

WARM SPRINGS GOLF & GRILL

WHOLE BUILDING AIRTIGHTNESS TESTING



CLIENT:

City of Boise
150 N Capitol Blvd
Boise, ID 83702

PROJECT:

Warm Springs Golf & Grill

WSGG AIRTIGHTNESS

The Golf and Grill and Cart Barn zones were tested for air leakage using a calibrated fan and precision pressure gauge, in accordance with ASTM E779. Each zone underwent a multi-point depressurization test, and results were extrapolated to 75 pascals using the measured flow exponents.

Both zones demonstrated exceptional airtightness, with leakage rates 3–4× below IECC 2021 and IGCC limits. The tested result of ≤ 0.10 CFM/ft²@75Pa is rare for commercial buildings and approaches the Passivhaus nonresidential threshold of ≤ 0.08 CFM/ft²@75Pa, placing it among the tightest commercial buildings in North America.

This level of performance is particularly impressive given the inclusion of standard overhead garage doors in the cart barn, standard commercial steel man doors, an accordion-style Panda door system, commercial kitchen, and rooftop mechanical units.

At the time of testing several door thresholds had not yet been installed. Temporary taping was applied for the test. Once thresholds are installed, photos and field verification should confirm they are fully sealed to maintain envelope continuity.

As anticipated, most of the measured air leakage came from the steel man doors, overhead doors, and accordion-style folding door system. In contrast, the opaque enclosure and fixed glazing performed exceptionally well, demonstrating excellent quality control in the fluid-applied air barrier, window installation, and overall trade coordination. The results reflect a well-executed and thoroughly integrated continuous air barrier across the project team.

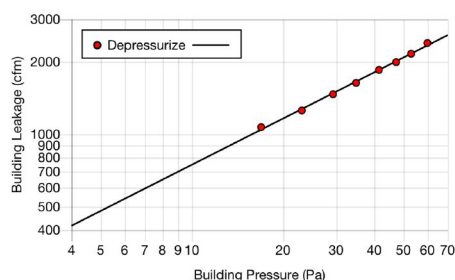
Building Zone	IECC 2021 Air Leakage (≤ 0.40 CFM/ft ² @75Pa) CFM75	IGCC Air Leakage (≤ 0.25 CFM/ft ² @75Pa) CFM75	Tested Air Leakage (≤ 0.10 CFM/ft ² @75Pa) CFM75	Measured Leakage % Below IECC & IGCC Limits
Golf and Grill	11,913	7,446	2,816	75% & 61% Lower
Cart Barn	6,239	3,900	1,638	
Total	18,152	11,346	4,454*	

*Temporarily sealed mechanical dampers, commercial kitchen exhaust and makeup air unit, rooftop unit dampers, and missing door thresholds.

Measured Leakage: 0.80 ACH50
Leakage Target: 3.00 ACH50
Compliance with Leakage Target: Pass

Test ID: Warm Springs Golf and Grill
Purpose of Test: Envelope (IECC)
Measured CFM50: 2,084.3 (+/- 1.8%)
Building Volume: 157,129.0 ft³
Coefficient (C): 172.4 (+/- 12.4%)
Correlation Coefficient: 0.99852
Test Standard: ASTM E779 (single mode)
Test Characteristics: Pre Indoor Temp: 74 °F
Pre Outdoor Temp: 94 °F
Altitude: 2,733.0 ft
Test Date and Time: 2025-07-18 15:35:25

Effective Leakage Area: 118.3 in²
Enclosure Surface Area: 29,783.0 ft²
Exponent (n): 0.637 (+/- 0.035)
Test Mode: Depressurize
Post Indoor Temp: 74 °F
Post Outdoor Temp: 94 °F
Time Average Period: 10 seconds



Each red dot represents a measured airflow rate at a specific building pressure during the ASTM E779 blower door test of the Golf and Grill Zone. The black line is the regression curve, which fits the data with a correlation coefficient of $r^2 \approx 0.999$.

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The mechanical dampers and penetrations were sealed during the test.

