CELLAR EARTH FLOOR

Cellar and Basement Damp

If you have a damp cellar, you are very lucky. It was built to be damp. It's doing exactly what it was designed to do: Keep things cool and damp.

Back in the days when it was built, they didn't have fridges, freezers and frozen food counters in the supermarket. So when dad brought home the bacon, that's just what he did, and whopped it over a hook in the cellar, covered with a muslin bag to stay cool. He did the same with his bottles of beer, or cider. Mum would have a big bowl on the settlas which was made of pottery - glazed on the inside, like a plant pot on the outside. It stood in water, so it stayed damp, and evaporation of water from the pot kept the milk inside cool. They might have had a coal chute too, so food stored one side, coal the other. All very organised,

Nowdays a damp basement isn't a lot of use to anyone - if you store things down there, they get manky.

So what do you do? **Well the first thing is to ventilate it. You need a good through flow of air** - Humidity controlled extraction should make sure it stays dry. You need dry air from the house to be drawn in - so it keeps the place nice and dry. You need to make sure there aren't any modern materials on the wall - like plastic masonry paints, cement render, gypsum plaster - because they will all fall off and create the inevitable symptoms of 'rising damp'

humdity - needs to be below 5%% at about 15 or 17 degrees C. if humidity in house is low - i.e. less than 55%RH on average, little chance of condensation affecting walls anyway.

What you see, when you think you have damp, is symptoms. Not actual damp, but the physical manifestation of trapped moisture trying to escape and dry out the building fabric if it can. Things like flaky paint, crumbly plaster, rotting skirtings - all of these are telling you that there is moisture present, and if you release it, the place will be dry. Damp patches on chimney breasts are not damp - they are salts (which are naturally present in brick and / or from reaction with wallpaper paste etc)..

You don't have 'damp' - you may have a few symptoms that indicate your home has been overloaded with moisture - perhaps from the kitchen, from too many showers, maybe the under floor vents are blocked - and humidity built up so you got some condensation. Every family produces around 2 gallons of water a day - hard to believe at first - but each human being breathes out around 2 litres of water a day - add to that showers, cooking, auto defrost fridges, dishwashers, and you can see how easily moisture can build up.

There ARE some things that cause real damp problems - penetrating damp for one. If you have leaky gutters and downpipes, you can get all manner of problems internally. If you have leaky drains, there's a good chance you'll end up with a gungy wall somewhere. If external ground levels are too high, of course the walls will be a bit stressed inside. All these things are common sense - they don't need the local Property Care Association 'timber and damp' contractor to come and tell you that you have 'rising damp'. We show you how to sort the problems once and for all - WITHOUT any form of damp proofing or damp treatment.

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If rising damp really existed, why is it that Google only shows it in England! Have a look at this site for more detail on damp : The fraud of rising damp

CELLAR WALLS

I'd advise against emulsion. I used it, in my ignorance, and over the next few years it bubbled and flaked - although my cellar seems very dry, there was enough moisture trapped in the walls by the emulsion to make them very damp.
Not wallpaper, use earthborn clay paints ideally - breathable, and lovely to work with. Salts not easy to get rid of - might need to get rid of badly salted plaster - but need to know more really.

Earthborn clay paints - brilliant, and not chalky like limewash. Lining paper traps moisture. Go back to the walls, - get a bucket of finishing coat - can buy from Ty Mawr lime - about £15 for enough to do the house - and just skim over the bad areas - that way you have a lovely smooth lime finish for painting with earthborn - which in itself will fill cracks and imperfections..

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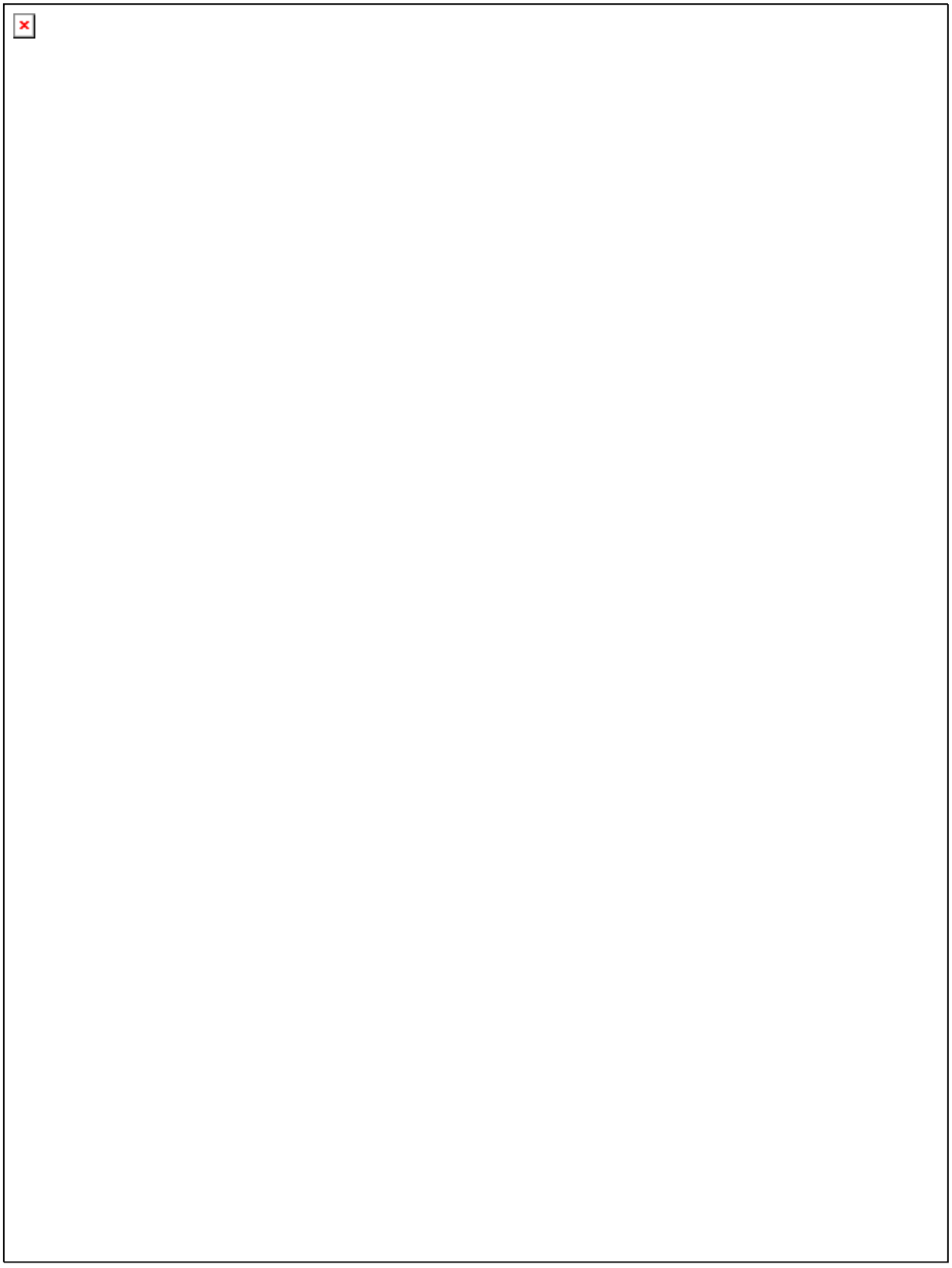
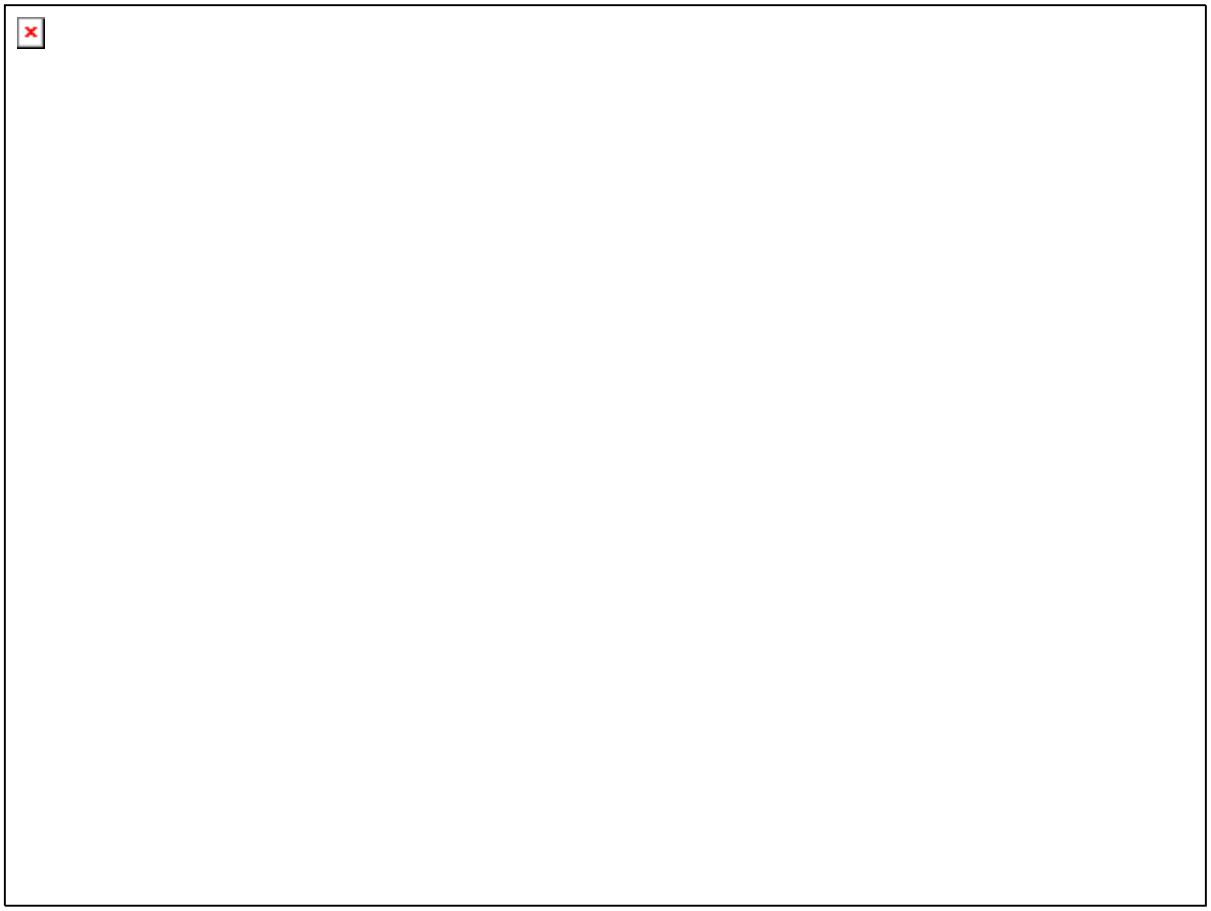


CELLAR EARTH FLOOR



Go for something (limewash?) that will allow moisture to wick through and evaporate naturally.

QUESTIONS BEFORE STARTING WORK

Is there water seepage into the basement?
Is the entrance to the basement from outside the home itself?
Is the foundation constructed of rock, concrete blocks or poured concrete?
Is the home's furnace in the basement?
Is municipal sewer and water connected to the home?
Is there any plumbing, such as a water faucet in the basement now?

GOOD LINK

http://www.snow-walker.co.uk/see-what-lurks-in-the-cellar/

..stay away from concrete like the plague! It only creates more problems down the road!!

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Concreting a cellar floor is a sure way to get loads of damp problems on the walls/ceiling.
As has been said good ventilation is a necessity, mine has cross ventilation and I am informed that its a very good cellar for wine, makes sense as the place was a restaurant.

1st cellar is concreted but not right up to the wall. A 30mm gap all round ensures any damp in the ground remains where it is.

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UK BUILDING REGS

Much depends on room's purpose – a proper room to be lived in or an improved cellar.

The bld regs spec dig out is 15" (6 hardcore, 1 sand, dpm, 2 insulation, 4 conc, 2 screed). Trouble is old foundations are often exposed before this and then you need to be very careful not to disturb. If it's an improved cellar then 4" conc is more than enough.

Conc floor mix needs to be 1:2.5:3.5 cement:sharp sand:aggregate. I think you could use the cobble to offset the aggregate. Concreting sand is not like soft building sand and the strength of the concrete would be reduced. Suggest use rubble as hardcore and the sand to blind.

There is no reason why you can't concrete in quarters. My only though would be a possible damp path but this would not apply if DPM is underneath. You would have to keep off each quarter for at least 3 days though **– concrete takes 28 days to get near its full strength.**

Other thoughts:
1) You will need at least 1 builder's skip probably 2 - Surprisingly rubble is a big part of putting in a new solid floor. There is a lot of it and you really need a skip to get rid of it. Get it all out to start with before you start concreting.
2) You will need to buy new aggregate (it's not that expensive in te bags)
3) You will need to hire a cement mixer and get a least 4 buckets for mixing
4) If digging below the foundation would consider digging out/concreting alternate 1m strips of concrete around the perimeter before digging out the centre.
5) You will need to treat the walls to stop the damp.

Read more:
https://www.diynot.com/diy/threads/concrete-floor-for-cellar-questions.115039/#ixzz59x0VQ5jg

DAMP METER

if you have access to a damp meter would take a few readings to see what the dampness is like. if not stick a square piece of plastic onto the wall sealed with tape around the edge and leave for 24hrs. if it contains water when you remove then i would say best to put some form of tanking on. i am conscious of the cellars intended use and don't want to go ott. the trouble is that cellars have -ve pressure ie the water in the brick is trying to force any barrier off (as opposed to say swimming pools when it's +ve pressure).

Read more:
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TIPS FOR REDUCING MOISTURE & MOULD IN A DAMP BASEMENT

Normal

If there is earth on the outside of a wall, such as a cellar, it is normal for the moisture in the walls to rise halfway up the cellar or higher. On relatively wet soil, an aerated crawl space of 50-80 cm usually provides sufficient protection against rising damp. And what did the French do in humid areas in earlier centuries? They let the servants or their cattle stay on the ground floor and lived themselves on the floor where it was not damp.

Cement Floors

The tamped loam floor of a cellar can lose a lot of moisture in the air. If you then 'convert' to a habitable area by installing say a tiled floor with cement joints (and below that a concrete slab with a water-retaining layer), people often suddenly suffer from damp walls, because there is no moisture drainage through the floor. Instead the walls have to process more moisture. The traditional *tiles* laid on a sand bed with non-lubricated joints were therefore not so bad a solution.

Reduce Condensation

Pipes can generate a considerable amount of condensation. This condensation can drip on floors and run down piping into walls where mould and mildew form. Wrap pipes with insulation foam. It is inexpensive and easy to install, and it will greatly reduce basement moisture.

Dryer Ventilation

A dryer must be sufficiently ventilated to avoid moisture problems. A dryer that is not properly vented will add moisture to the air; the moisture will settle on walls, ceilings, and floors. It will create serious moisture problems. Running a dryer that is not vented will immediately cause moisture problems and musty odours in a basement. It is crucial to be certain that your dryer properly vented to the outside.

Heating

Now it is only after a week's occupation, proper firing and proper ventilation, that the moisture has disappeared. Stoking is good, because warm air can carry more moisture than cold (the relative moisture content decreases), but airing is more important. So do not light with closed windows and doors, because then the moisture stays in the house, it is only less palpable. It is better to allow air to keep in the air more and more colder, which contains little moisture, and then to warm up the air so that the relative moisture content is reduced. That goes against the normal reaction that one wants to keep the heated air inside, but the moisture has to go out! And that only happens through airing.

Circulate Air

The basement ceiling is one of the premier spots to find mould in your house because mould forms in cold, damp areas. The lack of ventilation and sunlight that’s common in basement spaces provides a perfect environment for mould growth. Open the windows to increase air circulation.

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Monitor Humidity

Hardware stores stock humidity monitors that you can install in your basement to track the ambient moisture. Ideally, you should keep the humidity level below 60% to prevent mould growth.

Cracks

If these are in your basement walls and/or floors, they will also contribute to humidity levels as well.

Carpeting

This can hold moisture that it sucks in from the air and will eventually spawn mould spores.

Plants

Planting hydrangeas around the house also helps to keep the foundations and outer walls dry, because hydrangeas suck up a lot of moisture and evaporate.

Natural Drying

Normally it is calculated that every month 25 to 30 mm dry out. So a 45cm wide wall (450mm) would take at least 18 months to naturally dry.

Damp Walls

T**reat** a damp wall only with lime or plaster and white, because this is highly moisture permeable ('breathable').

Cellar Flooring & Storage

Unless you want an indoor swimming pool don't concrete the floor or use paving slabs.
A good compromise that breathes although not as well as gravel is block paving, I have done a couple and it works well. You could slab the walkway's and gravel the storage area's best of both worlds.

Best to keep it off the floor and take care to protect the bottom of shelf uprights etc from damp if wood or corrosion if metal.
As has been said don't store cardboard or wooden boxes on the floor, also make sure they don't touch the walls behind the shelves, above all have a good through flow of air, 2 openings in adjacent or opposite walls are needed, most caves are well designed for the best conditions to keep wine, that is until some Brit concretes the floor!!!

Where I have had to store things on the floor like jerrycans and oil drums I have put them on 20mm polystyrene insulation material and it has stopped the corrosion completely, without it the bottoms of the bidons would rot out in no time, same goes for paint cans etc.