ETS NORD

Airtightness of the Ventilation System

Airtightness describes the amount of air that unintentionally leaks out of or infiltrates into a ventilation duct. This affects the performance, energy efficiency and reliability of both the duct system and the entire ventilation system.

Airtightness is assessed using the leakage coefficient, which indicates the amount of air leaking per duct surface area at a specified pressure. The leakage coefficient is then compared against the limits defined in the relevant standards.

Based on these values, airtightness classes A–D are determined for round ducts (EN 12237), rectangular ducts (EN 1507) and system components (EN 1751, EN 15727).

The airtightness of the complete ventilation system is measured after installation by determining the air leakage at a specified pressure. According to EVS-EN 16798-3:2025, the system is classified using ATC (Air Tightness Class), which replaced the previous A–D classification in 2017.

Airtightness classification		Maximum air leakage (f_{max}) $m^3\ s^{-1} * m^{-2}$
Previous	Current	
	ATC 7	Unclassified
	ATC 6	$0{,}0675 \times p_t^{0,65} \times 10^{-3}$
A	ATC 5	$0{,}027 \times p_t^{0,65} \times 10^{-3}$
B	ATC 4	$0{,}009 \times p_t^{0,65} \times 10^{-3}$
C	ATC 3	$0{,}003 \times p_t^{0,65} \times 10^{-3}$
D	ATC 2	$0{,}001 \times p_t^{0,65} \times 10^{-3}$
	ATC 1	$0{,}00033 \times p_t^{0,65} \times 10^{-3}$

The airtightness class of a ventilation system depends on product quality, installation accuracy and the proper sealing of joints. As the manufacturer of the NORDduct round ducting system, we ensure that all components meet their specified airtightness class when installed and sealed according to our instructions. Correct installation ensures that the entire ventilation system can achieve the required ATC class.