



DEPARTMENT OF THE AIR FORCE
52nd Fighter Wing (USAFE)

MEMORANDUM FOR Tenants in Economy Housing

FROM: 470th ABS/Housing Referral Office

SUBJECT: How to fight dampness and mildew

“The walls are damp in the bedrooms, the kitchen or the bathroom!”

It's unpleasant and we fully understand complaints like this. These conditions must be taken care of.

The dampness could come from the outside. Many tenants presume this. If this is the case, then there is something wrong with the construction of the house and the landlord is responsible. But seldom a construction failure is causing this problem. By far the most frequent cases come from the inside.

This can be proven relatively easy: Drill a thin hole into the wall and check the dust; if the dust is getting drier the deeper you drill, the moisture is coming from within the room.

How is this possible?

It also happens, that on such damp walls mildew arises; this is often noticed, when wall units or other furniture has been moved away from the walls.

Here is the explanation how dampness goes into the wall!

The air always holds water in the form of water vapors. Warm air draws more water vapors than cold air. For example: A bedroom, that measures 15 m² (161 sqft) and has a height of 2,5 meters with about 38 cbm (cubic meters) of air at a temperature of 23 degrees Celsius at 100% humidity, holds 1 liter of water in the air.

If in winter this moist air contacts a cold window, it causes condensation. You will have water droplets, which can freeze. You are asking, why? The answer: When the air contacts a window or other colder objects, the temperature of the air drops and the water vapors become too heavy to carry. The air then throws out the vapors in form of droplets.

Remember: “Warm air carries more water droplets than cold air!”

If this happens on walls, you get damp walls, wallpapers or tiles.

There are a lot of people, who like to sleep in a cold bedroom. The walls in these rooms are cold. It is possible, that warm air from other heated rooms penetrates the cold bedroom. It's easy to understand, moisture is abundantly deposited. Many people also leave the bedroom door open for a while to take the chill off. The dampness then goes into the bedroom.

The moisture on these walls does not evaporate. These damp walls pass on the warm air to the outside and the moisture is deposited. This happens 30 times faster than in a dry room. The walls remain cold and the dampness spreads.

Think about this: At night, when you sleep, you give off moisture through breathing. The amount is about 1 liter per person and night. If two people sleep in a room every night for a month, that would almost equal a bathtub full of water (about 60 liters).

Read the following advice carefully and you will know how to get the problem solved.

- In the warmer months of the year the air absorbs the moisture. It is easy to dry out damp walls. For this reason, you should air out rooms with damp more often.
- Move furniture (wall units) from the wall, that air can dry out this wall. The distance between furniture and wall should be 1 - 2 feet.
- Open windows wide, that fresh, cooler air can replace the stale air in the room. This helps in the drying process. After 10 minutes close the window again.
- Now turn on the wall radiators, close the room door and warm up the cold air. The moisture is pulled from the walls by warmer air, you remember?
- After 3 - 4 hours the warm air has picked up enough moisture. Now open the window again. Make a draft and repeat that procedure. After you've done this 3 - 4 times every day for a period of 2 weeks, the walls should become dry. If any mold remains, just brush it away with a broom.

The rooms in the northern part of your dwelling become much colder than the others. Pay attention, that you heat these rooms a bit more. Try to keep the temperature equal in all rooms. If you sleep with open windows, close your bedroom door and turn down the radiators in the joining room as low as bearable. Then open the windows in the morning to air out for about 20 minutes. Close windows and slightly warm the room.

Follow this advice, air out your dwelling properly and you'll stay out of trouble!

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