

CASE STUDY

Richmond, VA





Type / Construction Commercial / Senior Housing

Location

Richmond, Virginia

Issue Reported

Innovative Dehumidifier Systems was contacted by a Senior Housing facility operator in Richmond, VA who was concerned with excessive humidity inside unconditioned stairwells resulting in infiltration and resident complaints. Because this application was in a common area, it required an automatic solution that limited access to unit controls.

Background

Relative Humidity (RH) measurements taken prior to the installation of the IW-25 wall mounted dehumidifiers typically mirrored ambient conditions. Average daily relative humidity in Richmond, VA is 83% RH in the morning and 52 RH% in the afternoon (morning percentages are for 7 am and afternoon measures are for 4 pm local standard time). *Source:*

http://www.currentresults.com/Weather/Virginia/humidityannual.php

Process

Although primarily designed for installation through an interior wall, flexibility of design allows for the IW-25 to be surface mounted using a surface mounting box (optional accessory). Four IW-25s were installed on CMU block.

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INNOVATIVE DEHUMIDIFIER Break the mold

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Summary

Four IW-25 dehumidifiers were installed on CMU walls in two unconditioned stairwells to remove moisture and control excessive humidity. Installation locations were selected adjacent to the first and third floors and units were installed using surface mounting boxes. Prior to the installation, relative humidity (RH) inside the stairwells typically matched ambient conditions which occasionally reached as high as 85% RH. The goal of this installation was to maintain RH below 60% RH in the stairwells at all times.

On September 9, 2014 Innovative Dehumidifier staff performed a courtesy site visit to inspect installation and record the following temperature and RH measurements:

- Ambient (outside conditions)
- South Stairwell (first floor)
- South Stairwell (third floor)
- North Stairwell (first floor)
- North Stairwell (third floor)

80.1 degrees	69.7 RH
79.6 degrees	56.0 RH
82.1 degrees	57.9 RH
82.7 degrees	55.9 RH
84.7 degrees	57.4 RH



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