

Moisture Control & Fungal Remediation for Multi-Family Complexes

Since being built in late 2012, A 2BR apartment located in the Southeastern US has had continued high humidity/moisture problems that have led to amplified fungal (mold) growth.



Relative humidity (RH) at the kitchen register has been almost 81% and never less than 74-75%. Fungal growth had to be cleaned regularly and was present in every room.



To control fungal spore amplification, we installed a hydroxyl (“OH”) ion generator inside the air-handling unit (AHU).



This OH unit generates >1,000,000 ions per cubic centimeter and only <0.3 parts per billion of ozone, well below the 50 parts per million threshold set by OSHA. OH ions chemically react to neutralize mold spores, off-gassing CO₂ & water vapor.

The next step was to sanitize the extant mold growth and provide a anti-fungal coating to prevent recurring growth. Salem prefers CleanSeal™ “green”, EPA-Registered products. We sanitized first with CleanSeal CS4™; after drying, a 3-mil coat of CleanSealEP™ growth retardant was hand applied.

Now that we have addressed the existing fungal growth, moisture control was next on our agenda. We selected an Innovative Dehumidifier Model IW25-1, 25-pint per day unit. This dehumidifier is specifically designed for multi-family apartments, having dimensions of 14.5” W x 25.5” H x 9.5” D. It fits snugly into the wall of the mechanical closet housing the AHU and operates at 47 decibels (Db); an AHU generates 60-65 Db.

Installation is easy as pie, as shown below.



Using a stud finder, we located two 16" W on center studs. A 14.5" X 25.5" template was marked with a 24" bubble level ruler then cut with a vibrating saw. The IW25-1 unit is placed into the wall and secured with 4 wood screws furnished with the unit. A 10' long drain line was attached and inserted into the AHU drain, and

the 10' 110V cord was plugged in. The unit was started up, and initial RH was 69%.



The humidistat was set on 50%; it can be set as low as 35%.

The face plate is secured by two tamper-proof screws. It is easily removed for pre-filter cleaning.



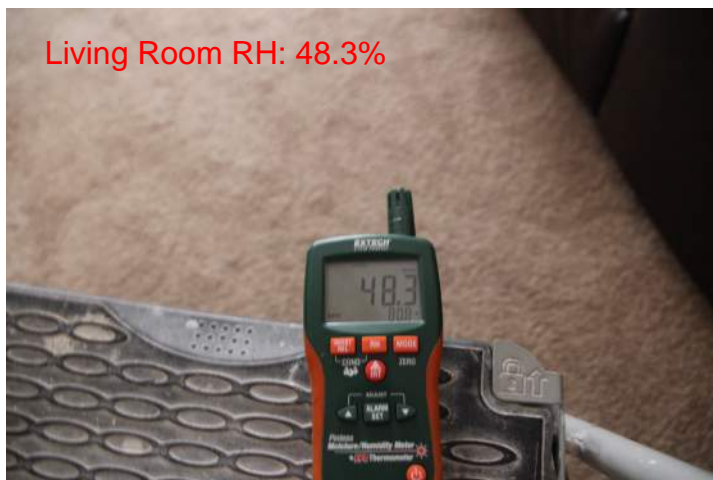
This takes just under two hours for the first installation; our time, provided no complications, is just over an hour. The initial RH at the kitchen register was >80%, after 2 hours it fell to 69%!



In the living room, RH dropped to 57-58% in that period.



One week later...



Problem solved? Yes. We performed fungal IAQ (Indoor Air Quality) testing at installation and a week later, with two 600 CFM HEPA scrubbers and a 200 CFM unit operating in the apartment with a second hydroxyl ion unit during that week.



Scrubbers, ceiling fans & the HVAC system ran during sampling. This short chart shows massive IAQ improvement, expressed in spores per cubic meter (s/M3):

Mold Spore Type/Date	LR	KIT	MBR
Penicillium/Aspergillus-8/21	8,000	62,000	8,800
Penicillium/Aspergillus-8/28	2,200	1,500	200
Stachybotrys chartarum-8/21	-	27	-
Stachybotrys chartarum-8/28	-	-	-
TOTAL SPORES-8/21	9,000	64,000	9,000
TOTAL SPORES-8/28	3,400	3,100	430

That's almost a 92% average reduction of Total Spores & a 95%+ reduction of "Pen/Asp" spores, while eliminating the Stachybotrys chartarum, aka "Black Mold", in just one week.

During the second sampling event, the entire apartment was screened for new mold growth, and none was seen. The tenant had complained that carpeting was always “damp” to the touch; it no longer is.

If this solution interests you as a complex owner or property management company, Salem is ready to help. You can contact Harvey Danner, President of Salem Environmental on his cell at 704/737-0407 or by email - hdanner@salem-environmental.com to arrange an appointment.

Oh, I almost forgot. What does this cost? The dehumidifier is \$795.00 plus shipping (1-3 days in the continental US). This is more than competitive with other alternatives. If Salem installs, that cost will vary with mileage and any complications. It's our experience that once we install one with your crew, you don't need our on-site services anymore. The OH unit is \$206.00, which includes S&H for 2-3 day delivery in the continental US.

Salem Environmental services all of NC & SC, southwest VA, TN east to the Knoxville area, and Georgia from the Macon/ Savannah area & north. However, if you are looking at a large, multi-unit installation, we'll go anywhere within a reasonable distance in the US.

You can also write us at P.O. Box 2073, Blowing Rock, NC 28605-2073.

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