

**PROJECT NUMBER:** 30160 07-90760  
**PAGE:** 1 of 2  
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Investigative Chemistry Geotechnical Construction Materials  
Non Destructive Testing Failure Analysis Product Evaluation  
Metallurgical Analysis Materials Testing Welder Qualification

**PRESSURE TEST OF PLASTIC 10"  
DUCT JOINT CLAMPING SYSTEM**

**Prepared for:**  
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**Attn: Mr. John Jungers**  
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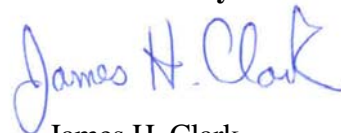
**Client Purchase Order Number: 11-26-JJ**

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**The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.**

**PROJECT NUMBER:** 30160 07-90760**PAGE:** 2 of 2**DATE:** December 6, 2007**INTRODUCTION:**

This report presents the results of a pressure test conducted on the joint connection system for 10" underground heating/AC duct pipe. The testing was requested by Mr. Jon Jungers of CDC Enterprises / AKDUCT on November 26, 2007.

The scope of work was limited to pressure testing a center duct and end-cap joint connection to determine the pressure at which leakage and/or joint separation occurred. The testing was completed on December 3, 2007.

**SAMPLE IDENTIFICATION:**

Received of conducting the test: Two, 4 foot lengths of AKDUCT - 10" Plastic Duct Pipe (8.5" inside diameter and 1/2" wall thickness), One 10" Plastic End-cap, Three 4-1/2" wide - 10" Clamps #10-0080 and One ribbon of 4" wide joint sealant.

**SUMMARY OF RESULTS:**

The AKDUCT 10" –plastic duct pipe joint connection/clamping system in an unrestrained state, sustained an internal pressure of 1.5 psi (41.5" WC) for 5 minutes with no leakage or separation.

The system momentarily reached the pressure of 1.75 psi (48.4" WC) at which point the end-cap was noted pushing out of the clamp until it separated enough that leakage occurred.

The tensile force (pull apart pressure) on the system joints was calculated to be 170 lbf at 1.5 psi and 198 lb at 1.75 psi.

**TEST METHOD:**

The testing was conducted by assembling the two 4ft long section of duct with a center joint and one end cap joint. Pressure was then applied to the assembly through the port in the factory molded end-cap of one length of pipe. The pressure was monitored using a digital manometer from a port in the tapped in the side wall of the pipe. The pressure was increased in increments of 1-1/5 inches of water column up to 13.5" WC (0.5 psi) then every 0.25 psi thereafter until joint leakage or separation occurred. The pressures were held for 5 minutes at each increment while observing the performance of the two joints.

**TEST EQUIPMENT:**

Dwyer Digital Manometer - Series 475 Mark 111.

**REMARKS:**

The pipe assembly will be retained for 2 weeks then discarded unless notified otherwise.

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