

Subject: VersaLoc Single-Lock (90°) Panel – ASTM E1646 / E1680 Air & Water Infiltration Performance

Applies to: VersaLoc 24 ga Galvalume single-lock (90°) and double-lock (180°) standing-seam roof panels

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Purpose

To announce the successful completion of ASTM E1646 (Water Penetration) and ASTM E1680 (Air Leakage) testing for Gulf Coast Supply's VersaLoc panel in a 90° single-lock configuration. These results confirm VersaLoc's proven performance as a durable, weather-tight standing-seam system that meets industry standards for air and water infiltration resistance.

Summary of Results

Test Standard	Description	Result
ASTM E1680-16	Air Leakage Through Exterior Metal Roof Panel Systems	Excellent performance with minimal air infiltration
ASTM E1646-95 (2018)	Water Penetration of Metal Roof Panels by Uniform Static Pressure	Passed – No water leakage observed at 12 psf

Outcome: VersaLoc successfully passed both ASTM standards for air and water infiltration — demonstrating strong seam integrity and overall system performance when properly installed.

Assembly Description

- 16" coverage, 1.5" rib height, seamed to 90° (single-lock configuration)
- Continuous sealant bead at panel seams for watertight performance
- Tested over solid substrate using standard clips and fasteners

Significance

The VersaLoc single-lock configuration provides a cost-effective and high-performing alternative to heavier mechanically seamed systems when air and water infiltration compliance is required. It delivers a clean, architectural look while maintaining excellent weather protection — ideal for commercial and residential standing-seam roof applications over plywood decks or similar substrates.

Conditions of Use

- Minimum roof slope: ¼ :12
- Panels must be seamed to 90° (single lock) with continuous sealant at each rib or seamed to 180° (double lock).
- Install per Gulf Coast Supply installation guidelines to achieve tested performance.

References

- ASTM E1680-16 – Rate of Air Leakage Through Exterior Metal Roof Panel Systems.
- ASTM E1646-95 (2018) – Water Penetration of Metal Roof Panels by Uniform Static Air Pressure Difference.

Questions? Technical Services – technical@gulfcoastsupply.com