



# Air Movement Test Methodology

## Introduction

To demonstrate that ZIP System® wall sheathing panels and tape create a high performing air barrier assembly, independent 3<sup>rd</sup> party testing was completed in accordance with ASTM E 2357 *Standard Test Method for Determining Air Leakage of Air Barrier Assemblies*. Within this test, the maximum allowable air leakage rate (air flow) for an air barrier assembly is 0.2 L/sm<sup>2</sup> at 75 Pa. With rate results of 0.037 L/sm<sup>2</sup>, air flow through the ZIP System wall panel test assembly was well below (less than 1/5<sup>th</sup>) this maximum allowable level.

To further understand ZIP System product performance relative to a common housewrap assembly (consisting of wrap and tape), independent testing was completed to compare the air barrier performance of the two systems.

## The Test Method

In this test, separate 8ft by 8ft walls were constructed according to specific manufacturer’s installation instructions. ZIP System wall sheathing and tape were installed on studs as one wall assembly and a standard housewrap and housewrap tape were installed over osb wall sheathing on the other assembly. The wall sections were placed one at a time into an ASTM E283 air-tightness test chamber and sealed to the chamber on all sides. For both assemblies, the panel area and the top and bottom connections were sealed as per the manufacturers’ prescribed methods for creating an air barrier. Positive and negative pressures were applied to the assemblies to simulate real life wind loading. Air flow (leakage) readings were captured at various pressures.



Figure 1. ZIP System wall assembly in E 283 test chamber.

## Test Results

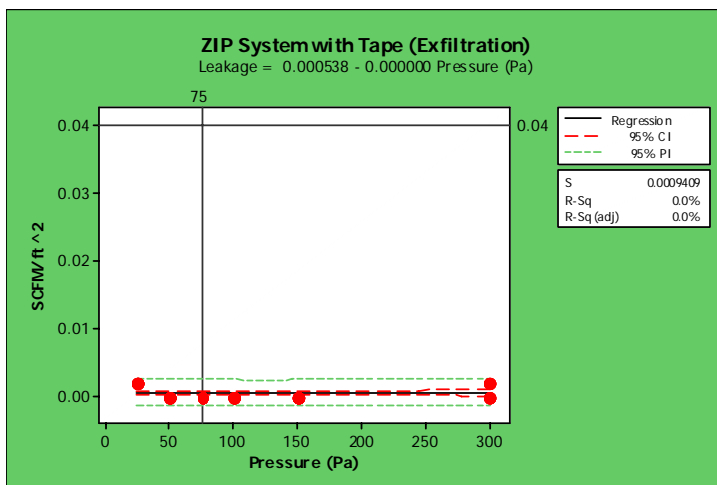


Figure 2. – ZIP System wall assembly exfiltration

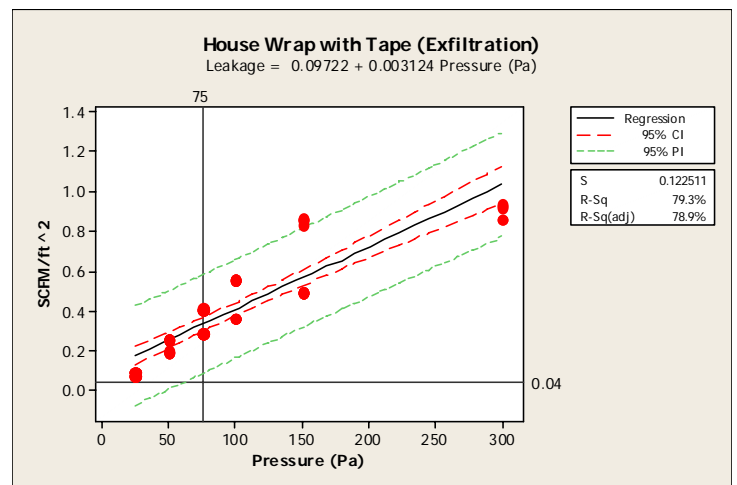


Figure3. Housewrap and tape wall assembly exfiltration