

THE HUMIDITY AT HOME: ORIGINS AND POSSIBLE SOLUTIONS



Typical grid to beautify vents

When moisture appears in our house, **the most important thing is to find out its origin**, since it depends on the applied correctly and lasting solution, avoiding wasted expenditure of time, energy and money.

Moisture not only spoils the walls and all kinds of organic material (mold on leather, wood, etc), but **their lack of treatment can be a source of health problems**; fungi, breathing problems (asthma, allergy), etc. While a definitive solution cannot locate, we try to keep it in a healthy range (45 to 65% saturation) with a dehumidifier for example.

To discover its origin, we must analyze the damage occurs; sometimes it is quite clear and remedied, other than by faulty construction of housing or moisture from environmental sources (occupation and / or climate) which makes it more difficult to treat:

Damp

The moisture wicking usually appear in floor screeds have no bottom insulating chamber; since being in direct contact with the soil, the water molecules are soaking the material by capillary ascending the building material in all directions, very slowly, appearing on the floor, bottom of walls and columns, etc., lifting the paint appearing salts and fences. Often occur in basements, parking and ground floor to a height of 50 cm. approximately (depending on materials, humidity, etc). The problem is usually worse in winter when the rains soaked the ground more and consequently the problem becomes more evident.



These cases are expensive solution:

- **Raise the floor and place a waterproof material** (such as sheet EPDM seal properly, or bituminous sheets (roofing felt) or together), leaving an air chamber connected to the outside for a breather, if possible.
- Some companies apply **solutions with chemicals such as epoxy** cluttering the capillary network of walls affected but are aesthetic solutions that although last few years, humidity usually ends appearing in another area. The paint, coatings for wood and other products that only hide the problem does not improve the situation, causing moisture to accumulate in the porous material, rising painting or moving the problem to a contiguous area.

It may also appear on walls affected by rain , as in the following image, which on the outside has been leaked rainwater having no adequate protection, raising the paint.



The masons, surveyors and architects **Left alone moisture problems in the exposed vertical walls with various waterproof, lightweight and resistant to weather and wind gusts materials** (can often see on smooth walls that adjoin other buildings) as tarpaulin sheets with aluminum outer layer to protect from heat and UV rays, to plates durable materials, including tiles, sheets of slate, etc. Another less durable but cheaper option is **to apply a waterproof paint for exterior and waterproof facades.**

Moisture leaks

They are easily distinguishable because **a fence or wet spot quickly appears** only in an area whose origin is often the center thereof; water, for some crack the material, broken pipe upstairs, leak in the roof (shingles motion due to wind for example), error or failure of waterproofing, etc., finds its way easier to appear at the view.

Keep in mind that **its origin can not be right behind the problem** ; water may originate feet away, but not being able to find out until you have found a zone of porous material or any cracks to drain.

After accessing the source of the problem and verify the expert repair the damage to eliminate the problem.

Condensation

Once the moisture has entered the room, **it manifests in the colder parts of the wall in the form of mold, to condense moisture, temperature differential (dewpoint)** , in crystals, leather clothing, shoes etc.

In the picture you can see the rust caused by condensation in the area of colder master column (by transmitting the cold outside) to the adjacent walls with camera isolated.



An effective method to prevent the recurrence of mold is bleach, chlorine, or other preparations products

When it is not economically feasible to solve attack the source of the moisture problem, these problems usually improve when ventilation is improved , the chamber wall to the outside (in the case of the moisture comes from contact with the outer wall field) or permanent ventilation opening in the bottom and top wall (to favor natural ventilation temperature difference),**whereby the temperature and humidity is equalized with the outside .**



Another effective solution is to place a permanent fan with a programmer (with half an hour daily to clear the air may suffice) **or automatically activates a control circuit** with humidity sensor or economically Arduino , as I explain in this [CómoHacer](#) entry in which I work occasionally. It is important to consider the level of exhaust noise, it can affect the habitability, but no problem at low, storage, etc.

When you open a small vent with a fan-extractor that is activated when the humidity is excessive avoid that local excess cool, as with permanent openings.



Opening in the wall with extraction tube and humidity sensor (blue)

Humidity

The main origin may be the weather, for example a house in the mountains or at the beach, where the outdoor humidity is usually quite high, especially in winter, often exceeding 60% recommended, although the house is properly constructed, separated from the ground by a camera.

We can verify this by placing a hygrometer inside and outside the house, and see how they vary these. **At high humidity often join other factors** (such as lack of ventilation, wall materials too porous or lack of adequate insulation, occupation, more people increased production of moisture breathing) that worsen the situation and cause the appearance of mold on clothes (especially leather pieces, where mold is an ideal acreage), mold in the coldest parts of the walls, etc. ***How to reduce humidity economically*** Anyway, eliminate or moisture from its origin, we can keep it at bay when installing heating systems to reduce it:

- **A wood stove or pellet obtained by the primary air from the interior** of the house is a good dehumidifier to take the cold and moist air from the bottom (using it in combustion and eliminating it through the chimney) and heat the atmosphere, reduces natural moisture level without drying too (the continuous circulation of air produced to the outside).

- **Another solution is to install an automatic system** as discussed above , with a silent fan placed in a vent to renew the air in the wetter areas of the house when external conditions are favorable.
- **Another option** less economical but very effective and we also serves small heateris **using a dehumidifier** automatic portable. These work by preheating the air, passing by a small radiator cooled, it condenses the water, accumulating it in a tank (with the option of connecting the output directly to a drain and forget maintenance).
- **In summer, we can have it checked with an AC** wall, by the fact that the cool air condenses moisture, resecándolo and removing water from the drain pipe.
- In places with many people, **airing five minutes from time to time** (each person produces between 50 and 80 grams of steam per hour).
- The elements and steam producing devices such as cooking, ironing, etc, it is **advisable to use the exhaust fan since** at least the minimum, to remove the excess moisture.

Source: <http://crecimiento-sostenible.blogspot.in/2015/01/the-humidity-at-home-origins-and.html>