



A HOUSECHECK GUIDE FOR HOME BUYERS

# 8 Common problems in South African homes



# HouseCheck

Property Inspections



## 8 Common Problems in SA Homes

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**Always make your Offer to Purchase  
subject to a home inspection condition  
assessment**

Go to [www.housecheck.co.za](http://www.housecheck.co.za) for more  
information or to arrange an inspection

## Introduction

Most of the information in this eBook is included, in much greater detail, in the training material offered by the South African Home Inspector's Training Academy ([www.sahita.co.za](http://www.sahita.co.za)). SAHITA training on the theory of home inspection is one of the tools which we use to train HouseCheck inspectors.

Home inspection is a relatively small, but fast-growing, industry in South Africa. The home inspection industry is massive in countries like the USA where lawmakers and home buyers have recognised the wisdom of properly inspecting a house BEFORE buying it.



I wrote this eBook to provide prospective South African home buyers, home owners and estate agents with some basic information on the most common problems home inspectors see in South African houses. You may find the information in this book somewhat technical and intimidating, but believe me, this is only a fraction of the knowledge that a good home inspector needs to do his/her job properly. I hope that this book will encourage you the home buyer to seek the help of an expert, professional home inspector.

Most houses in South Africa are still sold voetstoots. This means that the house is sold "as is" and in the event of defects being later discovered, the buyer can do very little because the seller is legally protected from the buyer's claims - unless the buyer can prove that the seller knowingly concealed these defects.

This is why it is so important for South African home buyers to get a professional home inspection. Please feel free to contact me to discuss your needs or any property related issues which you may have.

**John Graham, CEO HouseCheck & Principal of SAHITA**

March 2015

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## You have various options for a HouseCheck.

### The HouseCheck Comprehensive Inspection:

The HouseCheck Comprehensive Inspection is designed to give the South African home buyer a **complete picture of the condition of the house**. HouseCheck Comprehensive Inspections are conducted by trained and qualified SAHITA certified home inspectors. With the Comprehensive Inspection the HouseCheck inspector covers the vital areas of your home plus all the maintenance and patent defects as well. This inspection will test amongst other things for leaking taps, floor coverings, condition of cupboards, hinges, glazing, shower enclosures and will even do a due diligence report on whether your home is built according to current plans (if plans are supplied).

The HouseCheck Comprehensive Inspection provides you with a summary of defects. Defects are divided into two categories. The first category is the structural, functional and safety issues with your house. The second is the maintenance issues. This allows the home buyer to plan the repairs which need to be addressed immediately and also to plan for maintenance in the future. A HouseCheck inspection report helps you to take control and so get the most benefit from your new home.

### The HouseCheck VITAL Inspection:

The HouseCheck VITAL inspection, has been priced so that this important report is affordable for most home buyers. The HouseCheck VITAL report is by far the best way buyers can protect themselves. HouseCheck VITAL inspections are independent and factual. HouseCheck VITAL inspections conducted by trained and qualified SAHITA certified home inspectors. The HouseCheck inspectors will look at all the crucial areas in your home to ensure that there are no hidden surprises after you move in.

Together with the legally required certificates of compliance - electrical, gas, electric fence, wood borer and plumbing (Cape Town only) – the HouseCheck VITAL report will give you the buyer complete peace of mind that your dream home won't turn into your worst nightmare!

### Specialised HouseCheck Inspections:

Specialised HouseCheck inspections are limited, by arrangement with the client, to specific areas of the home – for instance the roof, damp, cracked walls and slabs, geyser installation or ground drainage. Because problems in a home are often inter-connected, specialised inspections are generally not recommended and if affordability of the inspection fee is not an issue then HouseCheck always recommends a Comprehensive (or VITAL) inspection. For instance, wall cracks could be connected to any of the following: ground (foundation) movement, roof anchoring, water penetration – either from the roof, from the ground, through the walls, or from plumbing issues.

## Won't I pick up these defects myself?

You will be amazed at what defects you will have missed. At HouseCheck we have had buyers who are engineers miss defects. Some sellers are not even aware of impending disasters waiting to happen – often hidden away inside, or on top, of their roof.

We urge you to read through our report on the 8 Most Common Defects you are likely to find in your new home AFTER moving in.

Having a defect in your new home is not necessarily a deal killer. But knowing what the defects are AND having an estimate for repair will allow you to structure a better deal. And if we do pick up an absolute disaster then it may be better to walk away from the deal.

## Protect yourself with a contingency clause in the OTP

To protect yourself as the buyer from the one-side protection which the voetstoets clause provides the seller, you should simply add in a HouseCheck contingency clause to your offer to purchase.

When asked to sign an offer to purchase, you should ask your estate agent or conveyancing attorney to include the following clause:

***“This offer is subject to the purchaser obtaining a report on the property from HouseCheck within \_\_\_\_ days of the final signature on this offer and is also subject to the purchaser being satisfied with the condition of the property as detailed in the HouseCheck report – specifically with regard to patent or latent defects documented in the HouseCheck report”.***

## How do I get a HouseCheck inspection report?

Commissioning a HouseCheck report is as simple as going to the HouseCheck website and we will quote you immediately. Here is a link to your [free quote](#).

You will receive your report within one working day of the inspection.

Then armed with your HouseCheck report you can go back to the seller and estate agent and negotiate the best deal for each party. If the HouseCheck VITAL or COMPREHENSIVE report has uncovered problems then you will often recover more than the cost of the HouseCheck in this process.

## Here's another useful free eBook for you

I have also written a very informative eBook "The SA Home Buyer's Guide". I would love you to have a free copy of this eBook with our compliments. In this book you will be led through the entire home buying process and you will uncover excellent advice on how to make this process as streamlined as possible.

Download your free copy [here](#).

I trust that this information will be useful to our readers, but my advice is: If in any doubt consult an expert. A mistake with a big investment like a house can prove to be very expensive indeed!

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**Principal SAHITA**  
**March 2015**

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## Problem Area No. 1: Hot water geysers

Probably the Number One problem which HouseCheck inspectors find in South African homes is defective geysers - mostly because these appliances have been incorrectly installed by unsupervised and unqualified workers.

Some of these defects are extremely dangerous because most geysers are installed in the roof cavity. The most common defects are:

- Inadequate support to carry the weight of a geyser which is very heavy when filled.
- Missing drip tray, or drip tray not properly connected to an overflow pipe which leads to the outside.
- Missing, or improperly installed overflow pipes from the temperature and pressure valve (TP valve) and from the water pressure control valve. In the case of the TP valve regulations demand a 20mm metal pipe extending safely to the outside of the house. In many cases there is no overflow fitted to the TP valve, or the pipe is plastic (which can melt) or the pipe discharges into the drip tray (which is often also plastic).
- No electrical isolator switches within 1m of the geyser.
- Geyser not properly earthed.

Not only are the above defects dangerous, but they could also void house owner's insurance cover in the event of a claim caused by geyser failure.

### Geysers trouble shooting

#### Dripping geyser overflow

Geysers do leak a bit through the pressure control valve overflow pipe. This is normal as the water in the geyser heats and cools. Anything more than a couple of litres per day usually indicates that the pressure control valve is defective. This valve should be replaced if there is a constant steady drip from the overflow pipe - rather than just occasional dripping.

#### Overheating: Steam or hot water escaping from the overflow

Geyser thermostats are specially made to fault in the open or "off" position. If the thermostat does this the water in the geyser ceases to heat. However, sometimes the thermostat faults in the "on" position, in which case the water will eventually boil.

An indication that this is occurring is when hot water and steam is observed coming out of an overflow pipe. This escaping hot water and steam shows a release from the TP (temperature & pressure) valve because of the excessive temperature and pressure building up in the geyser. The most common cause of overheating is a faulty thermostat. This is potentially dangerous and must be seen to immediately. Switch off the geyser.

#### Water leaking through the ceiling

This indicates that the geyser has either burst or a major leak has developed and the drip tray and overflow system (if there is one) is not coping. Switch off the power supply and the cold water supply to the geyser. Switch off the geyser power at the main distribution board.

## No hot water

Check whether the geyser circuit breaker on the main distribution board has tripped. Only reset the circuit breaker once. If it continues to trip call an electrician.

If the power supply is OK, but there is no hot water - then this indicates that either the thermostat or the heating element which has failed. The thermostat and the heating element should always be replaced together.

## Water not hot enough

This indicates that the setting on the thermostat is too low, or that the thermostat and/or element is malfunctioning. Set the thermostat to 65 deg. C. It is not recommended that a higher setting is used. If the geyser is old it may have calcified and become inefficient. In this case consider replacing the geyser.

## Poor hot water pressure

A number of things can cause low hot water pressure. These include old, blocked galvanised pipes, or a dirty valve. Some houses still have old low pressure geysers – only 100 kPa – rather than modern high pressure geysers – up to 600 kPa.

# Problem Area No. 2: Roof leaks

Leaking roofs are a very common problem identified in home inspections. There are three main issues to consider when diagnosing and fixing leaking roofs:

1. The condition of the roof covering. This includes cracked, broken or dislodged tiles or slates, damaged or corroded roof sheeting, weathered thatch. Incorrect installation can render any type of roof coverings ineffective.
2. The pitch of the roof. Generally only “flat” roofs are water-proofed; most pitched roofs are “weather-proofed”. This means that the roof is designed to shed water quickly to prevent rain water from penetrating the roof covering. Generally speaking, the steeper the pitch of the roof, the less likely it is that the roof will leak.
3. The points where roof surfaces intersect with walls, chimneys or other roofs are weak points as regards potential leaks. These intersections are usually weather-proofed with “flashing” of one kind or another.

## Condition of roof covering

### Tiles

The home inspector will check for cracked, broken or dislodged tiles or slates. Poor installation techniques which can result in leaks include: Cracked mortar on ridge capping tiles; lack of mechanical fixing of tiles in vulnerable areas along eaves and ridges and a roof pitch which is too low.

## Slates

Slates are usually installed over a water-resistant underlay – often bituminous felt (malthoid). Leaks arise from broken or dislodged slates and from a perished underlay. If mild steel, rather than copper or aluminum fixing nails have been used then corroded nails may lead to slipping slates. Ridges are normally finished with facing ridge slates over a “double soaker” – an overlapping layer of underlay extending over the ridge. If this double soaker becomes damaged or perished then leaks can occur along the ridges.

## Sheeting

Metal roof sheeting often corrodes along the overlaps and around the fixing screws. Too-short end-laps and inadequate side-laps which face the prevailing weather are common installation mistakes.

Cracked and weathered fibre-cement or plastic sheeting can also be a problem.

## Thatch

The top layer of grass in a thatched roof which is exposed to the elements slowly rots and needs to be periodically combed out and replaced to preserve the weatherproof qualities of a thatched roof.

## Semi-flat roofs

These can be either concrete slabs or board – usually surrounded by parapet walls and with adequate drainage. In both cases the top surface of the roof needs to be effectively waterproofed – usually with torched-on bituminous felt topped with UV rays resistant silver aluminum paint. If the waterproofing is old or has been badly installed with inadequate overlaps or poor bonding to the substrate then leaks may occur. The solution is to either patch or remove and re-install the torched-on waterproofing.

## Flashing

Flashing, which is usually either metal or acrylic membrane waterproofing, is usually installed where roof surfaces intersect abutments in order to waterproof these weak points in the roof.

Properly installing metal flashing and counter-flashing is a tradesman’s art which is rapidly becoming scarce in South Africa.

More and more modern roofers resort to flashing with acrylic membrane. This is not as professional looking but is reasonably effective assuming that the acrylic is of good quality and assuming that the flashing is recoated every few years. If the acrylic flashing is not properly maintained then the harsh South African sun soon causes deterioration and debonding and leaks are likely to occur.

## Roof pitch

The South African National Building Regulations prescribe minimum pitch (slope) for different roof coverings and minimum overlap tolerances for roof sheeting. Inadequately pitched tile, slate and thatch roofs are often a source of roof leaks.

## Evidence of leaks

Roof leaks are mostly spotted from inside the house – damp patches on the ceiling or on walls.

Because water often tends to run down the roof timbers before manifesting itself in a visible damp spot, detective work inside the roof cavity is often useful in determining exactly where the roof is leaking. Damp staining on the top chords of the roof trusses and sometimes spots of daylight visible through the roof covering are often the best indication as to where the leak originates.



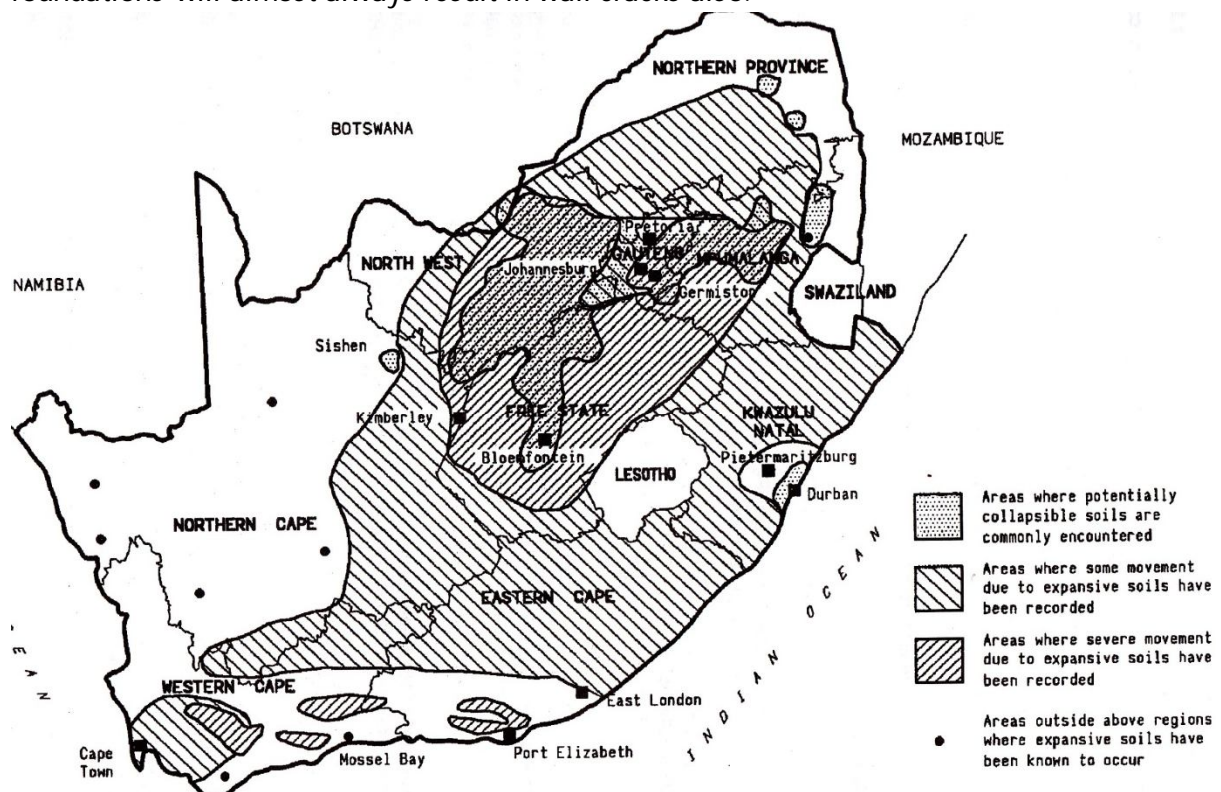
**Moisture ingress over the years has resulted in soft and fungus-invested roof battens (top left); plastic nailed under the roof valley in a vain attempt to stop a leak (top right); cracked and dislodged mortar bedding of ridge tiles (bottom left); old roof with a noticeable sag (bottom right).**

## Problem Area No. 3: Cracks

Take 15 minutes to walk through any house and the chances are good that you will find several cracks in the inside and outside walls and possibly also some cracks through floor tiles or in the garage floor screed.

### Foundation cracks

The reason why foundations crack is usually soil movement compounded by inferior construction. Foundation footings carry the weight of the walls and roof and so cracks in foundations will almost always result in wall cracks also.



Most populated areas of South Africa have expansive soils. These soils contain a high percentage of clay which absorbs a lot of water. This can cause the soil to expand by a tenth or more as moisture enters it during the rainy season. The expanding soil then causes huge pressure on foundations and slabs. This soil also contracts during the dry months causing big differences in the pressure being generated on the foundation or slab.

Some indications that you are dealing with expansive soils are:

- Cracked foundations.
- Heaving and cracking of walls and floor slabs.
- Jammed windows and doors.
- Ruptured pipes
- Heaving and cracking of paving

Soil movement can also result from soil collapse if the soil is sandy or more commonly if the foundations are eroded and undermined by badly managed rain water. For instance downpipes discharging at the base of walls can result in foundation subsidence over time. Tree roots growing underneath foundations and slabs in areas of expansive soils can also cause problems as the roots can cause the surrounding soil to become excessively dry.

## Slab cracks

Slab cracks are usually either the results of inferior materials and construction techniques or the result of incorrect placement and compaction of the fill beneath the concrete slab. If the concrete floor slab is insufficiently strong it is likely to crack especially if the ground beneath the slab is unsuitable and insufficiently compacted before the slab was cast.

## Wall cracks

Most houses in South Africa sooner or later develop wall cracks. Most of these cracks are not serious and can be ascribed to slight settlement of the foundations, mortar shrinkage, or slight roof movement.

However, some cracks can be potentially serious and are the result of significant foundation displacement, water penetration, or excessive roof movement.

The trick of course is to know the difference – to understand which cracks is a symptom of structural weakness and which cracks merely indicate the gradual (natural) deterioration of structures.

The most common reasons for cracking of brick walls are settlement, thermal expansion, moisture penetration and roof movement.

## Settlement cracks

Settlement occurs as the house “settles” onto its foundation, often leaves “stair step” cracks, or diagonal cracks extending upwards from window and door lintels in its wake. Cosmetic repairs such as new paint or crack repair will not permanently fix problems caused by expansive soil.

## Thermal cracks

Thermal expansion, the sun warming and expanding the brick, often leaves the bricks exerting more pressure on one another than previously applied and can result in vertical or stair step cracks.

## **Water damage cracks**

Water penetrating walls from above (especially through cracks on the tops of parapet walls) will cause cracks lower down as the water is drawn downwards through the wall and seeks an exit from the masonry when encountering an impenetrable barrier such as a concrete slab or waterproofing.

## **Roof movement cracks**

Movement of the roof where it rests on the tops of the walls can also cause wall cracks. These cracks are usually slight and can be seen along the line of the ceiling. However the weight and movement of a badly constructed roof can also result in severe structural damage to the walls below.

Roof movement generally results from badly braced rafters and trusses which can exert outward pressure on the tops of load-bearing walls. This is known as truss thrust or truss spread.

Poor anchoring of the roof to the walls can also lead to roof movement – especially in windy areas.

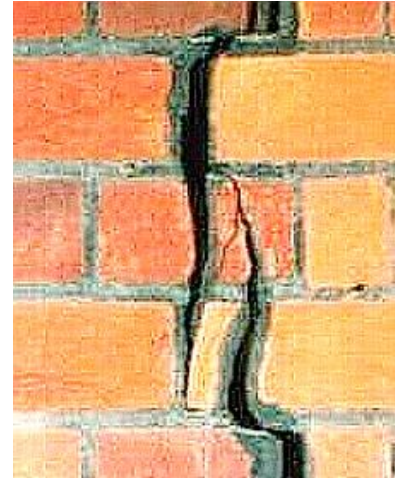
Truss uplift can also occur if the top chords of the truss become damp and expand while the bottom chord remains dry – perhaps because the cross-tie has been covered with ceiling insulation and has not been exposed to the same moist air as the top trusses. Truss uplift can result in cracks along the cornices on inside, non-load-bearing walls.

## **Plaster cracks**

Cracks in plastered walls are common, especially in older houses. Plaster cracks may result from stresses caused by movement (see discussion above).

Crazing cracks of plaster can be caused by incorrect plastering techniques or plaster which has been allowed to dry too fast.

One of the biggest reasons that plaster may crack is caused by changes in ambient moisture levels and different expansion coefficients between mortar plaster, bricks, concrete and steel. Temperature changes, with the changing seasons, create stresses in the plaster, resulting in cracks.



## Crack diagnosis

- A stair step crack that breaks through a brick or block can indicate serious foundation movement – either settling or heaving (expansive soil). Stair-step cracks which follow the mortar line indicate less serious stresses.
- Horizontal cracks can show that the foundation is unable to bear the home's weight.
- A vertical crack that is wider at the top is an indication that one part of the house is staying still while another is moving.
- A crack whose surface is uneven can be a sign that the wall is moving outwards. Run your fingers over the crack to tell if one edge is higher than the other.
- Horizontal cracks at ceiling level often indicate roof movement.
- Cracking (multiple fine cracks) often indicate poor plastering technique.

## Repairing cracks

The basics of crack repair are to remove all debris and excavate the crack right down to firm material. After that a suitable, flexible, crack filler or mortar mix can be used to fill the crack.

If it is thought that the crack has resulted from movement which is likely to continue then an attempt can be made to reinforce the wall across the cracked area. This can be done by strengthening the plastered area with a plaster lathe (metal or plastic mesh) or by a technique known as "metal stitching". Here lengths of metal rod (rebar) are fixed across the crack with epoxy before the crack is filled and the area plastered (perhaps with the using of plaster lathe).

There are a variety of proprietary crack repair products available.

A crack in a garage floor or patio may need a concrete or cement repair, whereas a crack along a shower tile or an inside wall may need a flexible crack filler. Caulking products and epoxies are also useful. Elastomeric compounds are now available, which combine the strength of polymer with the elasticity of rubber.

## Problem Area No. 4: Poor paintwork

Problems with paintwork result from one of two causes:

- Poor or incorrect preparation of the surface to be painted.
- Use of the wrong paint

Paint should always be applied in accordance with the manufacturer's instructions. The selected paint should be suitable for application to the surfaces concerned. Undercoats must be as recommended by the manufacturer of the finishing coats

### New plastered walls:

Plastered surfaces should be brushed in order to remove any traces of efflorescence and allowed to dry completely before any paint finish is applied. Blistering and peeling paint on new walls is usually because the wall was not completely dry before the oil-based plaster primer was applied. This results in moisture being trapped within the plaster leading to subsequent bubbling and peeling of the paint finish.

Hairline cracks, also known as 'crazed' or cracked plaster are a common problem with new walls. These cracks are caused by shrinkage as a result of rapid drying and or from overworking the plaster. Crazed plaster can be concealed by using a high quality coating system –a masonry primer, followed by a good quality textured coating is best. These cracks are normally stable if they are properly painted.

### Repainting walls:

Before any paint is applied, holes, cracks and irregularities in the surfaces should be filled with suitable filler and finished smooth. If there is damp damage to the wall then the cause of the damp must first be found and fixed. Then the wall should be allowed to dry out before being repaired and sealed with a suitable oil-based sealing undercoat. Only once this has been done can a top coat be successfully applied.

### Painting metal:

Metal surfaces should be sanded and washed with a suitable cleaning agent and left smooth.

Protective coatings applied by manufacturers to galvanized metal surfaces should be removed with a suitable agent and the surfaces washed down. Rust, grease and defective factory primers on metal surfaces, as well as pitch on cast iron pipes, should first be properly removed.

## Painting roofs:

Roof surfaces which are painted are normally older metal or fibre-cement roof sheeting, concrete roof tiles, or fibre-cement slates. Regularly painting an old roof with good quality roof paint will often prolong the life of the roof significantly.

Modern metal roof sheeting is usually now pre-coloured at the factory with a baked in coat. Older metal sheeting is especially prone to rusting at the fastener holes and where overlaps occur.

Concrete tiles and fibre-cement sheeting and roof slates become porous as the material ages. Painting these roof covering will prolong the life of the roof and prevent the material from absorbing water. Fibre cement roof slates which “curl” at the corners have been damaged by becoming porous and taking on water.

The same principles apply to roof painting:

- All loose material removed – this includes surface rust, dust and debris.
- All leaks and damage properly repaired and sealed.
- The roof surface must be completely dry and the temperature should not be too high when the roof is painted. Avoid both wet and very hot days for roof painting!
- A primer suitable for the top coat should be applied in accordance with the manufacturer’s specifications.
- Two coats of roof paint are next. Good quality PVA (water-based) roof paints are often better nowadays than oil-based “enamel” paints.

## Painting woodwork:

Knots in woodwork should be sanded and sealed and minor blemishes filled with suitable filler. Wood surfaces should be sanded smooth. Primers to wood surfaces are best applied by brush. Primers to other surfaces may be applied by roller. Undercoats and finishing coats may be applied by brush or roller.

Whether painting or varnishing wood, the surface should be lightly rubbed down between coats using fine steel wool. This is because paint and varnish tend to “lift the grain” – especially of new wood – and if the surface is not rubbed down between coats then an unacceptable rough finish will probably result.

## Boundary walls:

Boundary walls are exposed to rain and wind from both sides and also do not have a damp-proof course (DPC) to prevent rising damp. Unless the wall has been built using impervious masonry (face bricks or slate) for the bottom courses, the lack of a DPC means that it is almost impossible to prevent some damp damage on painted garden walls. Therefore, it is important to choose the paint correctly. Generally, using a masonry primer followed by a finishing coat, is adequate. It is very important to weather-proof the tops of boundary walls.

## Red flag issues with painting:

### Damp damaged walls:

There are many causes of rising damp in masonry walls. Damp is particularly common in old homes. See following Chapter on Damp.

Certain paint-on coatings might provide a temporary, superficial fix, but generally the moisture content in the wall will eventually penetrate the coating, or even rise a little higher up the wall. Therefore, before attempting to repaint these walls, the cause of the rising damp should be investigated and suitably addressed by a specialist contractor in this field.

### Fungus:

Fungus coated walls (mould) should first be treated with a fungal wash or a weak bleach solution and allowed to dry for at least 24 hours. Then remove the fungus by brushing with a stiff fibre brush. The reoccurrence of mould – especially in bathrooms and bedrooms can be reduced by leaving windows open and creating cross-ventilation for a few hours each day.

### Efflorescence:

Damp damaged walls often leach a white salty powder called efflorescence. This efflorescence is water soluble salts which form white salt crystal deposits on the surface of masonry walls and concrete floors as ground water is drawn to the surface. The presence of efflorescence indicates damp – either penetrating or rising, or it may even be retained moisture when the walls were first built. A HouseCheck inspector will use his moisture meter to determine whether the damp is still active.

The cause of the ingress of water or moisture must be addressed before redecoration. Remove the efflorescence by simply washing it off with a mild acid solution, rinse with clean water and allow the surface to dry. If the walls have been skimmed with gypsum then it may be necessary to completely remove and re-skim the affected areas. Seal with a masonry primer and finish with a top coat.

### Paint compatibility:

Using a water-based paint over more than three or four coats of oil-based or resin-based (alkyd) paint can cause the existing paint to lift off the wall. Before ordering new paint, find out what kind of paint is already on the wall. If you're unsure, ask a paint expert to inspect the wall and offer recommendations.

Alternatively, remove a small flake of paint to show the paint supplier

**Peeling/blistering paint:**

Usually, paint peels or blisters because there is moisture trapped behind the coating. Never paint a plastered surface until it is completely dry. Also, be sure to follow correct surface preparation and waterproofing procedures.

## Problem Area No. 5: Damp issues

Damp issues are especially prevalent within the winter rainfall areas in South Africa, but are also encountered in homes throughout South Africa. Damp spots are a common problem causing unsightly marks on carpets, walls and ceilings. It is also well documented that damp in homes impacts negatively on the health of those living in the home.

Damp damage can occur in any South African home.

### Causes of damp:

Major causes of damp are:

- Roof leaks
- Water penetration of masonry through the tops of parapet walls, window sills and around apertures (windows and doors)
- Plumbing problems
- Poor ventilation
- Failed or absent damp proof courses

The good news is that most damp can be fixed if the source of the damp is accurately identified and appropriate action is taken.

Damp proofing may not need a specialist. Often a bit of detective work around the house will determine a cause and there are several simple measures that can remedy damp.

The main reasons for damp occurring in a building are: poor maintenance; sub-standard building practices, condensation and old, failing materials. Three classes of damp can be recognised: penetrating damp; rising damp and condensation.

### Rising Damp:

There are many causes of rising damp in masonry walls. Rising damp is particularly common in old buildings. A common cause could be deterioration of the damp-proof course (DPC) used, incorrectly installed, absent or ineffective DPC's.

For instance, in many old buildings, natural slate was used as a DPC. After many years of structural pressure, the slate might have decomposed. Another possible cause could be where old timber floors have been replaced with new concrete floor slabs, without taking appropriate steps to ventilate or raise the existing DPC. Or rising damp could simply occur as a result of the ground level outside being built up higher than the DPC level in the wall.

Certain paint-on coatings might provide a temporary, superficial fix, but generally the moisture content in the wall will eventually penetrate the coating, or even rise a little higher up the wall. Therefore, before attempting to repaint these walls, the cause of the rising damp must be investigated and suitably addressed.

Rising damp is caused by water soaking up through porous masonry materials into the floors and walls of the property. It is called "rising damp" because it is caused by moisture being drawn up through the wall from the damp ground below. This is known as capillary action or "wicking". The reason that rising damp does not go higher than about 1m, is because once the moisture has reached this height, then the weight of water becomes too much for the capillary action to be able to draw the moisture any higher.

Rising damp manifests as discoloration, efflorescence (salt deposits) and water stains on the walls or in the carpets. Internal walls can feel damp and cold to the touch. Any wall in contact with the ground can suffer from rising damp. This means that interior walls can also be candidates for rising damp.

### **Rising Damp: What to look for:**

The damp proof course (DPC) may be compromised, providing a route for the moisture to get past the DPC. Examples of this might be soil in a flower bed which is too high along the wall, or a patio which has been laid too high, and without due consideration for the DPC.

In some instances, the DPC may have broken down or where there has been some movement causing the DPC to fail. Once this has happened, the water can be drawn up into the brickwork above. In some very old properties, there may be no DPC at all.

The correct procedure for dealing with a broken DPC or where there is no DPC, is to either fit a new section of DPC by removing and replacing masonry units, or by installing a chemical barrier – chemical damp-proofing.

With chemical damp proofing, the contaminated plaster is first removed and then holes, usually between 10-12mm in diameter, are drilled either into the mortar joints or via the bricks or stones and the chemical is injected using a high pressure pump (liquids) or low pressure hand pump or skeleton gun (creams, pastes and gels). The chemicals spread through the damp masonry, over a period of several months, to join up and form a continuous water repellent layer. The area is then re-plastered with a suitable admixture added to the plaster

Correcting rising damp is a job best left to specialists in the field.

## Penetrating Damp

Penetrating damp is caused by roof, wall or plumbing failure, resulting in water entering the masonry.

If the cause of penetrating damp are roof leaks or wall cracks then symptoms will usually only occur during or shortly after wet weather.

When plumbing pipes in the walls or floors leak then the damage may be either "creeping" - as when there is a tiny leak in a hidden pipe or swift as in a burst pipe.

Roof leaks affect roofs, ceilings, light-fittings and walls. A watermark might appear, and grow if the water continues to enter. If not fixed, plaster and ceilings may start to perish. Penetrating damp can sometimes also be caused by gutter or roof problems which have allowed rainwater to spill onto and saturate areas of wall. Penetrating damp is most frequent in older homes, which have solid walls. A new build property with cavity walls offers more protection and is less likely to suffer from this type of defect.

Penetrating damp can be tricky to pin-point, and often may require expert help.

### Penetrating Damp: What to look for:

Always make sure that gutters and downpipes are unobstructed and that the gutters do not leak - replace old failing gutters. Make sure window and door frames are properly sealed. Be sure to check underneath window sills as there should be a drip groove to shed rainwater, before it runs back against to the house wall. If this drip groove is blocked with moss, dirt or cement, clear it thoroughly.

Check for cracks in the walls (especially the tops of parapet walls) which can let in water and repair with suitable filler or with acrylic membrane (parapet walls). An exterior waterproofing sealant can be used if the exterior brickwork has become porous (e.g. face brick walls). This sealant will give it the wall anew water-resistant skin.

Thoroughly check the roof for damage to sheeting or cracked or displaced tiles and for damage to the waterproofing around chimneys, facers and bargeboards.

Plumbing failure within the wall or floor often requires specialist equipment to locate the problem. Once found, it is necessary to chop open the pipe and replace the section that is leaking.

## Condensation:

Condensation differs from rising and penetrating damp in that it's caused by excessive moisture that cannot escape from the property, rather than from water coming into the property.

Insufficient ventilation can cause condensation which then creates moisture in the air (perhaps invisible). Consistently using heaters or dryers to dry clothes and not opening windows and repeated hot showers in a bathroom with inadequate ventilation are common causes. Mould may appear on walls, ceilings, furniture and even curtains. There is usually a strong musty smell present and, unlike the other types of damp, condensation is largely caused by the inhabitants of the property, rather than problems with the actual building.

### Condensation: What to look for:

Reduce the condensation by increasing cross ventilation in the room. This can be done by installing a new window or opening existing windows more frequently; using a humidifier to suck up the moisture or a strong fan are also solutions.

A mixture of hot water and bleach will wash off mould/mildew from excessive condensation. Failing this there are many proprietary products available.

It is always better to fix damp as soon as it appears. Damp is damaging and it is unlikely that the problem will ever go away without intervention.

## Problem Area No. 6: Poor drainage

One of the most common problems HouseCheck inspectors find with South African homes is poor drainage:

- Poor management of rainwater from the roof to the ground.
- Poor management of water on the ground (storm water).

This is one of the major causes of long-term damage to South African homes. Poor drainage is not only found in old houses, but also in many newly-built homes, where the builder has forgotten or neglected to install good ground drainage.

The first question a builder, buyer or property inspector should ask regarding any property is: **"Where does the water go to?"**

Water only flows downwards and always finds the easiest path. So starting at the highest point (the apex of the roof) ask: "Where will the water go to?" You need to follow the path of the water in your mind until it safely exits from the property or safely sinks into the ground – in any area of the grounds which will not cause damage to the house structure.

If possible get an umbrella and check out the water during heavy rain and you will then quickly pick up potential problem areas.

## Drainage from the roof:

This involves, first ensuring that both the pitch and the weather-proofing of the roof is sufficient to ensure that rainwater drains off the roof and does not leak into the house.

### Blocked gutters:

Second: If there is a gutter and downpipe system then this system must be in good order and clean. Blocked or leaking gutters and downpipes can sometimes cause more problems than having no gutters.

Leaves and debris are the most common culprits in blocking gutters; especially if there are nearby trees gutters should be regularly checked and cleaned.

### Leaking and defective gutters:

As the gutter system ages the gutter (and downpipes also) may start to leak at the joins. The gutter may also start to sag which means the gutter no longer drains towards the downpipe outlet. In this case the gutter brackets may need to be realigned or the gutter replaced.

### Downpipe discharge:

The point at which the downpipes discharge at ground level is also a potential “red flag” issue. Downpipes discharging at the unprotected base of house walls will, over time, cause serious damage to the foundations and to the wall structure. Water continually seeping under foundation is likely to eventually cause the foundation to subside and the walls above to crack.

Rain water must be managed from the roof to the ground and away from the walls.

- The downpipe should either discharge into a properly constructed drainage system which leads the water away from the house or;
- The downpipe should discharge into a “shoe” – basically an open concrete channel which also leads rainwater away from the house, or;
- The downpipe should discharge onto an impervious apron around the house walls (concrete or paving). This apron should have been properly sloped to lead the water away from the house.

### Roofs without gutters:

The modern trend adopted by many South African architects is to specify roofs with no gutters. In this case the eaves must overhang of the walls and the ground on which the rain water will fall must be both paved and sloped away from the house.

## Ground water management:

The same question applies to ground water: “Where does the water go to?” In this instance the area surrounding the property is also important.

## Ground water issues:

The following questions need to be asked:

- Are there municipal storm water drains into which the water can be channeled? Remember it is illegal to discharge storm water in municipal sewers (drains).
- Has the house been built on a slope? In this case there will be higher ground on one side of the house and lower ground on the other. Ground water arising from rain falling onto the property should be managed away from the foundations of the structures and down the slope. Depending on the slope and the volume of water it may be necessary to channel the water under the boundary – either into the street or into a friendly neighbour’s property. It is also possible that ground water from a neighbour on the upper side of the slope may be finding its way onto your property. In this case you need to manage this water also.
- Is the water table high? Nearby wetlands or vleis are often an indication of a high water table. A high water table means that during the rainy season water will lie on the surface of the ground for longer and will not quickly soak away. In this case ground water management is even more important.
- Are there potential wet areas around the house? Sometimes a house is built so that there are areas (often in the back yard) where water can become trapped between an upper slope and the house, for instance. In such cases an expert should design and install a special agricultural drainage system of perforated pipes buried beneath the ground. Such systems, which are called agricultural drains because they are often used by farmers to drain swampy fields, can be most effective.

## Problem Area No. 7: Unsafe electrical installations

In terms of the law no South African home may be transferred without a valid certificate of compliance (CoC) for the electrical installation. Certificates of compliance, which must be issued by a registered person, are only valid for two years and also need to be re-issued if any work has been done on the electrical installation in the interim.

The Deed of Sale contract usually makes the seller responsible for supplying prior to transfer, at their expense, an electrical CoC, together with a “beetle” pest-free certificate, a gas compliance certificate (if there is a gas installation) and, in the case of Cape Town properties, a plumbing CoC also.

However, these CoC's - especially the electrical CoC - are sometimes "not worth the paper they are written on". This is because a fair number of electrical CoC's are issued incorrectly or even fraudulently by unqualified "bakkie" electricians using a licensed electrician's credentials

There is no routine process to check an electrical CoC to establish, firstly the credentials of the person who actually did the inspection and remedial work and, secondly to audit whether the remedial work after the CoC has been issued is up to the minimum legal standards.

The problem for the buyer arises because the law requires owners of properties to have a valid electrical CoC on hand at all times. This is because faulty electrical installations are life endangering and are also the cause of most house fires.

If the house seller, knowingly or unknowingly, has obtained an electrical CoC for a defective installation then the responsibility for this defective installation passes to the buyer on transfer. If the buyer then resells the house a few years later he may then have an expensive shock when a properly qualified electrician, called in to issue the new CoC condemns sections of the electrical installation.

HouseCheck is a "general practitioner" and during our inspections of the physical condition of a house, HouseCheck inspectors will comment on observable problems with the electrical installation - for instance damaged equipment. But HouseCheck does not test the installation for safety and legality. This is left to the "specialist", the licensed electrician who must issue a CoC.

Obvious defects to watch out for are:

- Broken light switches and fittings.
- Lack of an earth leakage unit.
- Exposed wiring – especially in the roof cavity.
- Damaged distribution boards or DB's which have gaps through someone could poke a finger or where the circuit breakers are not labeled. The covers of swimming pool sub-boards are often broken and unsafe.
- Plug points which are too close to baths, showers or kitchen sinks.
- Incorrect earthing.

Remember that electricity is dangerous and life-threatening. Take responsibility for ensuring that the electrical installation is safe and legal BUT don't try and fix it yourself.

The best way for buyers to protect themselves is to ensure that the property is thoroughly inspected prior to purchase and that all inspections and certification are "squeaky clean" and are carried out by properly qualified, objective professionals who are not beholden to the estate agent or to the seller.

## Problem Area No: 8: Faulty plumbing

There are a whole slew of common problems as regards plumbing systems in South African homes. Here are the common problems HouseCheck home inspectors often find:

- Leaking traps beneath kitchen sinks and bathroom basins. Check the cupboard below: Often a musty smell and damp damaged woodwork are evidence of the problem. Most modern waste traps are plastic and can easily be knocked by people using the cupboard below. These type of leaks can be finicky to fix. Disassemble and clean the entire waste system and reassemble. Alternatively buy a new plastic waste trap – they are very cheap.
- Faulty valves in the toilet systems. Same comments apply as for leaking waste traps – a little finicky to fix and often easier and fairly cheap to just replace the “innards” of the cistern.
- Incorrectly installed geysers. Geysers are usually found within the roof cavity. They are more than a dozen components of a hot water system which must be correctly installed for the geyser to comply with the law, insurance and guarantee conditions. An incorrectly installed geyser can be a serious safety hazard. HouseCheck inspectors reckon that one in two houses which they inspect have problems as regards the geyser installation.
- Cracked gulleys and drain (sewer) lines. In older houses tree root ingress through the cracks leads to regular blockages.
- Water leaks. Leaks can result in serious water loss, or damage to the walls and foundations. One way to check for leaks is to take a reading on the water meter and then shut off all taps and stop using toilets for half an hour or so. Then take another meter reading. If the meter has moved then there is a leak somewhere.
- Storm water being discharged into the sewer system. This is often done and is always illegal.

## Final Word

As I stated in the introduction to this eBook, the information I have provided the reader is just a fraction of what a good home inspector needs to know. Very few buyers, sellers or estate agents have the knowledge, willingness or physical fitness to inspect properly all of the problem areas of an average South African house – including the roof and roof cavity.

This is all the more reason for astute buyers to spend a small extra amount on a professional house inspection in order to insure that their major investment in their dream house does not turn out to be a nightmare.

Let HouseCheck provide you with peace of mind – get a quote at [www.housecheck.co.za](http://www.housecheck.co.za)

Good house hunting!

**John Graham**  
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