Table 10.28.: Acceptance Test for Stair Pressurization Systems

ITEMS	REQUIREMENTS
1. ACCEPTANCE TEST	a. Initiate the pressurization system either automatically or manually. b. Close all relevant doors. c. Measure pressure differences across the closed door separating a pressurized and an unpressurized space on at least 3 lowest and 3 top floors of the building. If the vertical distance between floors where measurements were carried out exceeds 6 floors, additional measurement on one of the middle floors shall be carried out. d. Additional pressure difference measurements shall be carried out on floors with different air release paths. These readings shall be taken using a calibrated manometer, with the appropriate tube connections. ii. The calibration of all test equipment shall be such that the measurements are accurate to at least 5 %. iii. Each pressure difference reading shall be continuously taken and logged for at least 10 seconds. iv. Pressure differences measured relative to this acceptance test shall comply with specific design pressure differences. v. The design objective requirement is considered to be fulfilled if the measured values of pressure differences deviate less than 10 % of the design value. vi For the super high-rise buildings it is recommended to carry out pressure differences measurements on all building floors. **4. AIR VELOCITY TEST** i. This acceptance test shall measure the air velocity through an open door separating a pressurized and an unpressurized space. The measurement of the flow velocity through the relevant doors shall be taken with all other doors open or closed in accordance with the specific design assumptions. ii. The test(s) shall be carried out as follows, a. Initiate the pressurization system either manually or automatically. b. Open or close all relevant doors. c. Measure air velocity through the relevant door. d. For each door at least 8 measurements shall be taken, uniformly distributed over the doorway, to establish an accurate air velocity. Calculate the mean of these measurements or alternatively move an appropriate measuring device steadily over the cross section of the open door and record the average air velocity. iii. These measurements shall be taken with an open air release path consequently on following floors, in order to determine if the air release system has been properly designed and balanced. iv. These readings shall be taken using a calibrated anemometer. v. The calibration of all test equipment shall be such that the measurements are accurate to at least 5 %. vi. Air velocities measured relative to this acceptance test shall comply with specific design air velocities. vii. The design objective requirement is considered to be fulfilled if an average value of air velocity is not less than 90 % of the design value. viii. For super high-rise buildings it is recommended to carry out air velocity measurements on all building floors.