

AIR & WATER INFILTRATION PERFORMANCE SUMMARY

Independently Tested Performance of Crown Operable Door Systems

Crown's operable door systems have been independently evaluated by **American Engineering Testing, Inc. (AET)** for air and water infiltration performance. Testing was performed on 8' × 8' specimens representing four Crown product configurations: **Bi-Fold, Single-Swing, Vertical Lift, and 50/50 Systems**.

Testing was conducted generally in accordance with **AAMA 503-14 Method A and ASTM E331**, utilizing commercial and heavy-commercial test pressures.

Air Infiltration Performance

Air infiltration testing demonstrated **exceptionally low air leakage across all four Crown systems**.

Because the laboratory test chamber itself experiences a measurable amount of inherent air leakage, the raw SCFM figures appearing in the accompanying AET report should not be interpreted as the air leakage of the Crown door alone. AET evaluated the change in airflow and pressure after removal of the temporary air barrier to determine the leakage attributable to the tested door assembly.

Based upon the test results and subsequent interpretation provided by AET, the following conservative air-leakage values are recommended for published performance:

Crown System	Published Air Leakage
50/50 System	0.01 cfm/ft ²
Single-Swing System	0.03 cfm/ft ²
Bi-Fold System	0.10 cfm/ft ²
Vertical Lift System	0.12 cfm/ft ²

These published values are intentionally conservative and, in each case, are higher than the air leakage directly measured during commercial-pressure testing.



ACHIEVE YOUR VISION



Performance in Context

For comparison, AET identified the following maximum air-leakage rates from **ICC Table C402.5.2** for common door classifications:

Assemble Type	Published Air Leakage
Sliding Doors	0.20 cfm/ft ²
Garage Doors	0.40 cfm/ft ²
Rolling Doors	1.00 cfm/ft ²
High-Speed Doors	1.30 cfm/ft ²

Each Crown system tested demonstrated air-infiltration performance comfortably below these referenced maximum leakage rates.

AET further concluded that the Crown systems meet the referenced ICC air-leakage requirements at the prescribed pressure and at the higher Heavy Commercial test load.

Water Infiltration Performance

The Crown systems were also subjected to water infiltration testing under commercial and heavy-commercial pressure conditions.

Water intrusion observed during testing was generally localized to the **temporary wood infill panel interfaces and bottom seal conditions** of the test specimens. The 50/50 System exhibited particularly strong performance, with **very little water intrusion observed**.

Because Crown systems are custom manufactured and may incorporate project-specific glazing, cladding, panel construction, sill conditions and perimeter interfaces, final water performance is influenced by both the Crown operable system and the project-specific materials and installation details incorporated into the completed assembly.

Understanding the Test Results

The accompanying AET report contains the laboratory's raw test data. In particular, the SCFM values shown in the report include airflow associated with the **test chamber itself** and should not be interpreted as direct door-only leakage rates.

The values presented in this Crown Performance Summary reflect AET's subsequent interpretation of the test results and conservative recommendations for communicating the air-infiltration performance of the tested Crown systems.

Independent Testing Performed by: American Engineering Testing, Inc.
AET Project No. P-0043837
Testing performed January 2026
Report dated February 18, 2026

Performance values are based upon testing of the specific 8' x 8' specimens evaluated by AET. Crown systems are custom designed and manufactured for individual project requirements. Actual performance may vary based upon system size, configuration, glazing or cladding, seals, interfaces, installation conditions and other project-specific factors. Test results should not be interpreted as certification of every possible Crown system configuration.



REPORT OF DOOR TESTING

Project:

Air & Water Infiltration Testing of Doors
Crown Incorporated
135 McLeod Avenue South,
Plato, MN 55730

Reported To:

Crown Incorporated
135 McLeod Avenue, South
Plato, MN 55730

Attn: Frank Zuehlke

AET Project No: P-0043837

Date: February 18th, 2026

INTRODUCTION

This report presents the results of air and water infiltration testing performed by our firm at the Crown Door manufacturing plant in Plato, Minnesota. Our services were requested and authorized by Frank Zuehlke of Crown Incorporated on July 9, 2025. The scope of our services was limited to:

1. Performing one air and water infiltration test on one Bi-Fold Door.
2. Performing one air and water infiltration test on one Single-Swing Door.
3. Performing one air and water infiltration test on one 50/50 Swing Door.
4. Performing one air and water infiltration test on one Vertical Lift Door.
5. Preparing a written report with our findings.

RESULTS

The results of our air and water infiltration testing are as follows:

Air & Water Infiltration Testing of Doors

Crown Incorporated - 135 McLeod Avenue South - Plato, MN

February 18, 2026

AET Project No. P-0043837

**Bi-Fold Door System, 8' x 8'**

Test Parameters	Method A	Pressure Difference (Inches of Water)	Pressure Difference (Blank Removed) (Inches of Water)	Air Infiltration SCFM	
AAMA 503-14/ ASTM E331	Commercial	0.57	0.4	18 scfm	blank
AAMA 503-14/ ASTM E331	Heavy Commercial	0.77		30 scfm	w/o blank

Single-Swing Door System, 8' x 8'

Test Parameters	Method A	Pressure Difference (Inches of Water)	Pressure Difference (Blank Removed) (Inches of Water)	Air Infiltration SCFM	
AAMA 503-14/ ASTM E331	Commercial	0.57	0.55	18 scfm	blank
AAMA 503-14/ ASTM E331	Heavy Commercial	0.77		25 scfm	w/o blank

Vertical Lift Door System, 8' x 8'

Test Parameters	Method A	Pressure Difference (inches of water)	Pressure Difference (Blank Removed) (Inches of Water)	Air Infiltration SCFM	
AAMA 503-14/ ASTM E331	Commercial	0.57	0.24	18 cfm	blank
AAMA 503-14/ ASTM E331	Heavy Commercial	0.77		27 cfm	w/o blank

50/50 Door System, 8' x 8'

Test Parameters	Method A	Pressure Difference (inches of water)	Pressure Difference (Blank Removed) (Inches of Water)	Air Infiltration SCFM	
AAMA 503-14/ ASTM E331	Commercial	0.57	0.56	18 scfm	blank
AAMA 503-14/ ASTM E331	Heavy Commercial	0.77		20 scfm	w/o blank