methods and requirements of ASTM C923, *Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals*. The materials specifications in the two standards are comparable. However the test methods and requirements for hydrostatic testing are dissimilar. While it may initially appear that ASTM C923 contains more stringent hydrostatic testing methods, there are some differences. For example, ASTM C1644 requires testing for both infiltration and exfiltration, ASTM C923 does not. Also, ASTM C1644 requires testing of every pipe size that would be used with the connector, ASTM C923 does not. Those differences may be critical and cannot be overlooked.

Because ASTM C1644 is the newer of the two standards and not all manufacturers have yet tested their pipe connectors to that standard, the department has determined that at this time, the following will be used by the department to determine suitability of pipe connectors for use in precast concrete septic tanks in Indiana:

1. Any resilient rubber pipe connector for which the connector manufacturer has submitted to the department current certification including the manufacturer's test report, or statement from the manufacturer accompanied by a copy of the test results, that the connector has been tested and inspected and conforms to all requirements of ASTM C1644.
2. Any resilient rubber pipe connector that:
 - a. uses an expansion ring, tension band or a take-up device for mechanically compressing the resilient portion of the connector against the pipe; and
 - b. the connector manufacturer has submitted to the department current certification including the manufacturer's test report, or statement from the manufacturer

accompanied by a copy of the test results, that the connector has been tested and inspected and conforms to all requirements of ASTM C923.

As of this date, documentation has been submitted in accordance with items # 1. or # 2., above, for the following resilient rubber pipe connectors:

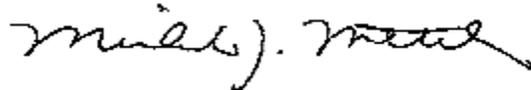
Blackthorn, LLC:
Dura-Seal III

Press-Seal Gasket Corporation:
CAS 402 (2", 3", 4" and 6")
CAS 402F (4")

Polylok, Inc.:
Poly II Open End Boot Seal (2"- 4")
Poly II Closed End Boot Seal (2")
Poly III Closed End Boot Seal (3"- 4")
Poly IV Open End Boot Seal (4")
Poly IV Closed End Boot Seal (4")
Poly IV Closed End Boot Seal (4" – 6")

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