

Report No. 0122.1

Date: 06- MAR- 01

Re: Polylok Riser - P/N 3009 and Lid - P/N 3009C

Test Conducted For: Polylok Inc.
173 Church Street
Yalesville, CT 06492
Attn: Harry Plander V.P.

Test Performed At: Polylok Inc. Laboratory
951 South Meriden Road
Cheshire, CT 06410

Test Witnessed By: George E. Nelson on 22- JAN - 01

Item Tested: One (1) sample column of assembled Risers. Column consists of seven (7) HDPE molded round Risers and one (1) HDPE molded round Lid. The Riser and Lid joints contain foam seals and all sections are secured together with number 10 x 1 ½ inch stainless steel sheet metal screws. The Riser column is 20 inches in diameter, 42 inches in height and gasket mounted on a flat plate.

Object of Test: To determine the ability of the column to maintain vacuum.

Findings: The column maintained a 5.5-inch Hg vacuum for a minimum of 20 minutes with no visible deflection of the column or visible deterioration of the Riser or Lid joints.

Respectfully submitted,

George E. Nelson

George E. Nelson
President



**Stonel
Associates, Inc.**

25 FLINT RIDGE ROAD
MONROE, CT 06468
(203) 452-0470

Report No. 0122.2

Date: 06- MAR- 01

Re: Polylok Riser - P/N 3009 and Lid - P/N 3009C

Tests Conducted For: Polylok Inc.
173 Church Street
Yalesville, CT 06492
Attn: Harry Plander V.P.

Tests Performed At: Polylok Inc. Laboratory
951 South Meriden Road
Cheshire, CT 06410

Tests Witnessed By: George E. Nelson on 22-JAN-01

Items Tested: One (1) sample column of assembled Risers. Column consists of seven (7) HDPE molded round Risers and one (1) HDPE molded round Lid. The Riser and Lid joints contain foam seals and all sections are secured together with number 10 x 1 1/2 inch stainless steel sheet metal screws. The Riscr column is 20 inches in diameter, 42 inches in height and secured in a 4 inch slab of concrete.

Object of Test: To determine the compressive strength of the Riser column and the load bearing capacity of the Lid.

Findings: A force of 6,000 pounds was uniformly distributed on the Riser column and Lid assembly. There was no visible sidewall failure. The test was terminated.
A force of 2,500 pounds was center loaded on the Riser column and Lid assembly with a 6 inch diameter steel disk. The Lid was severely deflected, but contained no visible evidence of Riser rim joint failure. The test was terminated and the Lid quickly resumed its original shape.

Respectfully submitted,

George E. Nelson
President



**Stonel
Associates, Inc.**

25 FLINT RIDGE ROAD
MONROE, CT 06468
(203) 452-0470

Report No. 0221.1

Date: 07-MAR-01

Re: Polylok Riser - P/N 3009 and Lid - P/N 3009C

Tests Conducted For: Polylok Inc.
173 Church Street
Yalesville, CT 06492
Attn: Harry Plander V.P.

Tests Performed At: United Concrete Products, Inc..
173 Church Street
Yalesville, CT 06492

Tests Witnessed By: George E. Nelson on 21-FEB-01

Items Tested: Four (4) Riser columns with Lids, secured and equally spaced, in a common six (6) inch slab of concrete. Each column consists of seven (7) HDPE injection molded Risers and one (1) HDPE injection molded Lid. Each Riser column is 20 inches in diameter and 42 inches in height. The Riser and Lid joints contain foam seals and all sections are secured together with number 10 x 1 1/2 inch long stainless steel sheet metal screws.

Object of Testing: To determine the side pull force required to cause catastrophic Riser column failure measured with a Dillon 10,000 pound Dynamometer, on two Riser columns.

Findings: A/ A two ply-heavy duty nylon sling was positioned on one column in the upper area of its third Riser. It required 2,800 lbs. of side pulling force to cause catastrophic failure to the Riser column.
B/ A two ply-heavy duty nylon sling was positioned on the upper area of the seventh (top) Riser, of one column. It required 1,000 lbs. of side pulling force to create a sufficient column movement to initiate cracking in the 2nd Riser, the one positioned directly over the concrete slab. It required 1,200 lbs. of side pull force to cause catastrophic failure of this Riser column.

Respectfully submitted,

George E. Nelson
President

Report No. 0221.2

Date: 07-MAR-01

Re: Polylok Riser - P/N 3009 and Lid - P/N 3009C

Tests Conducted For: Polylok Inc.
173 Church Street
Yalesville, CT 06492
Attn: Harry Plander V.P.

Tests Performed At: United Concrete Products, Inc.
173 Church Street
Yalesville, CT 06492

Tests Witnessed By: George E. Nelson on 21-FEB-01

Items Tested: Four (4) Riser columns with Lids, secured and equally spaced, in a common six (6) inch slab of concrete. Each column consists of seven (7) HDPE injection molded Risers and one (1) HDPE injection molded Lid. Each Riser column is 20 inches in diameter and 42 inches in height. The Riser and Lid joints contain foam seals and all sections are secured together with number 10 x 1 ½ inch long stainless steel sheet metal screws.

Object of Testing: On one Riser column, to determine the side pull force required to cause catastrophic Riser column failure, measured with a Dillon 10,000 pound Dynamometer, in a simulated shear load from an uneven frost heave.

Findings: A two ply-heavy duty nylon sling was positioned on one column in the upper area of the seventh (top) Riser. It was placed under light tension. A two ply-heavy duty nylon sling was positioned, on the same column, directly opposite in the middle of the third Riser. The column withstood a sustained pull force of 3,000 lbs. in the middle area of the third Riser, without visible deterioration of the column or joints. It required 4,000 lbs. of side pull force to cause catastrophic failure of the Riser column.

Respectfully submitted,

George E. Nelson

George E. Nelson
President



Stonel Associates, Inc.

25 FLINT RIDGE ROAD
MONROE, CT 06468
(203) 452-0470

Report No. 0221.3

Date: 07-MAR-01

Re: Polylok Riser - P/N 3009 and Lid - P/N 3009C

Tests Conducted For: Polylok Inc.
173 Church Street
Yalesville, CT 06492
Attn: Harry Plander V.P.

Tests Performed At: United Concrete Products, Inc.
173 Church Street
Yalesville, CT 06492

Tests Witnessed By: George E. Nelson on 21-FEB-01

Items Tested: Four (4) Riser columns with Lids, secured and equally spaced, in a common six (6) inch slab of concrete. Each column consists of seven (7) HDPE injection molded Risers and one (1) HDPE injection molded Lid. Each Riser column is 20 inches in diameter and 42 inches in height. The Riser and Lid joints contain foam seals and all sections are secured together with number 10 x 1 ½ inch long stainless steel sheet metal screws.

Object of Testing: On one Riser column, to determine the side pull force required to cause catastrophic top Riser failure, measured with a Dillon 10,000 pound Dynamometer, while the fourth Riser is firmly supported against the pulling force.

Findings: A two ply-heavy duty nylon sling was positioned on one column in the upper area of the seventh (top) Riser. The fork of a 10 ton heavy duty lift truck was positioned against the top of the fourth Riser, in line with the nylon sling. The sling was linked to a 6,000 lb. capacity Lug-All ratchet cable puller next to the Dynamometer and the loose end was secured on the frame of the lift Truck.

The top Riser withstood a direct pull of 2,000 lbs. and showed no visible indication of failure. At 2,500 lbs. the top two Risers broke from the column, while the other five Risers were intact with the bottom Riser still secured in the concrete slab.

Respectfully submitted,

George E. Nelson
President



Stonel Associates, Inc.

25 FLINT RIDGE ROAD
MONROE, CT 06468
(203) 452-0470

Report No. 0221.4

Date: 07-MAR-01

Re: Polylok Riser - P/N 3009 and Lid - P/N 3009C

Test Conducted For: Polylok Inc.
173 Church Street
Yalesville, CT 06492
Attn: Harry Plander V.P.

Test Performed At: United Concrete Products, Inc.
173 Church Street
Yalesville, CT 06492

Test Witnessed By: George E. Nelson on 21-FEB-01

Item Tested: One Riser column with Lid, surface mounted to a large six (6) inch slab of concrete. The column consists of seven (7) HDPE injection molded Risers and one (1) HDPE injection molded Lid. Each Riser column is 20 inches in diameter and 42 inches in height. The Riser and Lid joints contain foam seals and all sections are secured together with number 10 x 1 1/2 inch long stainless steel sheet metal screws. The bottom Riser is surface mounted on the concrete slab with one inch square butyl mastic sealant and secured on the slab with six (6) 1/4 inch diameter x 2 3/4 inch long Tapcon screws.

Object of Test: To determine the side pull force required to rip the column from the concrete slab, measured with a Dillon 10,000 lb. capacity Dynamometer.

Finding: A two ply-heavy duty nylon sling was positioned on the upper area of the seventh (top) Riser. The sling was linked to a 6,000 lb. capacity Lug-All ratchet cable puller next to the Dynamometer and the loose end was secured on the frame of a 10 ton heavy duty fork lift truck.
It required 1,000 lbs. of side pull force to rip the Riser column from the concrete slab.

Respectfully submitted,

George E. Nelson
President