

KEROTEST MANUFACTURING CORP.



VALVES FOR INDUSTRY SINCE 1909

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Dear Customer:

The purpose of this communication is to provide information and offer technical support to our Customers who are participating in the voluntary data collection process developed by the Plastic Pipe Database Committee (PPDC). Kerotest actively supports the PPDC data collection initiative, and the goal of providing effective analysis of the frequency and causes of in-service plastic piping system failures and/or leaks. Kerotest's involvement can also support and facilitate accurate mechanical fitting failure reporting, in accordance with CFR 49 Part 191 and 192 requirements.

The Kerotest Kerotite™ quarter-turn Zytel nylon plastic service valve has provided Kerotest's gas distribution customers with dependable service since the introduction of this product line in 1983. Initial production quantities of these valves contained specific installation instructions to assure that leak-tight end connections were completed in the field. Due to the variation in field conditions, installation contractors, training and other factors some valves were not installed with sufficient torque applied to the end nuts and, as a result, there were reported leaks at those valve end connections. After receiving initial reports of these problems, Kerotest enhanced the installation instructions, procedures and added "match-marks" to the connecting parts to provide visual confirmation that sufficient torque was applied when installing the end nuts. This action virtually eliminated the aforementioned cases of installation errors and end leakage.

Approximately 300,000 valves that did not have "match-marks" were sold and installed between 1983 and early 1988 to various gas distribution utilities. Our records indicate that your company may have purchased Kerotite™ valves prior to the addition of the "match-marked" ends. Although affecting only a small fraction of the total valves installed, Kerotest has received reports of field problems with these valves, primarily due to leakage at the valve ends caused by installation related errors. If you have had field problems associated with this product and/or are involved in the PPDC activity described above, Kerotest is offering our assistance in this matter.

In an investigation involving a Kerotite™ valve, accurate reporting of "Failure Location" and "Failure Cause" (sections 7 and 8 of the Plastic Piping Failure Report) and "Apparent Cause of Leak" (section 15 of Form PHMSA F 7100.1-2) requires careful analysis of the reported field problem. Kerotest recommends that such an investigation be conducted as follows:

- Remove the valve with a minimum of 3 inches of PE pipe left on both ends.
- Do not disturb the condition of the valve before and after removal.
- Return the valve to your Company lab or Kerotest for evaluation.
- Follow Kerotest procedure *K-826, Plastic Service Valve Customer Field Installation Verification Procedure* to determine the cause of the failure.

Kerotest developed K-826 to define an effective failure analysis approach that will support accurate determination of the cause, whether it may be due to improper installation, a factory defect in a valve, or some other factor. Kerotest also has facilities, equipment, and trained personnel available for this type of analysis. We offer this service to our Customers. Any failures investigated by Kerotest will be documented in a formal report, as specified in K-826. Should you prefer to conduct your own investigation, Kerotest will provide this procedure for your use.

Based on past evaluations, Kerotest has determined the following items were the most common causes of field problems:

- The end nuts were not bottomed against the valve body, therefore the recommended 20 ft-lbs of torque was not applied to them. This resulted in inadequate compression on the rubber gasket causing leakage at the end nut after an extended time period.

An Employee-Owned Company

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- Valves ends were disassembled prior to installation of the pipe into the valve ends. When the parts were placed back into the valve ends, they were installed out of sequence or missing altogether.
- PE pipe installed into the valve end was not clean and/or free of nicks, scratches or gouges. Additionally, the PE pipe ends were not cut squarely prior to insertion. Each of these conditions would compromise the future sealing of the gasket.
- End nuts were backed off more than three threads prior to insertion of the pipe into the valve ends. This can cause an undesirable movement of parts in the valve end that will compromise a long-term seal.
- The PE pipe was not marked with the proper stab length prior to installation. This resulted in the pipe not going all the way through the rubber sealing gasket in the valve end. Partial contact of the pipe and gasket provided a temporary seal. End nut leakage could occur after an extended period of time.

In summary, if you have had field problems with Kerotite™ valves installed in your gas distribution system and would like assistance from Kerotest in regard to any of the matters discussed above, please contact us. You should write or call:

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Thank you for your business and if we can help in any way please let us know.
Joe Miller

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