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An American National Standard

Standard Test Methods for Determining External Air Leakage of Air Distribution Systems by Fan Pressurization¹

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1. Scope

1.1 These test methods cover two techniques for measuring the air leakage of the sections of air distribution systems that pass outside the conditioned space in low-rise residential and small low-rise commercial buildings. Both techniques use air flow and pressure measurements to determine the leakage characteristics, and include separate measurements of the supply-side and the return-side distribution system leakage.

1.2 These test methods also specify the auxiliary measurements needed to characterize the magnitude of the distribution system air leakage during normal operation (a measurement of pressure differentials across duct leaks during normal distribution-system operation), and to normalize the distribution system's air leakage by the total recirculating air flow induced by the distribution-system air handler fan.

1.3 ~~The air-leakage measurement portion of these test methods is applicable to small temperature differentials and low wind pressures; the uncertainty in the measured results increase with increasing wind speeds and temperature differentials.~~

1.4 ~~The proper use of these test methods requires a knowledge of the principles of air flow and pressure measurements.~~

1.54 These test methods are intended to produce a measure of the air-tightness leakage between an air distribution system and its surroundings exterior to the conditioned space of a building.

1.65 The values stated in SI units are to be regarded as standard. The values given in parentheses are for information only.

1.76 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* For specific hazard statements, see Section 7.

¹ These test methods are under the jurisdiction of ASTM Committee E-6 E06 on Performance of Buildings and are the direct responsibility of Subcommittee E06.41 on Air Leakage and Ventilation.

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