

HOMEOWNERS MAINTENANCE MANUAL



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Dear Homeowner,

Welcome to your new property!

The Home Inspection SA's Maintenance Manual is written in a manner that we hope will help you understand how your home functions. It is a resource manual, which is intended for informational purposes only.

By following these few simple maintenance procedures, promptly as described in this booklet, your home will give you many years of pleasure and comfort.

The manual explains your normal Homeowner's Maintenance responsibilities in a simple and easily understood language, which should always be conducted in a prudent, cautious, and safe manner.

If you feel that certain types of maintenance or repairs are beyond your capabilities, **we suggest and urge you to call a professional, licensed contractor to perform the needed work.**

We have attempted to cover all your home's maintenance areas with as much pertinent information and their primary needs as possible. It is impossible to address every scenario or method of maintenance. If we have omitted anything and you are unsure of how to proceed, we suggest that you refer to the manufacturer's written instructions or contact a local professional contractor.

IMPORTANT NOTE REGARDING ANY AND ALL MANUFACTURED ITEMS

(e.g., appliances, garage doors, windows and doors, toilets, sinks, tubs, taps, etc.)

The suggestions and recommendations found in this manual are not intended to replace or substitute any of the manufacturer's recommendations. If you should notice a conflict between our suggestions and those recommendations provided by the manufacturer, the manufacturer's directions and guidelines always supersede our suggestions.



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You and Your Home!

To acquaint you with the maintenance requirements of your new home, we are providing you with this Homeowner's Maintenance Manual which consists of four chapters:

1. Homeowner's Maintenance Checklists
2. General Information & Safety Tips
3. Homeowner's Maintenance Information
4. Glossary of Construction Terms

This book will provide useful information that will assist you in your new home's maintenance and service requirements.

The Homeowner's Maintenance Checklists

These lists aim to provide several lists of important preventative maintenance procedures required at periodic intervals. By adhering to these checklists, you can discover and correct minor maintenance problems before they become a major expense.

The General Information & Safety Tips

This section contains valuable information concerning public utilities coming into your home and a few safety tips you should observe when doing routine maintenance.

The Homeowner's Maintenance Information

This section gives you an explanation of the basic components of your home. This section will note the normal repairs that may be required and gives you helpful hints on how to care for your home.



Table of Contents

<u>CHAPTER 1</u>	
<u>Homeowners Maintenance Checklist</u>	
<u>After Move-In Checklist</u>	
<u>Monthly Checklist</u>	
<u>Bi-Annual Checklist</u>	
<u>Annual Checklist</u>	
<u>Seasonal Checklist</u>	
<u>Special Checklist for Interior Mold</u>	
<u>General Information & Safety Tips</u>	
Utility Lines, Cables & Pipes	
<u>CHAPTER 2</u>	
<u>Homeowner's Maintenance Information</u>	
<u>Air Conditioning and Heating</u>	
<u>Appliances</u>	
<u>Bathroom Maintenance</u>	
<ul style="list-style-type: none"> • Ceramic Tiles • Grout Stain Removal Guide 	
<u>Cabinets</u>	
<u>Concrete</u>	
<u>Condensation/Mildew</u>	
<u>Counter & Vanity Tops</u>	
<u>Doors</u>	
<u>Electrical System</u>	
<u>Lighting Fixtures</u>	
<u>Electric Wall Plugs (Sockets)</u>	
<u>Fireplaces</u>	
<u>Flooring</u>	
<u>Interior Walls & Ceilings</u>	
<u>Plumbing System</u>	
<ul style="list-style-type: none"> • Plumbing Fixtures • Mirrors & Shower Enclosures • <u>Interior Taps</u> • <u>Preservation of Water</u> 	
<u>CHAPTER 3</u>	
<u>Roofing, Gutters, Downspouts</u>	
<u>Exterior Wall Finishes</u>	
<u>Garage Doors</u>	
<u>Garage Door Safety</u>	

Swimming Pool	
• 5 Common Pool Pump Problems and How to Solve Them	
• Pool Safety	
Gardens & Landscaping	
General Guidelines when dealing with Maintenance	

CHAPTER 1

Homeowner's Maintenance Checklists

Welcome home! All homes have maintenance requirements that you should know about. This Homeowner's Maintenance Manual will acquaint you with an easy-to-follow breakdown of your responsibilities:

1. Homeowner's Maintenance Checklists

This book will provide useful information that will assist you in your new home's maintenance and service requirements.

The Homeowner's Maintenance Checklists provide important preventive maintenance procedures required at periodic intervals. By adhering to these checklists, you can discover and correct minor maintenance problems before they become a major expense.

2. General Information and Safety Tips

The General Information and Safety Tips section contains valuable information concerning public utilities coming into your home as well as a few safety tips which you should observe when doing routine maintenance.

The Homeowner's Maintenance Information section gives you an explanation of the basic components of your home. This section will note the normal repairs that may be required and gives you helpful hints on how to care for your home.

3. Homeowner's Maintenance Information

Your new home was designed to meet or exceed the requirements of the local building code as it read on the date your builder applied for the building permit. Your home was built to last for generations, but it has numerous components and systems that require periodic maintenance.

Taking time to do preventive maintenance will make your home safer and save you money by keeping your home in working order. Most home maintenance projects will require only a few simple tools. Here are a few tools that you may find useful for normal home maintenance chores:

Adjustable wrench	Pliers	Utility knife
Flat-blade screwdriver	Flashlight/ batteries	Phillips head screwdriver
Claw-hammer	Electric drill & drill bits	Shop-grade vacuum cleaner
Caulk gun & caulk	Step ladder	Extension ladder
Work gloves	Electrical extension cord	Shovel
Toilet plunger	Tape measure	Assorted nails, screws, nuts, bolts and sandpaper

By implementing the following preventive maintenance suggestions, you can help keep your home functioning properly with minimal problems.

To help you pinpoint when specific maintenance items should be performed, this checklist is divided into four time periods:

1. After Move In.
2. Monthly.
3. Bi-Annually.
4. Annually.

AFTER MOVING - INTO CHECKLIST

BATHROOMS AND MAIN FLOORS

Apply grout sealer to tile grout if you wish to give the grout additional protection against discolouration from spills and stains.

ELECTRIC

Locate the main circuit breaker in the electric distribution box and show family members how to turn it off in case of an emergency.

FIRE EXTINGUISHER

Purchase a general-purpose fire extinguisher for each floor of the home plus one small kitchen extinguisher in case of grease fires. Demonstrate proper usage to family members in case of emergency.

FIRST AID KIT

Keep first aid materials and a book on first aid procedures in an accessible location.

FLOORING

Attach furniture protectors underneath furniture legs to protect floor finishes.

LANDSCAPING

Review and implement recommendations in the Landscaping and Grading Section of this manual.

PLUMBING

Locate the main water line shut-off valve and all individual plumbing fixture valves and show all family members how to close them in case of a plumbing emergency.

GAS

If your home has natural gas, locate the gas shut-off valve by the gas meter and show all family members how to close it in case of an emergency.



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MONTHLY CHECKLIST

AIR CONDITIONING AND HEATING

Check air filters and clean or replace them as necessary
Vacuum air supply and air return register to remove dust and lint.

GARBAGE DISPOSAL

Clean disposal blades by grinding up ice cubes.
Freshen it with baking soda and grind citrus fruit rinds.
Test and reset Ground Fault Circuit Interrupters (GFCI) breakers.

INTERIOR CAULKING

Check for cracks or separations in caulking around sinks, bathtubs, toilets, taps, countertops, backsplash ceramic tile walls, ceramic floors, windowsills, and any other areas originally caulked by your builder.

To repair these areas, use an appropriate caulking compound and follow the caulking instructions in the relevant sections of this manual.

RANGE HOOD FAN

Clean or replace the dirty filter.

SPRINKLER SYSTEM

Adjust sprinkler heads for proper coverage.

CABINETS

Clean and apply a light coat of wax to wood-finish cabinets.

CAULKING/PAINTING

Check all areas originally caulked by the builder, especially exterior windows, and doors.
Check exterior paint and stain surfaces (especially stained doors) and refinish as needed.

DOORS

Check screws on the door lock set and hardware and tighten as necessary.

Lubricate hinges as necessary.

Clean sliding door track and apply silicone spray to tracks as necessary. Caution – only using a silicone lubricant oil will cause the rollers to deteriorate.

Take the necessary steps to protect adjacent flooring from the silicone, as it may cause discoloring.
Oil moving parts of the garage doors where prescribed.



BI-ANNUAL CHECKLIST

ELECTRIC

Check electrical extension and appliance cords.
Replace frayed or split cords.

EXTERIOR FINISHES

Check for cracks and voids in exterior caulking and re-caulk as necessary.
Follow the maintenance instructions contained in the painting section of this manual.

ROOFING

Visually inspect the roof from the ground for broken or missing tiles and gaps in flashing.
Check and clean gutters and downspouts, if installed.

AIR CONDITIONING SYSTEM

Have an HVAC contractor perform a six-month maintenance check-up if you live in a high temperature, high humidity area.
Ensure that air supply registers are not blocked by rugs, draperies, or furniture.
Make certain the concrete foundation that the A/C unit sits on is level.
Remove excess leaves from vents.

PLUMBING

Check assessable water supply lines and valves to sinks, toilets, refrigerators, and clothes washers.
Tighten if loose or leaking.
Clean out tap aerators, and spray nozzles and drains.
Check pipes and drains for water leakage.

WINDOWS

Check sills for caulking cracks or separations and re-caulk as necessary.
Check weather stripping around windows and repair or replace as necessary.
Check windows for smooth opening and closing operation. Clean tracks and lubricate as necessary, using silicone spray.
Inspect window screens and repair or replace them as necessary.

FIRE EXTINGUISHERS

Check fire extinguishers to ensure they are fully charged.

SMOKE DETECTORS

Test smoke detectors and change batteries if needed.
Clean and/or vacuum.



ANNUAL CHECKLIST

CABINETS

Check drawers and hinges for proper alignment.
Tighten and adjust as needed.

DOORS

Check and repair or replace weather stripping on exterior doors as necessary.
Tighten all bolts on the garage door.
Check the fit of exterior doors at their thresholds. Many designs are adjustable.

WINDOWS

Check all windows for gaps in caulking on the exterior of the house.

AIR CONDITIONING SYSTEM

Have HVAC contractor perform annual maintenance check-ups

CLOTHES DRYER

Check dryer hose for lint.
A clogged hose may decrease the drying efficiency of the dryer.

FIREPLACE

Have the chimney professionally cleaned as necessary.
Inspect the chimney for nests.

PLUMBING

Remove water heater residue following instructions in the Plumbing Fixtures Section of this manual.

PRESSURE CLEANING

Clean roof tiles and asphalt shingles (where applicable) of mildew and dirt as necessary.
Clean pool deck and reseal as necessary.
Clean pavers, driveways, patios, and walks as necessary.
Clean exterior finishes such as plaster, brickwork, and stone of mildew and dirt as necessary.

SEPTIC TANK

Check and clean as necessary.



SEASONAL CHECKLIST

Before winter check for the safe operation of your fireplace, electric, or gas heaters.

Before the start of the rainy season, check your gutters and downspouts.

Before summer starts check your irrigation system and ensure your pool is in top condition.

SPECIAL CHECKLIST FOR INTERIOR MOLD

Mold and mildew in residential homes are not new. Mold grows on damp surfaces. Left untreated, mold spores can become airborne. Spores are like seeds when they settle on vulnerable surfaces and they can consume organic material since they are part of our ecological system, helping to recycle organic material. Based on this information, detecting moisture is the key to resolving the problem. Musty air in the home is a warning sign. Homeowners need to be aware that, under the right conditions, some condensation could appear on walls, windows, or in the air conditioning vents. In such cases, one must clean and dry these areas and increase the ventilation in the home. Obtain a dehumidifier for any area with persistent dampness, such as a basement that isn't air-conditioned.



Figure 1: Black Mold

Mold can be prevented in areas where water has been spilled or if a leak occurs. In such cases, water could get behind a wall and mold growth could occur. Look for discoloured areas (usually black) or mold on surfaces. Such areas also can be caused by problems such as leaky pipes under sinks, windows left open for the rain to come in, water leakage through uncaulked windows, leaky roofs, etc.

Uncontrolled mold can be a health hazard. Proper maintenance of your home will go a long way toward eliminating or keeping moisture and humidity to a minimum. Consult your physician or a local government health authority for guidance if there is any concern for your health. The use of some or all the items below will help to eliminate major problems with mold.

- Have your air-conditioning system serviced by a recognized professional company at least annually. Ask for advice from an air-conditioning specialist if you are unsure about the proper usage of your air conditioner.
- When outside weather is warm with low humidity, open windows to allow air circulation through the house.
- Increase circulation of heated air.
- Run the air conditioner during humid months of the year.
- Obtain a dehumidifier or extractor fan for any damp areas of the home, such as steamy bathrooms, basement, indoor pool area, or attached greenhouse.
- Repair any water leaks quickly.
- Take measures to keep water away from the foundation. There are many other ways to care for situations but the best of all is to use common sense. The objective is to keep your home dry and free from leaks or water intrusion and excessive condensation.

GENERAL INFORMATION & SAFETY TIPS

Introduction

Every aspect of building your home, from laying the foundation to the final coat of paint, is an art form and was done by a qualified professional. By following the tips in this Homeowner's Maintenance Manual, you can prevent minor problems from developing into major ones. Your home will retain its value and you can experience the pride of ownership for years to come. This manual is not intended to be a "Do-It-Yourself" step-by-step guide, but it does provide useful information about the care and maintenance of your home.

While it is important to know what you are doing before you attempt any repair, it is equally important to know when to stop. If the project is more complex than you originally thought and exceeds your ability to repair...STOP... call in someone who knows what they are doing. It is better to admit a lack of knowledge than to compound the problem and create a major expense.

Your local hardware store can provide you with a variety of services beyond selling you merchandise. They usually have "Do-It-Yourself" books that provide detailed information about specific areas of the home. Many of them offer classes on a wide range of subjects from carpet and tile installation to selecting the proper tools for any given job. Frequently the person waiting on you can provide useful information that will help you in selecting the right materials for the project.

Personal Safety

Accidents happen. They are called accidents because they were never intended to happen. They frequently occur because of the lack of precaution by the injured party. If hindsight was foresight, very few homeowners would be found in hospital emergency rooms.

A few Rands invested in eye protection, proper shoes, and gloves may prevent a serious injury. Invest in personal protective equipment before starting any maintenance yourself, such as eye protection, and gloves.

Every home should have one or more ladders. In selecting a ladder make sure that it meets your needs for reach and weight requirements. When working on or around electrical fixtures, never use an aluminium ladder. A ladder made of fibreglass is recommended for most applications. Pay close attention to the warning labels affixed to the ladder. They are there for your protection.

It is important to understand the function of any tool that you are using, especially power tools. Read all accompanying instructions carefully before attempting to use the tool.

If your home has a home standby generator, read the manufacturer's maintenance manual before attempting any periodic maintenance.

Always keep a first aid kit on hand. Remember, the trauma of a trip to the emergency room may be avoided if you use a little common sense when working in or around your home.

Electricity Cables and Pipes

Introduction

Your municipality provides a variety of services to your home. In most cases, even though their lines cross your property, you have no ownership or control over them until they pass through a metering device (*electricity, water*). In the case of telephone and internet lines, they must pass through an exterior wall. Service or alterations to any utility line should be done only by a competent, licensed professional.

Emergency Shut-off Valves

Ensure you know where the main shut-off valves and switches are located in your home and how to operate them. Every qualified person in your home should know where these switches and valves are located and how to turn them off in an emergency.

- Electricity.
- Water.
- Gas.

Electricity

Electricity does not discriminate. It is an equal opportunity killer. Never attempt any electrical repair unless you know what you are doing. For any additional service needs or major repairs, you should call a licensed electrical contractor.

Even when attempting a minor repair, you must have the electricity turned off to the device you are working on. This must be done at the circuit breaker box. Turning off a wall or lamp switch will not always prevent a shock.

Every receptacle, lamp, and the electrical device is controlled by a circuit breaker in the main circuit breaker box. Each circuit should be labelled, and you should know its function. Never try to defeat the purpose of a circuit breaker. If it frequently “trips,” this is generally a sign of a more severe problem, and a competent, licensed electrician should be called. The following simple steps may prevent a severe electrical shock:

Open the circuit breaker box and locate the proper circuit breaker. Turn it off.
Close the panel door and tape a note across the front of the box informing others that you have turned off a circuit breaker and not to touch anything. If you can lock the panel, do so.

DO NOT ATTEMPT ANY ELECTRICAL REPAIR UNLESS YOU ARE LICENSED AND QUALIFIED!!



Safety Components in the House

Electricity Distribution Board & Breakers



Figure 3: Distribution Board



Figure 2: Earth Leakage Circuit Breaker

Gas & Water Shut Off Valve



Figure 4: Gas Shut-Off Valve

**GAS
SHUT OFF
VALVE**

Gas safety at Home

- Gas bottles may not be installed less than 1 meter sideways from doors and windows.
- All copper pipes going through a wall, must be sleeved.
- Your gas installation must be accompanied by a certificate of compliance for gas appliances.
- Gas equipment/systems must be installed according to SABS requirements (SANS087)
- Only gas bottles less than 19kg of gas can be stored inside a building.
- When gas stoves are in use ensure sufficient ventilation, do not open the gas flame too high and ensure that the gas is turned off properly after use.



Figure 5: Main Water Shut-Off

CHAPTER TWO

Homeowner's Maintenance Information

Air Conditioning and Heating Equipment

The air conditioning and heating equipment were installed by the HVAC (Heating, Ventilating, and Air Conditioning) contractor.

The air conditioning and heating system(s) provide year-round climate control and consist of a thermostat to control temperature, an air handler unit to heat or cool the air, a filter to remove particles from the air, and a fan unit to distribute and circulate air. Air conditioners have an outdoor condensing unit or compressor which must be kept sufficiently free of obstructions (such as shrubbery) to allow air to flow freely.

Homeowner's Maintenance Guidelines

Service Contract

When there is a heavy demand for your HVAC system, you are encouraged to take advantage of the extended annual service contract that is available from your air conditioner supplier. This contract typically provides seasonal check-ups of the heating and cooling components, plus periodic cleaning; the advantage being that scheduled service may reduce system failure by preventing problems before they occur.

Before Calling for Service

Check to see that the thermostat is properly set.

Check the circuit breaker in the panel box. If tripped, reset by switching the breaker from the full "Off" position to "On." If the circuit breaker will not reset, contact the HVAC contractor. (See Circuit Breakers in the Electrical System Section.)

Check the electrical disconnect switch, located on or near the air handler, and reset.

Check the exterior disconnect switch located outside the home near the compressor and reset it.

Air Filter

The air filter, located adjacent to the air handler unit or in the return air grille, helps reduce the flow of dust into the air. As the filter collects dust, it reduces the system's efficiency and must be either cleaned or replaced. Your builder has installed one air filter in each filter location and will, at the walk-through, demonstrate proper filter installation, cleaning, and replacement procedures. After that, the regular cleaning, replacement, and maintenance of air filters is the homeowner's responsibility.

Air Conditioning & Heating

Homeowner's Maintenance Guidelines

Monthly filter cleaning or replacement will provide cleaner air, improve airflow, and help reduce utility costs. To remove, clean, or replace filters, turn the air conditioner and fan off using the thermostat control, then carefully remove the old filter and clean, or insert a new one. Replacement filters are available through hardware stores. Make sure to buy the correct size for replacement.

Exterior Compressor/Condensing Unit

Keep the condensing unit (*compressor*) level and keep the area surrounding the unit clear to allow unimpaired airflow. Do not plant bushes too close to the unit and be careful that dirt, leaves, and grass clippings are cleared away. For thorough cleaning, contact an HVAC contractor. Do not build a deck around or over the compressor unless there is a 45 CM clearance on the sides and a 1.9 Meter minimum clearance on top.

Condensate Control

Dehumidification is part of the function of your air conditioning system. The moisture removed from the air is condensed into water and is then referred to as “condensate.” The condensate forms and is collected on the evaporator coil which is located in the air handling unit (*except on one-piece package units*). The condensate drain removes the water. Regular maintenance should be performed by the A/C contractor of the drain pan and line to control algae build-up and eliminate water leaks.

Helpful Hints

- Check and replace or clean filters every month.
- Clogged filters mean higher operating costs.
- To reduce the time your air conditioner must be on, do heat-producing chores such as baking and dishwashing, during the cooler hours in the morning or evening.
- Check weather stripping and caulking around doors and windows for leaks.
- Keep all windows and exterior doors shut when the air conditioner is on.
- Do not short-cycle your compressor by moving the thermostat up and down too rapidly. Set your temperature slowly and leave it for at least five minutes before resetting.
- In the case of outside temperatures exceeding 32° C, a differential of 9° C is acceptable.

Appliances

Helpful Hints

Refrigerators/Freezer.

- Check and clean the door gaskets regularly to ensure a tight seal.
- Refrigerator and freezer temperatures should be set at the temperatures recommended by the manufacturer.

Dishwasher.

- Use only when you have a full load.
- Use the shortest wash cycle.

Cook Tops/Stoves/Ovens.

- Do not allow dirt to accumulate.
- Clean with a recommended over-the-counter cleaner.
- Do not use harsh abrasive unless specified.
- Clean all filters regularly.

Cooker Hood Fan & Microwaves.

- The cooker hood fan filters collect grease and should be cleaned regularly.
- Soaking the filters or lightly brushing them in hot soapy water is the best cleaning method.
- Be sure the filters are dry before reinstalling them.
- Be sure that the microwaves' vent louvres are not blocked

BATHROOM MAINTENANCE

Mildew.

Moisture and mildew problems will occur in any room where water vapor is present.

To reduce mildew, turn on the extractor fan or slightly open a window when bathing.

Wipe off wet tiles when done, then hang up towels and washcloths to dry.

To clean mildewed surfaces and reduce mildew odours, apply a liquid mildew agent in a well-ventilated room, followed by a disinfectant and thorough rinsing with clear water.

Moisture and mildew removal is a homeowner's responsibility.

Soap Scum.

In some geographic areas, water that is high in mineral content can contribute to soap scum build-up. To clean and remove residue, wash the affected surfaces with a mild vinegar and water solution or use mildew removers found in most stores.

Rust Stains.

The contact of wet metal on sink surfaces, for example, the bottom of shaving cream can produce rust stains. To remove them, apply a powered rust remover, carefully following the manufacturer's instructions.

Ceramic Tile

The ceramic tile walls in your bathrooms or kitchen are easy to maintain and, if properly maintained, will be impervious to water. The seams, joints, and sealers are not waterproof and require proper maintenance to prevent water seepage and damage to materials adjacent to and underneath the tile.

Cracks in the caulking joints between tile and tub, in the shower stall corners, and on the floor, are normal and are caused by the degree of moisture present in every bathroom, as well as from the normal shrinkage of caulking material. The separation between the tub and wall tile is caused by the weight of the tub filled with water.

Re-grouting and re-caulking are the Homeowner's Maintenance responsibilities for the life of the home. For other problems concerning bathtubs, sinks, etc., see the Plumbing Fixtures section.

Grout Stain Removal Guide

Suggested Stain removal Agents

- Grease and fats - Soda and water or commercial spot-lifter.
- Inks and dyes - Household bleach.
- Mercurochrome - Ammonia.
- Blood - Hydrogen peroxide or household bleach.

Homeowner's Maintenance Guidelines

- Caulk cracks and separations of seams adjacent to tile with a top-quality flexible caulk, taking care to wipe the tile clean once caulking is complete.
- Do not use clear silicone-based caulk since it yellows with age and stains easily.
- See Re-Caulking of Tubs and Showers in the Plumbing Fixtures section.

Glazed Tile Showers

- Use an all-purpose bathroom cleaner.
- Let stand for five minutes, rinse and dry.
- Use a mixture of equal parts water and white vinegar or a commercial tile cleaner.
- For stubborn stains, use chlorine bleach or scouring powder containing a bleaching agent. Let stand for four to six hours, then scrub and rinse thoroughly.
- To remove mildew, use a commercial tile cleaner or chlorine bleach, or ammonia.
- **Do not mix chlorine bleach and ammonia!**

Unglazed Tile Walls

- Sponge with a diluted solution of water and a soap less detergent.
- For deep-cleaning, use scouring powder paste. Let stand for five minutes. Then scour with a brush. Rinse and wipe dry.
- Never use abrasive cleaners or harsh chemicals or solvents on ceramic tile.
- Unglazed tiles may need to be sealed regularly.
- Wipe off spills immediately.
- Never use harsh cleaning agents such as steel wool pads which can scratch or damage the surface of your tile.
- Do not use a cleaning agent that contains colour on the unglazed tile. The pores in the ceramic could absorb the colour.
- Test scouring powders on a small area before using overall on the tile.
- If continuous staining is a problem on grout joints, use a sealer.



Figure 7: Severe Mildew



Figure 6: Cleaning Mildew

CABINETS

Introduction

Kitchen, laundry room, and bathroom vanity cabinets are all selected for their attractive appearance, durability, and ease of care. With proper maintenance, the cabinets will remain serviceable and attractive for many years.

Homeowner's Maintenance Guidelines

Wood Cabinets.

Wood cabinet tone, grain, and colour variations are normal and reflect the natural characteristics of real wood.

Clean wood cabinets with the same gentle care you would give any fine wood furniture. A light coat of wax or lemon oil applied once or twice a year will protect the finish and enhance the appearance.

Kettles & coffee makers are not recommended since the rising steam will damage solid wood and wood veneer, causing fading or delamination.

Laminate Cabinets.

Clean laminate cabinets with a soapy cloth or sponge, using a non-abrasive liquid household cleanser for more stubborn stains. There are one-step cleaning products available for laminates that clean, reduce streaking, and leave surfaces polished. As with all cleaning products, carefully follow the manufacturer's instructions.

Shelves.

Shelves are not designed to hold a weight that exceeds 40 KG per square meter.

Keep canned goods, flour, sugar, and heavier products on the bottom shelf of the base cabinets. If desired, apply contact paper to shelves to protect against scratches and stains.

Drawer and Hinge Care.

Check the hinges at least once a year for proper alignment and tightness, using a screwdriver to make necessary adjustments. Check drawers for easy movement and apply a silicone spray to the drawer guides should sticking occur.

Repairing Nicks and Scratches.

Hardware stores offer colour-matching putty, stains, and polymer fillers to cover and repair cabinet nicks and scratches.



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CONCRETE

Foundation and Floor Slabs:

In construction, the floor slab, garage slab, and foundations are all poured in concrete at the same time. Most builders use heavily reinforced concrete monolithic slab construction.

One thing to understand about concrete is that it will crack!

- It is important to understand that concrete is a porous material that will expand, contract, and crack because of temperature changes, shrinkage, stress, and settlement. Hairline cracks may appear on walls and be visible on garage floors are common and are usually cosmetic, as opposed to structural cracks.
- Shrinkage occurs from the normal curing process of concrete that varies with the time of year and the moisture conditions that exist when the concrete is poured. Slab stress and settlement are typically caused by soil conditions and loads such as the weight of the walls. These forces can create a variety of stresses which, in combination with seasonal temperature variations, can cause concrete and masonry foundations to develop non-structural cracks.

Home and Garage Slab

Due to the large size of the concrete home and garage slabs, shrinkage cracks (less than 6.5 MM wide) are common and are usually the result of expansion and contraction. These shrinkage cracks are normal, and it is best to leave them alone since attempts to fill the cracks will not stop the expansion and contraction. Cracks in slabs, patios, garage floors sidewalks, and driveways are common and require no additional attention. They are cosmetic in nature and do not affect the integrity of the concrete. Any attempt to repair chips or cracks in concrete will result in product and colour variation.

Colour variations in concrete are a common occurrence and are beyond the control of the builder or sub-contractor.

Homeowner's Maintenance Guidelines

- Clean concrete with a solution of five tablespoons of baking soda to 5 Litres of water. Before using the cleaning solution, wet the floor with clear water and loosen the dirt with a steel brush or scraping blade.
- A concrete sealer may be applied to the floor, following the manufacturer's directions,
- This will make it easier to clean and will reduce concrete dusting.
- Note: *Use of concrete sealer may make the floor slippery when wet.*



Figure 8: Hairline Cracks



Figure 9: Structural Crack

CONCRETE

Homeowner's Maintenance Guidelines

- To remove dirt, mildew, etc., hose down the area with water and sprinkle powdered laundry detergent on the concrete and scrub with a soft nylon brush.
- Let it sit for five minutes and hose off immediately.
- Work in small areas so the mixture does not dry onto the surface.
- Do not use any abrasive chemicals or pool water that contains chlorine bleach, acid, or household bleach.
- Do not pressure clean unless you intend to reseal and stain; it can scar and remove the surface.

Driveways, Sidewalks, Patios, Porches, Steps, and Stoops

Introduction

In most cases, exterior concrete cracks are due to expansion and contraction because of temperature variations, soil movement, and slight home settlement. Driveways are not designed to handle the extreme weight of dual-axle and dual-wheel vehicles.

Homeowner's Maintenance Guidelines

- Lawn fertilizer left on the driveway, sidewalks, and patios will stain the concrete and cause rust spots. This can be prevented by immediately hosing off the driveway, sidewalk, or patio after applying fertilizer.
- Water used to irrigate lawns may contain mineral deposits such as iron that can cause driveway, sidewalk, and patio staining and mildew. Keep excessive weight such as sand, lumber, and moving vans off the driveway to prevent cracking. Rust and grease stains are a homeowner's responsibility.

Pavers

Pavers are a concrete product. Minor cracks and chips due to production, transportation, handling, and installation will be present. Colour variations between pavers may also be present initially but will diminish as they cure. Efflorescence is a whitish powder that may appear. It is a salt deposit brought to the surface by evaporating water. This haze will eventually wear off or it may be removed by using a special cleaner.

Homeowner's Maintenance Guidelines

- Pavers can be pressure cleaned/washed periodically.
- Weed killer should be applied to the joints to inhibit weed growth.
- **NOTE:** *During pressure washing do not apply pressure directly to the joints as this will remove the sand and possibly dislodge your pavers and cause sinking. They should be pressure washed and allowed to dry for several days without rain or sprinklers hitting them prior to sealing.*
- Re-sanding, sealing and weed removal is important.
- Do not seal if efflorescence is present.
- Do not seal if pavers are damp or moist.

Asphalt Driveways

- Asphalt driveways require little or no structural maintenance for quite a few years.
- As the driveway ages, the deep black colour will most likely fade and appear light black or grey.
- The asphalt can be brought back to look new by applying a seal coat annually or as often as desired.
- Be sure to follow the manufacturer's instructions when applying the new material.
- For extensive structural repairs, we suggest you retain a professional asphalt contractor.
- To extend the life of the asphalt driveway, avoid gasoline or oil spills if possible.
- Clean off any excess fertilizer that may fall on the driveway as soon as possible to avoid discoloration.



Figure 9: Brick Paving Driveway



Figure 8: Asphalt Driveway



Figure 10: Concrete Driveway



Figure 11: Cobblestone Driveway



Reg. No 2019/236626/07

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CONDENSATION/MOLD (MILDEW)

Introduction

Condensation, or the appearance of moisture that occurs when warm moist air comes into contact with a colder surface is prevalent in most homes. As water evaporates, and the drying out process occurs, the moisture takes the form of condensation on interior windows.

Another source of indoor humidity is everyday water usage. For example, a family of four doing laundry, bathing, and using the dishwasher, puts approximately 7 to 20 litres of moisture into the air every day.

Homeowner's Maintenance Guidelines

Ventilation

- Proper ventilation is a safe and steady way to reduce indoor humidity, condensation, and mildew.
- Ensure that the clothes dryer is properly vented to the outside and that the vent is clear of obstructions and lint. Do not push the dryer too far back or the vent hose may become kinked and therefore obstructed.
- Kitchen, bath, and utility exhaust fans should be used to carry moist air outside.
- Do not try to speed up the evaporation process by creating extremely high temperatures in the wintertime. This will cause the house to dry out unevenly, creating cracks and other problems.



Figure 12: Condensation



Figure 13: Mildew/Mold

IMPORTANT NOTICE

Mold in your home can make you sick, especially if you have allergies or asthma. Whether or not you're allergic to mold, mold exposure can irritate your eyes, skin, nose, throat, and lungs.

COUNTER & VANITY TOPS

Introduction

Kitchen and bathroom countertops are covered with laminate material or cultured marble.

Homeowner's Maintenance Guidelines

Laminate Counter Tops

Clean laminate countertops with a soapy cloth or sponge or use a non-abrasive liquid household cleaner for more stubborn stains. There are one-step cleaning products available for laminates that clean, reduce streaking and leave surfaces polished. As with all cleaning products, carefully follow the manufacturer's instructions.

Caution

- Keep standing water away from the backsplash, side splashes, seams, and seal around the sink. These areas are prone to water damage since excessive moisture will eventually break down the seal and cause swelling or delamination of the countertop. Check seams periodically and re-caulk as necessary.
- If countertops or backsplashes swell or buckle, it may be due to not maintaining the caulking. This is an important part of your routine maintenance. Joints in laminated surfaces should be periodically caulked to maintain a dryer moisture barrier.

Cultured Marble Vanity Tops

Clean cultured marble with a damp cloth and a non-abrasive detergent. When re-caulking, use a flexible caulk. A gel-gloss or aerosol spray may be used for polishing.

Countertop Precautions

- Keep the countertop always dry.
- Excessive heat can cause charring, burning, lifting, or blistering. Do not place hot irons or burning cigarettes directly on countertop surfaces.
- Use protective hot pads or trivets under countertop electrical appliances.
- Always use a cutting board since knives will cut the surface.
- Steam from an open dishwasher may cause swelling and delamination. Allow time for the dishwasher to cool before opening the door. To further reduce moisture damage,
- apply a silicone spray to the underside countertops, directly over the dishwasher and two feet left and right of the dishwasher.
- Do not use clear silicone caulk, as it yellows with age and stains easily.

Ceramic Tile Countertops

Clean countertop tiles with a damp cloth and remove the accumulated film with a soap-less, non-abrasive detergent or tile cleanser. Use a mild vinegar and water solution to remove grease and soap scum. Keep white tile seams clean by brushing with diluted bleach in a well-ventilated room.

Apply a grout sealant with a small brush to reduce grout staining, taking care to keep the sealant off the tile surface.

Caulk cracks and separations of seams adjacent to tile with silicone caulk, taking care to wipe the tile clean once caulking is complete. Do not use clear silicone caulk, as it yellows with age and stains easily.

Countertops can be damaged by dropped objects or by forcefully hitting the counter edges.

Natural Stone Countertops

Granite

Granite is a type of real rock called igneous rock, which means it was once molten and it formed as it cooled deep within the earth. It is extremely hard and durable, and practically scratch-proof. It can be highly polished and shiny or finished in a variety of other ways. Granite countertops are easily cleaned because of their low porosity. Wipe up wet spills immediately, especially acidic liquids like citrus juice, alcohol, or soft drinks.

Notice

- Never wipe countertops with an acidic cleanser (like vinegar or lemon) or harsh chemicals/abrasive cleaners.
- Granite should have a protective sealant applied periodically to prevent staining.

Quartz

Quartz, unlike granite, is virtually non-absorbent and never has to be sealed or polished and is essentially maintenance-free. Only three other natural minerals; diamonds, sapphires, and topaz are harder than quartz making them naturally scratch-resistant. Quartz requires little maintenance. Simply wipe the surface with soap and warm water regularly to maintain its beauty and shine.

Solid Surface Countertops

Manmade such as, but not limited to, Formica, Corian, and Laminate

Caring for your solid surface countertop is as simple as wiping the surface with a damp cloth.

If a stain develops, wipe it away with soap and water. If this does not remove the stain, consult your manufacturer's instructions on products that can be used on your top. Do not expose the surface to harsh chemicals such as paint remover, turpentine, nail polish remover, or stove and drain cleanser. If these chemicals come in contact with the surface, immediately wash them off with water, using appropriate safety measures to avoid injury.

Although solid surfacing can be repaired, certain steps should be taken to protect it. Be sure to use a cutting board instead of cutting directly on the surface. Hot pans and heat-producing appliances, when set directly on the countertop, can mar the product's beauty.



All Home Inspection South Africa Inspectors are Certified Professional Inspectors, associated with InterNACHI

Reg. No 2019/236626/07

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DOORS

Introduction

Your home comes with a variety of doors, which may include interior doors, French doors, louvre doors, and stack doors, sliding glass doors, exterior doors, and garage doors.

Interior Doors

Interior doors expand and contract in reaction to temperature and moisture changes, and will be wider in humid summer periods and narrower during dryer winter months.

Homeowner's Maintenance Guidelines

Sticking Doors

Home settlement or damp weather may cause swelling that puts the doors out of alignment. In some cases, this may only be temporary due to seasonal variations, and the sticking will tend to correct itself without any adjustment.

If door adjustment is required

- Check hinge screws for tightness.
- Fold sandpaper around a wooden block and sand the edge that sticks.
- Also, the use of a bar of soap on the door top and frame may help.
- Always paint or varnish sanded or planed areas to protect the wood from future moisture penetration and sticking.

Door Precautions

Interior doors are usually hollow core and are not designed to support attachments and hanging accessories. Hanging heavy items on doorknobs, or at the top of a door, can damage hardware and hinges. These doors are also undercut to allow air movement.

Slamming

Slamming doors can damage both doors and jambs and can even cause cracking in walls. Teach children not to hang on the door handles and swing back and forth; this will loosen the hardware and cause the door to sag.

Shrinkage

- Use putty, filler, or latex caulk to fill any minor separations that develop at mitred joints in the door trim.
- Always follow up with painting.
- Panels of wood doors shrink and expand in response to changes in temperature and humidity.
- Touching up the paint or stain on unfinished exposed areas is your home maintenance responsibility.

Bi-Fold and Bi-Pass Doors

Keep the door tracks free of paint and dirt, and apply a small amount of silicone spray to the guide edges of the tracks.

Sliding Glass Doors and French Doors

- Keep sprinklers away from sliding glass doors and French doors when watering the lawn.
- Sliding glass doors have been sealed against water, but occasionally, high winds and

driving rains can create a vibration that causes some leakage.

- Neither this nor the water that accumulates in the tracks can be prevented. This is also true for French doors.
- The sliding tracks should be kept clean and free of debris. Rollers should be lubricated and adjusted if needed to maintain a smooth operation.
- Clean glass with a spray glass cleaner and wipe frames with sudsy water and a soft cloth.
- Periodically clean the bottom of the door track and check to ensure that drain holes are clear of obstructions.
- To keep the doors moving freely, apply a silicone spray to the tracks. Do not use oil, which may cause premature deterioration of the rollers.

Exterior Doors

An exterior door that is properly aligned, fitted, weather-stripped, and maintained will help control energy costs. Exterior doors are often steel-clad to prevent warpage and to maximize insulation. An exterior door will warp to some degree, due to temperature differences between the inside and the outside surfaces. Warpage should not exceed 6 mm measured diagonally from corner to corner.

NOTE: *Wood exterior doors should be checked every six months for signs of weathering and repainted as necessary.*

Weatherstripping

Weatherstripping on exterior doors helps maintain the home's energy efficiency, preventing the loss of conditioned air, and reducing the infiltration of outside air. Weatherstripping must remain in place to operate effectively.

Maintenance

- Replace weather stripping that becomes loose or damaged.
- Prolong the life of vinyl and rubber weather stripping by applying a silicone spray.
- The sweep weather stripping at the bottom of the door may require replacement from time to time. To replace, remove the sweep and match with a replacement available at any hardware store.
- To raise or lower the threshold, adjust the screws on the wood or metal portion of the threshold.
- Keep threshold always caulked.
- Keep sprinklers away from doors.

Homeowner's Maintenance Guidelines

- The brass door locks, door handles, hinges, and stoppers used throughout the home are exposed to both inside and outside elements, pollution, extreme elements, and common everyday use.
- This may cause them to discolour or become pitted.
- Clean these with a damp cloth and do not use an abrasive cleanser or solvents. Periodic polishing, following the manufacturer's recommendations, will help maintain the original lustre and appearance.
- Do not use brass polish on lacquered brass parts or fixtures.

Locks

Lubricate door locks with graphite or other waterproof lubricants. Avoid oil, as it will gum up.

Failure to Latch

If a door will not latch because of minor settling, you can correct this by making a new opening in the jamb for the latch plate and raising or lowering the plate accordingly.

Hinges

You can remedy a squeaky door hinge by removing the hinge pin and applying a silicone lubricant to it. Avoid using oil, as it can gum up or attract dirt. Graphite works well as a lubricant but can create a grey smudge on the door or floor covering beneath the hinge if too much is applied.

Keys

Keep a duplicate privacy lock key where children cannot reach it in the event a youngster locks himself or herself in a room. The top edge of the door casing is often used as a place to keep the key. A small screwdriver or similarly shaped device can open some types of privacy locks.

- Your interior door locksets can loosen over time.
- If you notice excessive play in the lockset, we recommend tightening the screws located in the cover plate.
- If the door handle has become inoperative, it could mean that the interior mechanism has slipped out of place.
- Remove the handle and realign the interior mechanism, reset the handle, then tighten the exterior screws.
- Should a lock be hard to operate, apply a graphite lubricant to the keyhole and lock mechanism.
- This will usually help the lock to operate more smoothly.



Figure 14: Exterior Door



Figure 15: Interior Door



Figure 16: Sliding Door

SAFETY TIPS!

- Remember Glass doors are dangerous, always mark glass doors to be clearly visible to the residents.
- Add Window Film where necessary to enhance your security.
- Upgrade the lock mechanisms on your glass doors.



Figure 17: French Doors



Figure 18: Louvre Door



Figure 19: Stack Doors



Figure 20: Two Lever Mortice Lock and Handle



Figure 21: Cylinder Lock



Figure 22: Sliding Door Lock

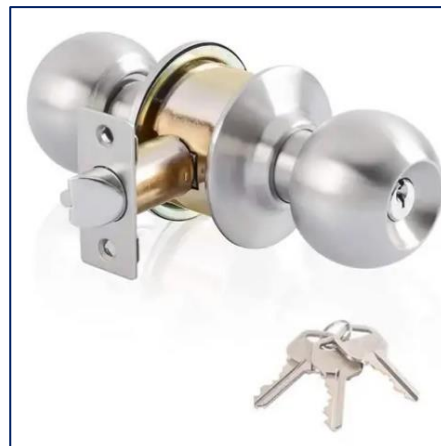


Figure 23: Knob Lock

ELECTRICAL SYSTEM

Introduction

The electrical system in your home is designed for safe, trouble-free service and meets both local and national electrical code requirements. Any alterations or modifications that are done other than by a qualified electrical contractor are illegal and very dangerous.

Homeowner's Maintenance Guidelines

Electrical Safety Cautions

- Do-it-yourself electrical wiring is dangerous.
- Improper electrical wiring is dangerous.
- Improper electrical repairs can endanger the lives of your family and jeopardize your homeowner's insurance in the event of a fire or an electrical injury.
- Always use a licensed electrician to make electrical repairs, adjustments, and additions.

Electrical Storm Caution

It is recommended that you unplug television sets, computers, and telephones during electrical storms.

Power Failure

- If the electrical power goes out, check first to determine if neighbours are also without power and if so, contact the service provider.
- Before attempting to reset the circuit breakers, check that power has been restored to the area. If neighbours have power, check the main circuit breaker in the distribution box.
- See Homeowner's Maintenance Guidelines under Circuit Breakers in this section.
- Be aware that not every electrical power problem is due to problems within the home's electrical system.
- Service Providers experience a variety of situations that affect power supplies, including power surges and interruptions, peak overload periods, and even total shutdowns.

Electric Meter

- The service provider installed an electric meter to measure your electric usage for billing purposes.
- Their invoice is based on kilowatt-hours used over a given time, with a kilowatt-hour being the energy expended by 1000 watts for one hour.
- Should you have any questions about the meter functions, please contact the customer service department at the service provider.

Circuit Breakers

- Electrical wiring and appliances are protected by circuit breakers to stop circuit overloading. The main circuit breaker is in the distribution box, and if tripped for any reason, entirely cuts off all electricity to the house.
- The smaller circuit breakers within the DB box control appliances, wall switches, and lights, and each switch should be clearly marked as to what it controls.
- **Do not tamper with the electrical with wires or switches.**

Circuit Tripping Causes and Remedies

- Thunderstorms, lightning and power failures can cause circuit breakers to trip.
- If only your home is affected, try to reset by switching the breaker to full "OFF" and then back to the full "ON" position.
- If this does not reset the breaker, or if the breaker continues to trip, do not continue resetting

the breaker as this can damage the distribution box, wiring, or the appliance that it controls.

- Call a licensed electrical contractor for a service inspection.

Overloaded circuits can also cause tripping.

- This occurs when too many appliances are used on one circuit.
- To reduce the load, remove plugs of appliances that may cause the overloading, then reset the breaker as described above.
- If you install a microwave oven or other appliances that require large electrical loads, you may need a licensed electrical contractor to add additional wiring to accommodate the load.

Outlets and Wall Switches

If an electrical outlet does not work, check first to make sure that the outlet is not controlled by a wall switch. If the outlet still does not operate, contact an electrical contractor.

Earth Leakage Circuit Breakers

Earth Leakage Circuit Breakers perform the following functions:

- Protection from electrical shock by direct contact, indirect contact, and against the risk of fire due to current leakage.
- This ensures that in the event of an earth fault downstream of the installation, only the defect part is switched off.
- If an earth leakage circuit has tripped press the “RESET” button on the wall plate to restore proper operation.
- If that does not work, check, and reset the circuit breaker in the distribution box first, then press the Earth Leakage Reset button.
- If the outlet still fails, it may indicate an electric short in the appliance.
- If other appliances will not operate, a qualified electrician should be contacted, and the circuit breaker must be replaced.

Arc faults are typically the result of:

- Worn electrical insulation.
- Damaged plugs and appliance cords.
- Punctured electrical cable from errant screws and nails. Loose electrical connections



Figure 24: Earth Leakage



Figure 25: Circuit Breaker

LIGHT FIXTURES

Homeowner's Maintenance Guidelines

Interior and exterior lighting fixtures require periodic Homeowner's Maintenance to preserve the finish. Carefully review and follow the instructions if provided for these fixtures. Interior and exterior fixtures will wear.

Always turn the power off at a wall switch or circuit breaker before cleaning any electrical device. The danger of a severe shock will still exist if the device is turned off with a built-in switch.

Do not use indoor bulbs in outdoor lighting fixtures if the bulb is to be exposed to the weather. Do not use light bulbs with a higher wattage than the maximum wattage stated on the light fixture.

Types of Light Bulbs

Incandescent Light Bulbs

Incandescent light bulbs are extremely old lighting technology that is not very energy efficient. These light bulbs will ultimately be phased out of the South African market.

Compact Florescent Lights (CFLs)

CFLs are considerably more energy efficient than incandescent light bulbs and they also have a much longer life span. Unfortunately, CFLs contain a very small amount of mercury. Mercury is toxic to humans and as a result, careful precautions need to be taken if a CFL is broken. In addition, they require responsible disposal as mercury constitutes hazardous waste.

Light-Emitting Diodes (LEDs)

LEDs use about 90% less energy and last up to 25 times longer than traditional incandescent, making them the most energy-efficient light bulb on the market. You can use them with some dimmer switches and motion sensors and they're the most durable option for outdoor lighting.



Figure 26: Incandescent Light Bulb



Figure 27: Compact Florescent Light



Figure 28: Light- Emitting Diode

ELECTRIC WALL PLUGS (SOCKETS)

In South Africa, there are four associated plug types C, M, and N.

Plug Type C

This two-wire plug is ungrounded, unpolarized, and has two round prongs. is the plug which has two round pins. The 'normal', most common type C plug, rated at 2.5 amperes, is only used for low energy-consuming appliances.



Figure 29: Plug Type C (2.5 Amp)



Figure 30: Plug Type C (16 Amp)

Plug Types M & N

M and N both have three-round pins.

In South Africa, we operate on a 230V supply voltage and 50Hz

Type M is a 15-amp plug, and it has three round prongs that form a triangle. The plug often has insulated sleeves on the pins to prevent accidental contact with a bare connector while the plug is partially inserted.



Figure 31: Plug Types M&N

SAFETY FIRST!

Look for the SABS sign and only use SABS-approved plugs.

Do not overload plugs – rather use an adaptor.

Do not pull a plug by the cord.

Switch the switch off at the wall socket, before pulling the plug out.

Do not connect electrical appliances to light sockets.

Ensure that all wall sockets have their switches in the "off" mode, when not in use.

Never put bare wires into sockets.

Do not stick fingers into sockets.

If there are babies in the house, ensure that wall sockets are covered with a safety cap

FIREPLACES

Introduction

In South Africa we commonly find the following types of Fireplaces:

Closed Slow Combustion Fireplace



Figure 32: Slow Combustion Fireplace

Flueless Gas Fireplace



Figure 33: Flueless Gas Fireplace

Open Wood Fireplace



Figure 34: Open Wood Fireplace

Built-in Fireplace



Figure 35: Built- In Fireplace

Important Notice!

Fireplace Safety

Can fireplaces start a house fire?

Yes, fireplaces can start a house fire! Many people don't realize the possible dangers fireplaces pose. These dangers can be caused by such things as lack of maintenance or incorrect installation.

How do fireplaces fail?

- Creosote Build-up. (This build-up is highly combustible and can be ignited, causing a chimney fire)
- Chimney Failure. (Clay flue liners are susceptible to cracks. When cracks occur, hot gases can escape into the fireplace chase or into the home, sometimes causing carbon monoxide to enter, as well)
- Improper Maintenance (In addition to cleaning the unit, proper fireplace maintenance is also mandatory)
- Improper Installation. (Many substantial fires are caused because of incorrect installation, incorrect clearances, improper venting, incorrect rough in of the surrounding chase, and insulation)
- Negative Pressure and Carbon Monoxide (Many people aren't aware of the dangers caused by negative pressure and carbon monoxide)

Homeowner's Maintenance Guidelines

- **Fireplace Equipment**
A set of fireplace tools, available from a local fireplace equipment shop, will help you handle logs, stoke the flames, and shovel out cold ashes.
- **Fireplace Inspections**
A clean, unobstructed fireplace and chimney are important for safe fireplace operation. Have a fireplace chimney company inspect the fireplace and chimney annually for soot build-up and appropriate cleaning. Inspect the hearth and liner for loose or cracked firebrick.

Gas Fireplace

- If you have a gas fireplace, supplying the source for the gas is usually the homeowner's responsibility.
- If you have this type of fireplace, read, and follow all of the manufacturer's directions.
- A slight delay between turning the switch "on" and the flame ignition is normal. The flames should ignite gently and silently. If you notice any deviation from this and/or any gas smell, immediately shut off the switch and report it to the gas company.
- Excessive winds can cause a downdraft which can blow out the pilot, requiring you to relight it before using the fireplace.
- The exterior vent cover for a direct-vent gas fireplace becomes extremely hot when the fireplace is operating.

Checklist for Safe Fireplace Use

- Always keep a fire extinguisher in the house using the fireplace.
- Open the flue damper and outside air vent fully, and visually check that the flue is not obstructed.
- Clear obstructions and ashes.
- Use a steel or cast-iron grate to elevate the wood above the fireplace brick.
- Do not build fires on the fireplace floor.

FLOORING

Introduction

Your home may be finished with a variety of flooring materials, including carpet, vinyl, hardwood and ceramic tiles.

Carpets

The carpet is durable and requires minimal care. Colour variations and shading may be noticeable and depend upon the surface texture and pile fibres of the carpet.

Homeowner's Maintenance Guidelines

- Frequent vacuuming and immediate stain removal are primary carpet care steps. When using carpet cleaners, carefully follow the manufacturer's instructions.
- While normal vacuuming will only remove loose fibres from carpet yarns, an occasional tuft may be lifted above the surface. Do not pull out the tuft, just snip it off with scissors to the length of the other tufts.
- Colour fading and spots caused by sunlight are normal and can be minimized by using the draperies during the day, or by using sheer drapes to reduce incoming sunlight. Some colours may fade faster than others.
- Change filters in your heating and air conditioning systems regularly or when dirty.
- Dust, pollen, and smoke will settle on your carpets and increase staining and soiling.
- When a spill occurs, immediately blot it firmly with a dry, white paper towel or rag.
- Do not rub the spot as it will damage your carpet's tufts and may permanently alter your carpet's appearance.
- If stain remains, spray with cold water and blot again. Repeat if necessary.

Cleaning

You can add years to the life of your carpet with regular care. Carpet wears out because of foot traffic and dirt particles that get trampled deep into the pile beyond the suction of a vacuum.

The dirt particles wear down the fibres like sandpaper and dull the carpet. The most important thing you can do to protect your carpet is vacuum it frequently.

Vacuum twice each week lightly and once a week thoroughly. Heavy traffic areas may require more frequent cleaning. A light vacuuming is three passes; a thorough job may need several passes. A vacuum cleaner with a beater-bar agitates the pile and is more effective in bringing dirt to the surface for easy removal.

Vacuuming high-traffic areas daily help keep them clean. Wipe spills and clean stains immediately. For best results, blot or dab any spill or stain; avoid rubbing. Test stain removers on an out-of-the-way area of the carpet, such as in a closet, to check for any undesirable effects. Have your carpet professionally cleaned regularly, usually once a year.

Some problem conditions that may occur with your carpet and our suggested remedies are presented below:

Stains

No carpet is stain-proof. Although your carpet manufacturer designates your carpet as stain-resistant, some substances may still cause permanent staining.

Cleaning Stains

- First, scoop up or blot as much of the spill as possible from the carpet. With a white cloth rag, blot from the edges toward the centre of the stain until dry.
- For asphalt, butter, chocolate, cooking oil, furniture polish, grease, food, lipstick, mascara, oil, shoe polish, or tar, apply a small amount of dry-cleaning fluid (the non-oil type commonly used for spot removal from garments) to a dry, white cloth towel and blot. Repeat and blot with paper towels until the spot is dry.
- For ice cream, latex paint, excrement, mayonnaise, milk, vomit, and white wine, apply a small amount of detergent or a recommended cleaner or solvent to a dry, white cloth towel and blot. Repeat and blot with paper towels until the spot is dry.
- For fruit drinks, berries, blood, coffee, fruit juice, ketchup, mustard, soft drinks, tea, and red wine mix 1/2 cup household hydrogen peroxide with one teaspoon clear ammonia and dampen the spot with a small amount of the mixture. Let stand for two to three hours under a weighted sheet of plastic wrap. Blot with paper towels until dry. Apply a little undiluted white vinegar only after the stain is removed.

NEVER APPLY DETERGENTS OR STAIN REMOVER DIRECTLY TO THE CARPET!

This could cause permanent discoloration. For recommended cleaners and solvents, call the fibre producer. When a stain reappears after cleaning, it means all the stain and cleaners were not removed completely. Re-cleaning is necessary. Always rinse your carpet thoroughly to remove any detergent residue.

Burns

Take care of any kind of burn immediately. First, snip off the darkened fibres. Then use a soap-less cleaner and sponge with water. If the burn is extensive, talk with a professional about replacing the damaged area.

Crushing

Furniture and traffic may crush a carpet's pile fibres. Frequent vacuuming in high-traffic areas and glides or cups under heavy pieces of furniture can help prevent this. Rotating your furniture to change the traffic pattern in a room promotes more even wear. Some carpets resist matting and crushing because of their level of fibre, but this does not imply or guarantee that no matting or crushing will occur. Heavy traffic areas such as halls and stairways are more susceptible to wear and crushing. This is considered normal wear.

Fading

Science has yet to develop a colour that will not fade with time. All carpets will slowly lose some colour due to natural and artificial forces in the environment. You can delay this process by frequently removing soil with vacuuming, regularly changing air filters in heating and air conditioning systems, keeping humidity and room temperature from getting too high, and reducing sunlight exposure with window coverings.

Rippling

With wall-to-wall carpeting, high humidity may cause rippling. Prolonged or extreme cold and heat can also cause rippling. If the carpet remains rippled after the humidity has left, have a professional re-stretch the carpeting using a power stretcher, not a knee kicker.

Seams

Carpet usually comes in 3.5 Meters widths, making seams necessary in most rooms. Visible seams are not a defect unless they have been improperly made or unless the material has a defect,

making the seam appear more pronounced than normal. The denser and uniform the carpet texture, the more visible the seams will be. Carpet styles with low, tight naps result in the most visible seams. Seams are never more visible than when the carpet is first installed. Usually with time, use and vacuuming, the seams become less visible. You can see examples of how carpet seams diminish after they have been vacuumed and have experienced traffic in the model homes.

Shading

Shading is an inherent quality of fine-cut pile carpets. Household traffic causes pile fibres to assume different angles; as a result, the carpet appears darker and lighter in these areas. A good vacuuming, which makes the pile all go in the same direction, provides a temporary remedy.

Shedding

New carpeting, especially pile, sheds bits of fibre for a period. Eventually, these loose fibres are removed by vacuuming. Shedding will usually occur more with wool carpeting than with nylon or other synthetics.

Ceramic Tile Floors

Ceramic tile is easy to maintain and impervious to water. The grout joints are not waterproof and require special attention to prevent water seepage. Cracks appearing in the grouting of tile joints or at junctions with other materials (i.e., baseboards) should be maintained by the homeowner.

Homeowner's Maintenance Guidelines

Glazed and unglazed tile floors

Vacuum regularly to remove gritty particles. Damp mop using a solution of water and soap with less detergent. If stained, use scouring powder paste. Let stand five minutes, brush, and scrub. Rinse and dry.

- Never use abrasive cleaners or harsh chemicals or solvents on ceramic tile.
- Unglazed tiles may need to be sealed regularly.
- Wipe off spills immediately.

Never use harsh cleaning agents, such as steel wool pads, which can scratch or damage the surface of your tile.

Marble and Granite Floors

Marble and granite floors are natural products and have a wide range of stain resistance. Marble is more porous than granite. However, certain marbles can stain quite readily. Common household liquids such as orange juice, nail polish remover, shampoo, and even water can cause serious stains in certain marble. Granite, on the other hand, is very stain resistant.

Homeowner's Maintenance Guidelines

- Use only warm water.
- Never use vinegar as it damages marble surfaces.
- Ring out all excess moisture from a towel or damp mop, immediately followed with a dry towel.
- Always dry floors, especially marble as they can spot easily.
- Clean spills immediately.
- Natural pH breathable sealers are recommended regularly for both marble and granite.

Hardwood Floors

Most hardwood floors are pre-finished at the factory with a baked-on wax coating or a urethane coating. Wood floor tone, grain, and colour variations are normal and reflect the natural characteristics of real hardwood.

Homeowner's Maintenance Guidelines

- Prior to cleaning your hardwood floors, carefully read and follow the manufacturer's instructions and recommendations.
- Use entrance rugs or mats to protect wood flooring from dirt and water spots. Do not use rubber-backed mats as they will remove the finish.
- Mop up water spills immediately. Do not set potted plants directly on a hardwood floor as moisture can leak through and cause permanent staining and warpage.
- Attach furniture protectors to the bottom of furniture legs to protect the hardwood flooring from scuffing and surface damage. High-heeled shoes and the constant moving of chairs can damage hardwood floors.
- Extra care is required to keep hardwood floors dry and to promptly mitigate any unusual water intrusion that could occur.

Wood Laminate Floors

Homeowner's Maintenance Guidelines - Wood or Laminate Floors

General Cleaning

Use a clean dust mop (be sure there is no residue from polishes or cleaners used on other types of flooring).

Damp Mopping

Use a cotton or cloth mop and clear, warm water. For heavier cleaning, use a solution of one-cup household vinegar to one gallon of warm water, or 1/4 cup of household ammonia to 4 Litres of warm water. Only dampen the mop slightly to avoid leaving water marks.

Oily soaps can leave residue on wood floors that can deteriorate the wood sealant over time.

Stain Removal

To remove scuff marks, crayons, ink markers, or glue haze from a newly installed floor, use acetone or denatured alcohol and a soft cloth.



Reg. No 2019/236626/07

Directors: W. Lamprecht (ZA) G. Williams (ZA) H. Venter (ZA) S. Cochrane (ZA)

INTERIOR WALLS & CEILINGS

INTERIOR WALLS

Introduction

Your home has two types of walls:
Load-bearing Walls and Non-load-bearing Walls.

Important Notice

Any alteration of load-bearing walls may reduce the strength of the structure by altering its unit load capacity, its load bearing, or support capacity.

Homeowner's Maintenance Guidelines

Walls should protect, but a dirty wall could be full of germs, mold, and dust particles that might be harmful to your loved one's health. It might seem like a no-brainer that we should be cleaning walls, but how exactly do you clean a wall?

For dusty walls.

- For cleaning painted walls every day, dusting is sufficient. A duster with an extension handle works on most walls.
- Did you know that vacuums aren't just for carpets? You can vacuum walls too.
- Consider cleaning your walls with the smooth brush attachment of your vacuum cleaner.

For dirty walls.

Dusting won't clean a dirty wall. You'll need to wash it. Use a half-cup of a multipurpose cleaner mixed with a bucket of water. This solution is all that you'll need to clean a filthy wall. Multipurpose cleaners have the added benefit of making your home smell fresh and clean.

For satin paint.

When washing painted walls, it's important to take the type of paint into account. For satin or semi-gloss paint, a damp cloth is the best way to clean walls.

For matte paint.

A matte finish paint requires different cleaning practices. To clean these types of paint, use a dry melamine sponge. Melamine sponges remove oil stains, grease, crayons, and marker ink from painted walls. *Remember to do a spot check to ensure that your preferred method of cleaning walls will not remove the paint.

How To Remove Ink, Marker, and Crayon from Interior Walls?

Some stains are stubborn, but these tips make cleaning painted walls a breeze.

- **Ink or marker** – To remove ink and marker stains, spray the area with aerosol hairspray. You could also dab it with rubbing alcohol.
- **Crayon** – For crayons, rub the area with toothpaste (not the gel type) and then wipe it clean with a damp sponge.
- Another way to clean crayon marks is by creating a paste using a tablespoon of baking soda and half a tablespoon of water. Dip an old toothbrush into the paste and brush it onto the wall. Scrub in a circular motion until the crayon marks disappear. Wipe the area with a clean wet washcloth when you're through.

General Maintenance

- Walls should be inspected for cracks in interior finishes and any damp areas.
- Fill any cracks and voids to allow for easy monitoring of movement between inspections.
- Note any water stains on the interiors and monitor regularly.
- Moisture or dampness within walls will cause paint to bubble, and dampness in the ceiling could cause sagging or even collapse.
- Mildew formation in a bathroom is a result of steam build-up and condensation on walls and ceilings. It is a common misunderstanding that opening a window will remedy this

Fixing cracks in walls due to old paint

- First, check whether the crack is indicative of any structural damage
- Check whether the wall is damaged, or you've just lost a few layers of paint.
- Surface paint damage doesn't require any structural work which makes fixing it much easier.
- Remove any remaining paint from that area of the wall and look for signs of flaking.
- Sand and clean the surface.
- Apply a small amount of multi-purpose filler to the hole. Smooth it out and leave it to set.
- Once dried, sand the area until it's flat with the surrounding wall.
- Paint the patch to match the wall. You will likely need to give the whole wall a fresh coat to get an even finish.
- If in doubt about any of these methods, speak to a professional and get assistance.

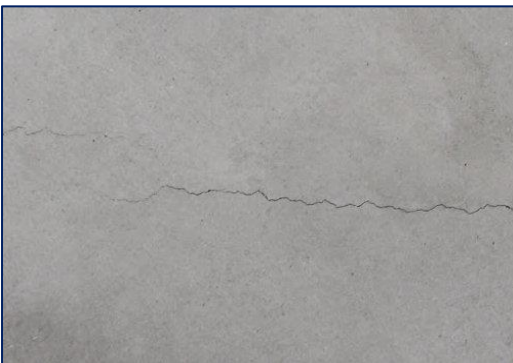


Figure 36: Hairline Cracks



Figure 37: Moisture Intrusion



Figure 38: Blistering Paint



Figure 39: Structural Crack

CEILINGS

Introduction

Ceilings help create an enclosure and separation between spaces, they help to control the diffusion of light and sound around a room and help prevent the passage of sound between rooms. They have fire-resistant properties and may also accommodate building services such as vents, and lighting, as well as being able to conceal other services such as ducts, pipes, and wiring.

RhinoBoard is plasterboard consisting of an aerated or foamed gypsum core encased in and firmly bonded to special paper liners. RhinoBoard is non-combustible and is frequently used as a lining in the fire-rated ceiling

Homeowner's Maintenance Guidelines

It is important to inspect your ceiling regularly.

- If there appears to be mildew anywhere on your ceiling, this is a giveaway that water damage has occurred. In addition, a staining pattern might indicate water/moisture seepage from above.
- This all indicates water or moisture is coming through the ceiling either from a leak or leaks in the roof or possibly, failing that there could be a problem with the geyser.
- If there is indeed a water problem, then there is absolutely no point in repainting the ceiling until the source has been located and rectified.
- You will need to get into the ceiling space and check for any wet areas on the trusses or upper surface of the ceiling over the room, particularly during or just after rainfall when drips may be spotted.
- One could also get on the roof and check for cracked or broken tiles and seal or replace them.
- Once all leaks have been rectified, allow a good couple of weeks of warm weather to give the ceiling time to dry thoroughly and in the interim, brush off any mildew.
- After that, the ceiling will need probably at least two coats, perhaps three over badly stained areas, of good quality ceiling paint. The first coat hides the staining as much as possible, and the second coat obscures them completely for a uniform finish.



Figure 40: Cracked Ceiling



Figure 41: Water-Stained Ceiling



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PLUMBING

Introduction

Only a licensed plumbing contractor should install plumbing pipes and systems in your home.

In most cases, minimum Homeowner's Maintenance is all that the plumbing system requires. Attending to small problems as they occur keeps them from becoming larger, more costly problems later.

Water Pipes

Your home is served by a well or a city water supply. The pipes that carry water into the home are designed to resist rust and corrosion.

Homeowner's Maintenance Guidelines

Noisy Pipes

Noisy water pipes should be corrected immediately since the resulting vibrations can damage plumbing line fittings and cause them to leak.

Noisy pipe problems can be identified and corrected as follows

- The water heater temperature may be set too high, producing steam in the pipes. To resolve, gradually reduce the water heater temperature setting until the steam is reduced.
- Abruptly turning off a tap in areas with high water pressure can produce a pounding or knocking sound. To resolve, slightly close the main shut-off.
- Air can get into the pipes; to resolve, open all interior and exterior taps and run for a few minutes, allowing all air to pass through the system.

Freezing Pipes

Internal Pipes

Provided the home is heated at a normal level, interior pipes should not freeze. Set heat at 20° C if you are away during the winter months.

External Pipes

To keep exterior pipes from freezing, protect them with polyethylene pipe insulation and duct tape. In your home, turn the heat on until the weather warms up, and keep your cabinet doors open underneath your sink.

Main Shut-off Valve

This is the centre of the plumbing system, the point at which the main water line comes into the home. If a major plumbing problem occurs, turn off the main shut-off valve to prevent flooding. It is a good idea to show every family member where the shut-off valve is, explain how to close it in case of an emergency, and mark it with an easy-to-locate identification tag.



Water Intake Valves

Most plumbing fixtures in the home have a water intake valve to individually shut off the water to that fixture for minor repairs and emergencies. Show family members how to operate them and where they are located on sinks, bathtubs, toilets, washing machines, and laundry tubs. Toilet valves are behind the toilet and sink valves are under the sink.

Drain Traps

Every plumbing fixture in the home is equipped with a drain trap, an S-shaped pipe that holds water and acts as a barrier to keep airborne bacteria and sewer gas odours from coming back into the home. If a sink or bathtub fixture is not used frequently, turn it on periodically to replace evaporating water and to keep the water trap barrier intact.

Cleaning Guidelines

Drain traps can be cleaned by putting three tablespoons of ordinary dishwashing detergent into the drain. Add a little hot water, let stand for 15 minutes, then flush with hot water. Use a rubber plunger to unclog a blocked toilet.

Caution

Do not pour grease into drains or toilets or use caustic cleansers to open plugged drains. Do not use a plunger with any drain cleaning chemical. When using a chemical drain cleaner, carefully follow the manufacturer's safety precautions and product directions.

Homeowner's Maintenance Guidelines

Do not put hair, grease, lint, garbage, heavy tissue, disposable diapers, or sanitary materials into the sewer system.

Tree roots causing breaks in sewer lines or main lines should be removed.

Septic Tanks

The septic tank is primarily a holding tank, generally made of concrete or fiberglass, for all the waste coming from your home by way of the kitchen sink, bathrooms, laundry tubs, and washing machines.

Homeowners are responsible for the proper maintenance of the septic tank. For best results, inspect your septic tank and the drainage field area at least once a year.

The frequency of septic tank cleanings varies depending on the tank size, daily sewage intake, and the number of people it serves. Generally, septic tanks should be cleaned every two years.

Cleaning a septic tank requires special knowledge and tools. This is not recommended as a "do-it-yourself" project.

Do not allow petroleum products, paint thinners, solvents, harsh chemicals, cleaning fluids, dyes, excessive amounts of bleach, cigarettes, dental floss, kitty litter, sanitary napkins, or plastics to enter the septic system.

Do not connect roof drains or allow backwash from a water softener to enter the septic tank system. Vehicles should not be driven or parked over septic tanks or drainage fields. Trees and shrubbery should not be planted in the drain field.

Warning signals that something is wrong

- You notice that the wastewater backs up or the toilet bowl does not drain properly when you flush a toilet.
- Wastewater backs up in any other drain.
- "Gurgling" sound in the plumbing.
- The grass in the yard grows faster and is greener in one area, especially along the path that leads to the septic tank.
- The ground is mushy underfoot in one area of the yard.
- Obnoxious odours inside or outside the home, especially around drains.

Plumbing Fixtures

Introduction

The plumbing fixtures in most homes include the water heater, bathtubs, showers, toilets, and sinks.

Note: As equipment technology changes frequently, the manufacturer's service manuals will supersede all recommendations and procedures contained in this manual.

Geyser

The electric geyser is equipped with an automatic temperature and pressure relief valve, a safety feature that opens and releases excessive pressure or heat build-up. Should this occur, water will flow from the tank until both temperature and pressure are reduced to safe levels.

1. Geyser Element
2. Thermostat
3. Sacrificial Anode
4. Pressure Valve
5. Drain Cock
6. Safety Valve
7. Geyser Tank
8. Geyser Label and Size
9. Geyser Insulation
10. Drip Tray
11. Waste Pipe
12. Vacuum Breakers
13. Galvanised Outer Cylinder
14. Copper Piping and Fittings

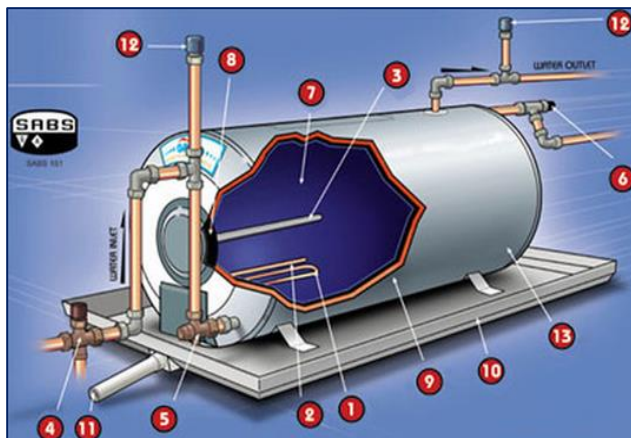


Figure 42: Insulated Geyser

Homeowner's Maintenance Guidelines

Insulate your geyser with a geyser blanket.

This prevents heat loss, reducing the cost of electricity needed to keep water hot.



Figure 43: Geyser Drip Tray

Drip Tray.

Check that you have a drip tray and that it can safely drain away any leaks from a burst geyser

Hot Water Temperature

What should the geyser thermostat temperature be set at? The ideal setting is 50 to 55 degrees in summer and 60 to 65 degrees in winter. The setting should never be lower than 50 degrees as will promote bacterial growth in the water.

Lime Scale Build-Up

Over time limescale will build up inside all your plumbing pipes including piping that is used for the washing machine, dishwasher air conditioner, heat pump, and solar geyser.

The clogging of the pipes goes mostly unseen but the older your home gets you will notice that the water flow is not as strong as it should be.



Figure 44: Lime Scale Build Up

Thermostat Cover

There should be a cover over the thermostat and element. These are often just left lying next to the geyser.

Element Cleaning or Replacing

The heating elements in the water heater will require periodic cleaning. The frequency is determined in part by the quality of the water in your area. Again, refer to the manufacturer's literature for step-by-step instructions and drawings, or contact an authorized service company.

Pressure Relief Valve



Figure 45: Pressure Relieve Valve

A pressure relief valve refers to a valve within a pressurized system that is used to control pressure for the optimal functionality of the system. Relief valves are designed to help your facility avoid system failures and protect equipment from over-pressurized conditions. At least once each year, manually operate the pressure relief valve. Stay clear of the discharge line to avoid injury. See manufacturer's literature for diagrams and detailed instructions.

Vacuum breaker

If your geyser drains when you have a water outage, there is a high likelihood that your element will burn out. When there is no water around the element the thermostat does not pick up that the element is hot, and it continues to heat up until the inner resistance wire burns out.

To stop this from happening you need a fully functioning set of vacuum breakers on the cold inlet and hot outlet pipes at the

geyser. This will stop the geyser from back siphoning out. If you have these vacuum breakers already installed and the geyser still drains, you have a faulty vacuum breaker that is sticking in the closed position. Replacing the offending vacuum breaker will solve your problems.

Fixtures

Kitchen and bathroom sinks, toilets and bathtubs are made with cultured marble, plastic, fiberglass, stainless steel, or steel finished with porcelain.

Homeowner's Maintenance Guidelines

To clean, use a non-abrasive spray cleanser and sponge. Dropping heavy objects onto porcelain or fiberglass can chip or crack the surface and may produce permanent staining. Do not leave steel wool pads on sink surfaces, as they will rust and stain the surface.

Be aware that continuous-action toilet bowl cleansers, placed in the toilet water tank, will prematurely wear out the rubber tank flapper and may discolour the bowl. Follow the manufacturer's

recommendations for cleaning and maintenance.

Kitchen Sinks/Stainless Steel

Homeowner's Maintenance Guidelines

For routine cleaning, use a non-abrasive household cleanser with warm water and a sponge. Do not scrape the surface with utensils, pots, or pans. Do not leave leftovers in the sink or strainer, particularly tea bags and coffee grounds, which contain harmful acids. Regular washing soap (**not baking soda**) should be added to the drain to keep it grease and soap-free.

Do not clean stainless steel sinks with steel wool or metal brushes, and do not leave rubber mats in the sink since they trap water and produce surface discolouration. To restore lustre to stainless steel, apply a small amount of mineral oil with a soft cloth, then wipe dry.

Bathroom Sinks

Homeowner's Maintenance Guidelines

Sink surfaces can be easily chipped and stained, so treat them accordingly. Prevent hair accumulation clogs by periodically removing the stopper for cleaning or purchasing a rubber hair collector. Avoid setting lit cigarettes on the edge of the sink, as they will burn and permanently damage the surface.

Toilets

Running Toilets

To stop running water in the toilet, check the shut-off float in the tank. You will most likely find it has lifted too high in the tank, preventing the valve from shutting off completely. In this case, gently bend the float rod down until it stops the water at the correct level. The float should be free and not rub the side of the tank or any other parts. Also, check the chain on the flush handle. If it is too tight, it will prevent the rubber stopper at the bottom of the tank from sealing, resulting in running water.

Bathtubs, Showers, and Tub Shower Combinations

Homeowner's Maintenance Guidelines

Cleaning

- Clean porcelain-on-steel bathtubs, cultured marble tubs and sinks, fiberglass showers, tub/shower combinations, and shower stall floors with warm water and a non-abrasive cleanser. Clean glass shower doors with a commercial glass cleaner. Check bathtub stoppers and shower floor drain grates for hair accumulation. Do not use ammonia-based cleaners. Gel-Gloss is recommended for polishing cultured marble.
- Do not step into a bathtub or tub/shower with shoes on. Gritty particles adhere to your shoe soles and will scratch the finish.

Re-caulking of Tubs and Showers

Over time, cracks and separations between tub or shower stall and wall surfaces or bathroom floors will appear. Maintaining these areas is critical since excessive moisture can severely damage underlying materials.

It will be necessary to re-apply a tub and tile caulk when the previous caulking has dried out or eroded. To re-caulk, the area, use a tub and tile caulk available in local hardware stores. Do not use clear silicone caulk, as it yellows with age. Begin by removing the old caulk and cleaning the area.

Once the area is dry, apply fresh caulking to fill the vacant space, then smooth out the finish with a wet finger.

Interior Taps

Interior taps are either single-lever or washer taps.

Homeowner's Maintenance Guidelines

Single-Lever Taps

The single-lever kitchen and bath taps are low-maintenance, washer less. Should the cartridge ever need to be replaced, turn off the water supply under the sink, remove the handle assembly, and pull the cartridge out. Take the cartridge to a local plumbing supplier and match, accordingly, being sure to follow installation instructions.

Polished Brass Fixtures

Polished brass in humid regions is sure to pit and tarnish. Besides the climate, there may be other catalysts that cause this reaction to occur. Cleaning agents, standing water, shampoos, toothpaste, and personal hygiene products are among the items that may heighten the tarnishing and pitting process. Any cleaning agent that contains harsh chemicals will most certainly wear through the protective coating applied to brass. The manufacturers of polished brass recommend the use of plain water and polishing with a soft cloth.

Chrome Taps

Chrome taps should be cleaned with a soft damp cloth and a commercially accepted cleaner. Dry the tap with a soft cloth. Never use an abrasive or ammonia-based cleaner.

Washer Taps

A washer tap has a shut-off feature that requires light closing pressure to stop the flow of water. Do not apply too much pressure since washers can be damaged.

Washer Replacement

Dripping taps can dramatically increase water bills and represent the loss of a valuable natural resource. Over time, all washers will wear out and must be replaced. Neglecting to change washers may cause damage to the valve seat or the entire tap. Many homeowners prefer to do this simple replacement procedure themselves.

- Turn off the water supply intake valve located under the sink.
- Using a wide-jaw wrench, remove the hexagonal cap from the top of the tap assembly. This may take just a turn or two.
- Remove the inside part, turn it upside down and you will see a fibre washer held by a screw through its centre. This is the source of the leak. The screw can easily be removed, but the washer itself may take a little prying to remove.
- Match the new washer to the worn-out washer and replace it. Re-use the same screw if it is in good condition.
- Then, reassemble the tap.

Exterior Taps

To replace washers on standard exterior taps, follow the same procedure for washer replacement as stated above.

Check for leaks and replace washers as required since a leaking exterior tap can cause water damage.

Water Back-flow Prevention

Most new homes have a vacuum breaker installed on the exterior hose tap. This device prevents back-flow and stops potentially contaminated water from flowing back into the home water supply system via the garden hose. These devices are a plumbing code requirement and may not be removed.

With a vacuum breaker installed, it is normal to hear a humming or vibrating noise throughout the home when the exterior tap is on. This is caused by the washers built into the backflow preventer and is not a reason for concern.



Figure 46: Toilet Cistern



Figure 47: Single Lever Tap



Figure 48: Tap Washer Replacement



Figure 49: Single Lever Cartridge

IMPORTANT NOTICE

Preservation of Water

Water conservation has become essential in all regions, even where water seems abundant. That's because our water resources are finite, and they are getting smaller every year.

Why Conserve Water?

In addition to saving money on your utility bill, water conservation helps prevent water pollution in nearby lakes, and rivers. Conserving water also prevents greenhouse gas emissions associated with treating and distributing water. Overloading municipal sewer systems can also cause untreated sewage to flow to lakes and rivers. The smaller the amount of water flowing through these systems, the lower the likelihood of pollution. In some communities, costly sewage system expansion has been avoided by community-wide household water conservation.

Water Conservation in the Home

Toilets

- **Don't Use the Toilet as an Ashtray or Wastebasket.** Every time you flush a cigarette butt, facial tissue, or another small bit of trash, you're wasting many litres of water. Put them in the garbage, or better yet, recycle them.
- **Put a Plastic Bottle in Your Toilet Tank.** To cut down on water waste, put some pebbles inside the plastic bottle. Fill the bottle with water, screw the lid on, and put it in your toilet tank, safely away from the operating mechanisms. This may save up to 40 litres of water per day.



Figure 50: Bottle in Cistern

Taps and Sinks

- **Fit Household Taps with Aerators.** This easy and effective home water conservation method is also the cheapest! A simple low-flow aerator saves water in the bathroom.
- **Turn Off the Water After You Wet Your Toothbrush.** There is no need to keep the water running while brushing your teeth. Just wet your brush and fill a glass for mouth rinsing.
- **Rinse Your Razor in the Sink.** Fill the sink with a few centimetres of warm water. This will rinse your razor just as well as running water, with far less waste of water.



Figure 51: Water Saving Aerator

- **Choose the Dishwasher Over Hand Washing.** It may seem counterintuitive, but it turns out washing dishes by hand uses a lot more water than running the dishwasher, even more so if you have a water-conserving model. The EPA estimates an efficient dishwasher uses half as much water, saving close to 5,000 litres each year.
- **When Washing Dishes by Hand, Don't Leave the Water Running for Rinsing.** If you have a double basin, fill one with soapy water and one with rinse water. If you have a single-basin sink, gather washed dishes in a dish rack and rinse them with a spray device or a pan full of hot water. Dual-swivel aerators are available to make this easier. If using a dishwasher, there is usually no need to pre-rinse the dishes.
- **Don't Let the Tap Run While You Clean Vegetables.** Just rinse them in a stoppered sink or a pan of clean water.
- **Keep a Bottle of Drinking Water in the Fridge.** Running tap water to cool it off for drinking water is wasteful. Store drinking water in the fridge in a safe drinking bottle.

Water Leaks

- **Check Taps and Pipes for Leaks.** A small drip from a worn tap washer can waste 80 litres of water per day. Larger leaks can waste hundreds of litres. Some tap leaks are easily spotted, but others take a little more effort to locate. Dry sinks and tubs thoroughly and allow to sit for an hour. If you notice wetness, you've found a leak. To find leaks from tap handles, dry the area around them before running water. You'll see water collecting next to them if there's a leak.
- **Check Your Toilets for Leaks.** Put a little food colouring in your toilet tank. If, without flushing, the colour begins to appear in the bowl within 30 minutes, you have a leak that should be repaired immediately. Most replacement parts are inexpensive and easy to install.



Figure 52: Leaking Tap

Water Conservation in the Yard and Garden - Outside Your Home

Don't Run the Hose While Washing Your Car

Clean the car using a pail of soapy water. Use the hose only for rinsing; this simple practice can save as much as 100 litres when washing a car. Use a spray nozzle when rinsing for more efficient use of water. Better yet, use a waterless car washing system.

Use a Broom, not a Hose, to Clean Driveways and Sidewalks

Blasting leaves or stains off your walkways with water is one way to remove them but brushing with a broom to first loosen the dirt and grime will decrease your water use and save you time in the long run.

Cover Swimming Pools to Reduce Evaporation

Swimming pools can lose an inch or more of water each week to evaporation. Temperature, humidity, wind, and the way the pool is situated can all affect how quickly water evaporates. To save thousands of litres of pool water each season, get a cover for your pool.



Figure 53: Covered Pool

Check for Leaks in Pipes, Hoses, taps and Couplings

Leaks outside the house may not seem as bad since they're not as visible. But they can be just as wasteful as leaks indoors. Check frequently to keep them drip-free. Use hose washers at spigots and hose connections to eliminate leaks.

Reuse Wastewater Where Possible

"Grey water" is the water draining from your house's sinks, bathtubs, and laundry machine, which can be used to water plants (as opposed to "black water" from toilets, which needs to be treated). You can harvest grey water in a small way with a bucket in your kitchen or shower, or install a grey water system, which reroutes water from your drains to your landscape.

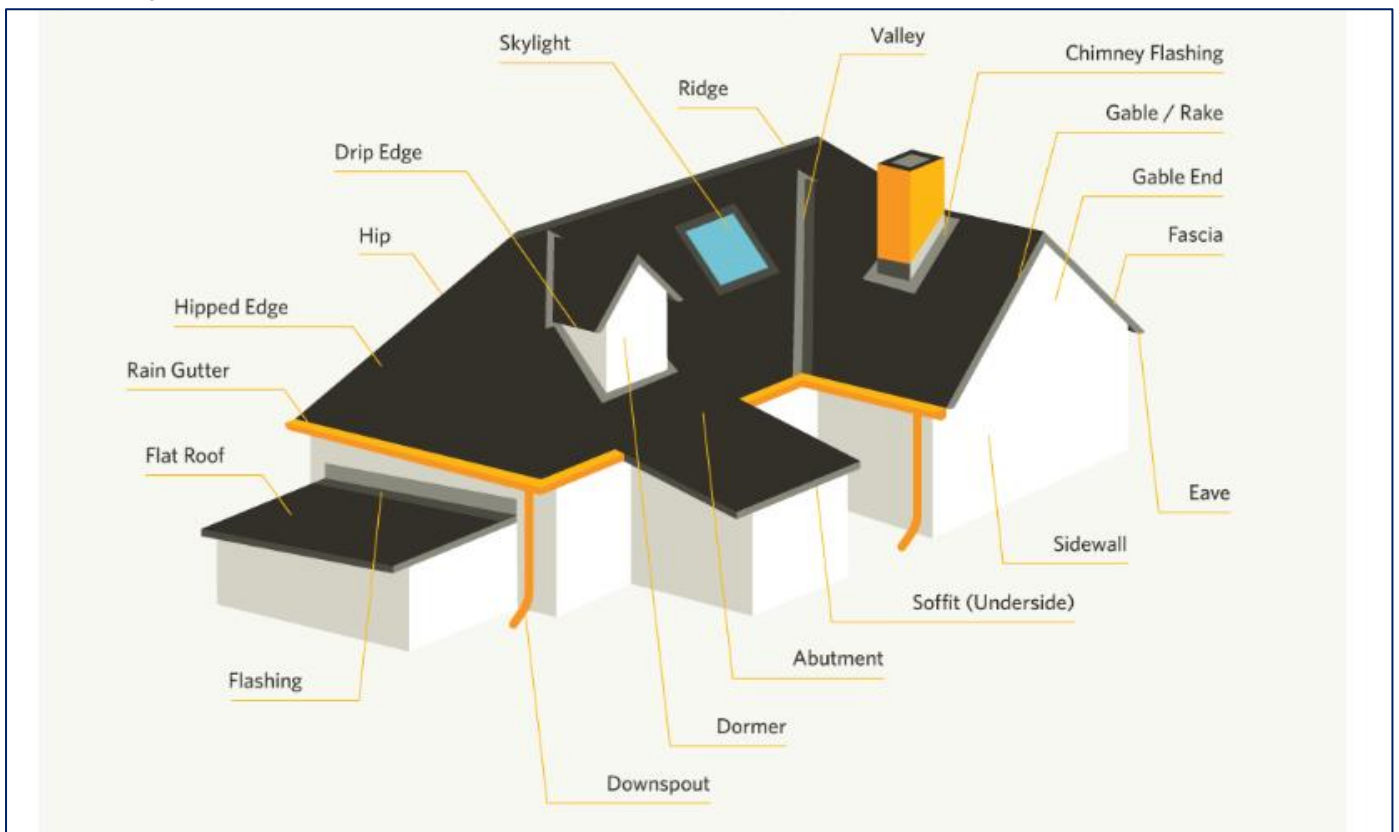
CHAPTER 3

ROOFING GUTTERS & DOWNSPOUTS

Introduction

When it comes to house repairs and maintenance, the roof is often overlooked because most homeowners know that the average lifespan of a roof is around 20-25 years. This is only true if your roof is well maintained and inspected at least every 3 years. If you detect any problems with your roof early enough, you can prevent it from becoming a more costly repair later on.

Parts of your Roof



SAFETY FIRST

Roof maintenance doesn't have to be a dangerous task if you are prepared with the correct PPE

and know how to keep your work environment safe.

Remember the following

Personal Protective Equipment

Wear gloves when working with roofing cement and wear shoes with rubberized soles with a good grip, so you don't slip and fall. A safety harness is also recommended.

Ladder Safety

Always have another person assist you when climbing up a ladder and onto the roof, never do it alone.

Weather

Don't work at night, but when you do work during the day, wear a shirt, cap, and sunscreen while you're on the roof.

Regular steps to ensure your roof stays in top condition.

(Here is a list of things you should do regularly)

CHECK FOR LEAKS

Detecting leaks early enough can prevent extensive or expensive damage to your roof, your house, and even the foundation. The early signs of leaks can be hard to spot the most common signs of leaks are:

- Musty odours in certain rooms.
- Water stains on the ceiling.
- Spots on exterior walls.
- Bulging patches on interior walls.
- Cracked ceiling or wall paint.
- Also, inspect the interior of your ceiling.
- Check the wood for signs of mold and wood-eating insects like termites.



Figure 54: Stained Ceiling



Figure 55: Damaged Rafters



Figure 56: Damaged Trusses

INSPECT YOUR ROOF

Inspect the exterior of your house

Look for loose, broken, curling, or missing tiles. This can instantly detract from the curb appeal of your house, as well as leave parts of your roof structure dangerously exposed to the elements such as rain.

Inspect the flashing all along the edge of the roof, especially around the chimney. Treat any of these damaged areas with corrosion-resistant paint.



Figure 57: Loose Roof Tile



Figure 58: Broken Tile

Check your gutters

The first easy sign of a fix is if your gutters are loose, even in the slightest. Fasten them where necessary to ensure they don't pull at the roof and cause any damage over time or during heavy weather.

Next, check all along the gutters for leaks and clogs. These are the two most common problems gutters face, making them heavy and causing them to pull on the roof. Clogged gutters can also cause water to leak behind your fascia boards or into the internal structure of the roof.

A rusted gutter is a common complaint amongst homeowners. Rust, if left unchecked, can cause serious damage to your gutters, and render them unable to perform properly. If you find rust, there are steps that you can take to repair the gutters before the problem gets out of hand.

It is recommended you clean out your gutters and check for maintenance about once per season.



Figure 59: Clogged Gutter



Figure 60: Large Overhanging Trees

Trim the large trees

Trees surrounding a house can look beautiful, but they can also cause a lot of damage if not properly maintained. Overgrown branches can rub or scrape against the roof, causing damage to roof tiles by causing weakening abrasions and holes. Excessive tree leaves can also fall into the gutters causing them to clog. Trimming back the trees will contribute to keeping your roof in tip-top shape.

Remove Debris from your roof

Checking for debris periodically to make sure there's no dirt, loose objects, or any other foreign materials on your roof is essential. Make sure you get rid of any debris after heavy weather because it can accumulate quickly, leading to bigger problems.

When checking your roof for debris pay special attention to any valleys, and areas around chimneys and skylights, dirt and debris accumulate quickly in these areas and can cause corrosion.

Patch up the flashing, chimneys, skylights, and vent openings

The flashing is the covering that can be found around any area where there is a clear split or gap in the roof, such as skylights, chimneys, etc. If there is any loose flashing, it can lead to leaks and a whole variety of other serious roof issues. To fix your damaged flashing, fill the joints around it with roof cement to seal it properly.



Figure 61: Failing Flashing

Chimneys can undergo weather and foundational shift damage over time, so it's always best to regularly check your chimney for any cracks, loose bricks, or missing mortar. Any damage of this nature to your chimney can also cause bricks to fall out onto your roof, seriously damaging it. If your chimney is sloping or leaning, it can be an early warning sign of foundational weakness in your house and it might be time to call in an expert.

LADDER STABILITY AND SAFETY

- Set up your ladder on solid footing.
- Set your ladder against a sturdy backing.
- Once your ladder has been stabilized, raise the top of it to extend a minimum of 90 CM above the edge of your roof.
- When you begin to climb up your ladder face the ladder.
- Do not leave your ladder unattended at any time.
- Be aware of hazardous weather conditions



Checking Tiles

Tiles are layered onto your roof to cover it. It's a good idea to regularly check your roof for cracked or loose tiles and to look for any signs of corroded or corrosive damage. If a tile starts giving off debris, then it's old and needs to be replaced, and it can be quite simple to replace a tile yourself.

CAUTION: If you need extensive tile replacement on your roof, it is best to consult a professional to do the job, to prevent any serious damage from occurring.



Figure 62: Moss Growth

Check for Moss Growth

Moss can grow roots that can uplift tiles and cause serious damage to your roof. Fortunately, it only requires some light elbow grease and a household anti-fungal cleaner to rid your roof of moss. Start by using a soft bristle scrubbing brush to remove the moss from the roof substrate. If you have a tiled roof, always scrub from the top down to avoid lifting the tiles. When all the moss is removed treat the area with a light spray of anti-fungal cleaner.

Wash your Roof

For any tile-covered roof, this will be part of your long-term maintenance routine to maintain a healthy roof. Eventually, your roof will start to appear dirty, and long dark streaks start flowing from the peak to the eaves. This is due to algae that grow during humid conditions, especially on any North-facing roofs, or roofs that spend a lot of time being covered in the shade. Many recommend using bleach or a mix containing bleach. This is NOT a good idea. It's best to use a selected special roof cleaner solution instead.

CAUTION: Do not power-wash your roof. This puts an immense amount of pressure on the tiles, and it also contributes to their erosion over time.



Figure 63: Downspout

What is a Downspout?

Downspouts are drainage pipes that direct rainwater from the roof to the ground. **This is where the rainwater is led away from the building's foundation so that no rainwater can pool around the building.** Downspouts are most seen attached to the corners of a home or building. Without perfectly working downspouts, rainwater will fall off the edge of the roof and may cause flooding and damage to the building. Rainwater will pass through the cracks in the walls, and windows, and into the building's foundation.

The problem with downspouts is that they clog very easily when leaves, twigs, and other debris accumulate within the downspout itself. This makes it difficult for the rainwater to drain properly throughout the downspout.

Any debris that is found in the gutters should be removed. Running a hose through the gutters will reveal if there are any clogs in the downspouts. Downspouts are mostly attached to the house by downspout brackets, which can be easily removed for further cleaning if the downspout becomes

highly logged with debris.



Figure 64: Water Damaged Window Frame

IMPORTANT

If your roof has extensive damage or needs specialist repairs, it is always better, and cheaper in the long run, to call in a professional. A roof specialist might be able to pick up problems that you are unaware of. A good roof specialist can even estimate how many more years your roof will last before major repairs and replacements must be implemented.



Reg. No 2019/236626/07

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EXTERIOR WALLS & FINISHES

Introduction

Exterior walls provide strength, weather resistance, fire resistance, and thermal and sound insulation.

The Regulations state that any wall shall be designed and constructed to safely sustain any actions which can reasonably be expected to occur and in such a manner that any local damage (including cracking) or deformation does not compromise the opening and closing of doors and windows or the weather tightness of the wall and in the case of any structural wall, be capable of safely transferring such actions to the foundations supporting such wall.

There are various walling materials available, made primarily from clay and cement-based products.

Plaster and Paint

Plaster and paint have universal appeal and are suitable for almost any type of building. Excellent quality paints can last ten years or longer, so maintenance costs are relatively low in the long run

Face Brick Walls

Excellent thermal capabilities mean your house will be warm in winter and cool in summer with minimal additional measures needed. No special care is required.

Resistant to aggressive chemicals.

Homeowner's Maintenance Guidelines

Types of Plaster Cracks

Non-Structural Cracks

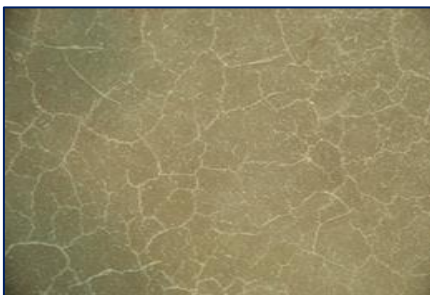


Figure 65: Hairline Cracks

Hairline Cracks.

A network of fine cracks, usually in a hexagonal pattern, which measures between 5 mm and 75 mm across each hexagon. They are usually very fine and shallow and do not extend through the whole depth of the plaster. Craze cracks are of little importance, do not open and close with time, and can be covered using reasonable quality paint.



Figure 66: Structural Crack

Structural Cracks

Some cracks visible in the plaster may result from cracking of the wall.

This can be caused by differential movement of the foundations, moisture expansion or drying shrinkage of masonry units, or thermal movement of the roof. This type of crack often forms in straight vertical or horizontal lines, or stepped diagonal lines, and may be quite unsightly.

The crack width will often vary with the seasons. Because these cracks originate in the wall and not in the plaster, repairing the plaster is ineffective.

A specialist should be called in to establish the cause of the cracking and to recommend remedial measures.

How To Care for Plaster Surfaces

Caring for your plaster walls is smart. By patching holes, fixing cracks, replacing crumbled plaster, painting, and keeping the surface clean, you avoid extensive plaster repairs and the surface stays beautiful for many years to come.

Cleaning a Plastered Surface

It's often gradual enough to be unnoticeable, but over time your outside walls can become soiled. Things like pollution, dirt, dust, leaves, pollen, mildew, mold, and cobwebs can all accumulate and make your walls look old and dirty. Cleaning your exterior walls may sound like a massive task, but they should ideally be taken care of at least once or twice a year.

Regular cleaning makes the job easier, keeps your house looking great, and allows you to check on whether any repairs or maintenance issues might need attending to.

High-pressure water cleaners

- One of the best tools for cleaning exterior walls is a high-pressure water cleaner.
- Not only will using this equipment save you a lot of effort by blasting off accumulated grime, but you will also save water and cut down on the dangerous chemicals you might otherwise use.
- Read the instructions and do a spot test on an inconspicuous part of your wall first, as pressure cleaners have the potential to damage paint, timber, and brick finishes.
- Do not stand any closer than a meter to the wall and keep the hose moving back and forth rather than spraying directly on one spot.

Garden hoses and broom

Wash the walls from the top down, so that you're not letting dirt run down over bits you've already cleaned. If you're using detergent, you should wash the walls a second time with plain water to rinse off any residual soap.

Mold and Mildew

If your walls need mold or mildew removed, try scrubbing the affected areas with bleach and water. If you choose to use bleach, wear old clothes and protective goggles, and breathing gear.

Problems with Face Brick Walls

Cracks in Face Brick Walls are not normal and are not something you want to patch up on your own.

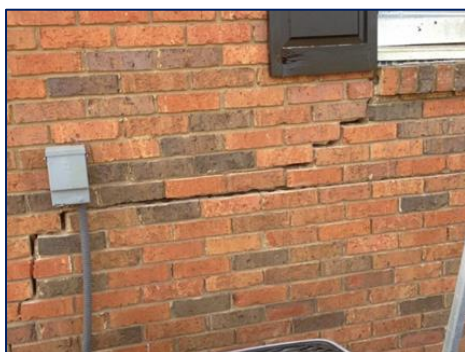


Figure 67: Step Stair Crack

Step Stair Cracks

A stair-step crack will usually point to the area of the foundation that is sinking or settling.

Stair-step cracks in brick walls are often due to uneven, moisture-related settling of the foundation.

Settlement

The most serious cause of damage to brickwork, settlement, occurs when the material surrounding the foundation of a building moves.

For example, where the earth under the building breaks up and shifts, support for the weight above disappears and causes the unsupported parts to drop.

The result is cracking in the brickwork and internal structure which can vary in size according to the problem.

Plant Life

Plants, despite their attractive appearance, are not very kind to brickwork their roots tend to penetrate any loose spots in the pointing, especially on older houses, thus weakening the brickwork. Rather, it is a better solution to train climbing plants up properly fixed trelliswork

The Porous nature of bricks

Some of the clay bricks used in building are soft and porous and may crack or flake as a result of freeze/thaw cycles.

In a wet autumn, bricks, especially unfinished ones, tend to become saturated; and when the temperature falls, the water freezes and expands, cracking the bricks.

The symptoms of frost damage are pock marks and flaking of the surface of the brick face. Where the bricks are badly cracked, however, you will have to replace them entirely.



Efflorescence

A white powdery substance that may appear on the exterior walls is called efflorescence. It is normal and is composed of water-soluble salts, originally present in masonry materials that are brought to and deposited on the surface when water evaporates. Most efflorescence can be removed with a stiff scrub brush, water, and vinegar.

Figure 68: Efflorescence

Homeowner's Maintenance Guidelines



Face Brick Walls

Brick and stone are remarkably resilient, and a building constructed from these materials can last for a very long time. The oldest brick house in South Africa has been standing for hundreds of years. If you've got a masonry home, it has the potential to outlive you by a couple of centuries, but only if it's properly maintained.

Any form of sealant or dressing on a brick automatically turns a maintenance-free product into one that must be maintained as the sealer will weather and or peel off over time.

Figure 69: Face Brick Wall

- Inspect Your walls Annually.
- Clean Your walls with Mild Detergent.

- The mortar between the bricks may require some tuck-pointing (filling in) as your home ages.
- The weep holes in the brick are there to allow moisture out.
- Do not fill these holes or allow landscaping material to cover them.
- Be aware there may be some mortar joint cracks, commonly referred to as “stair step cracks” that are normally due to the expansion and contraction of exterior walls.

Using a Pressure Cleaner

- Choose the right nozzle for the pressure cleaner. Some nozzles could damage your home’s exterior finish.
- If you use soap or chemicals, be very careful. Cleaning solutions may be harmful to some exterior surfaces.
- Never allow the soap or solution to dry on the exterior finish before rinsing off.
- Before you begin pressure washing, always test the spray in an inconspicuous area of the house.
- Start pressure washing at the top of the house working towards the bottom.
- Do not point the high-pressure spray directly at electrical boxes or windows.
- Make sure you protect your eyes.
- Debris may fly from the house while you are spraying.

GARAGE DOORS & SAFETY

Types of Garage Doors

The most common types of garage doors in South Africa are sectional, roll-up, and tilt-up doors. Sectional and roll-up doors are more popular as they provide more space and are more strong, more secure, and durable. You’ll find tilt-up doors in much older homes these days, and if your garage door is a tilt-up, we strongly recommend that you upgrade!

Roll Up Doors



Figure 70: Roll Up Garage Door

Roll-up garage doors are made of horizontal sheets of steel, and they don’t run on a horizontal track system. Instead, when the door is opened, the steel sheets coil up in a roll at the top of the inside of the garage.

Advantages of Roll-Up Doors

Heightened security

The material in roll-up doors provides more security than a sectional door. The strength of the steel ensures intruders are kept out, and your valuables are locked in. These doors also provide fire resistance and are less susceptible to vandalism.

Durability

Steel easily resists both harsh weather conditions and everyday wear and tear to ensure your roll-up garage door lasts far longer than traditional garage door materials.

Ability to save space

Rather than opening along tracks, roll-up doors are folded into a roll. While sectional garage doors

are stored inward where space must be allotted for them, roll-up garage doors are rolled into a small space, taking up very little overhead room.

Maintenance Tips for Your Roll-up Door

Staying Safe

When performing maintenance on a roll-up door, it is critical to follow safety standards. This includes unplugging door openers and putting any controls away when not in use, preventing them from accidentally being activated.

Preventative Maintenance

In general, it's much easier to prevent problems than to repair them. Preventative maintenance inspections should be done at least once a month. This routine should start with a visual inspection of the hardware, accounting for any excessive rust or breakage in springs, hinges, fasteners, or roller wheels. One should also investigate how the door is operating, and if it seems to be moving too slowly, too quickly, or if it is uneven or bent. Any of these concerns should be addressed by a professional company.

Addressing Noisy Doors

Noisy doors are often caused by loose nuts, which can be easily fixed with a socket wrench. Keeping the door parts lubricated will also allow the door to operate with ease and with less sound.

Addressing Opening and Closing Problems

A common problem that can arise with garage doors is that they do not fully open or close. While this may be a problem that requires professional services, it may also just be that the "close limit switch" on the garage opener needs to be adjusted. The location of this switch is usually found in the operator's manual. Another common problem is that the garage door reverses before it closes. Often, this is due to the sensor believing there is something in its path. Be sure there are no obstructions, and that the sensor is clean, as any spots on the sensor may be interpreted as an object in its way.

Sectional Garage Door



Figure 71: Sectional Garage Door

Sectional doors are the style for most garage doors installed today. These doors generally have four or five horizontal panels joined together with hinges. This means that when the door opens and closes, it can bend and follow a curved path that is primarily vertical.

Advantages of Sectional Doors

- Opens the whole garage door opening (for larger vehicles)
- Seals the opening much tighter (keeping unwanted dust and rain out)
- You can park your car straight onto your garage door (whereas with the tip up you must allow 1/2-meter opening space for the door), suitable for short drive-ins.

Maintenance Tips for Your Sectional Door

You should check the state of your garage door every three to six months. By doing this, you'll be able to notice any issues before they need repairs. Depending on the environment you live in and how often you use your garage door, a quick inspection at least each change of season is advisable.

Simply open and close the door to make sure the process is smooth. If you have an automatic

garage door, switch over to manual functioning and check that the door requires the same effort to open as it does to close.

The garage door components that you should check include:

Steel hinges – lubricate these with all-purpose machine oil.

Springs – wipe with an oily rag.

Locks – use Q20 to loosen these if you find the key is struggling.

Opener chain – lubricate this with any chain lube

Lifting cables – if you notice friction here, call a technician to avoid causing additional damage to these important structures.

Screws, nuts, and bolts – replace damaged fasteners and ensure all these components are tightly in place.



Figure 72: Garage Door Components



GARAGE DOOR SAFETY

Garages are great for a whole range of uses as well as car parking - storage, DIY projects, and extra living space - for all those reasons, they can also pose safety and security challenges. To help you keep safety top of mind, we've prepared this list of garage door safety tips for keeping everyone and everything safe and secure.

- Make sure any wall-mounted garage door opener control buttons are out of the reach of small children.
- Do not let children have access to garage door remote controls.
- Consult the owner's manual and learn how to use the garage door's emergency release feature.
- Visually inspect the garage door each month for signs of wear: look at springs, wheels, and tracks. If you spot a problem, do not attempt to remove, adjust, or repair these parts or anything attached to them. A trained garage door technician must adjust these parts, which are under high tension.
- Test the garage door opener's reversing mechanism monthly by placing something like a roll of paper towels in the door's path. If the door does not reverse after contacting the object, call a qualified garage door professional for repair. If your garage door opener has not been replaced for many years, seriously consider a new one with auto-reverse as a standard feature.
- Never place fingers between garage door panel sections and explain the dangers of doing so to children. If you have small children, consider a door with panels that can't pinch.
- Do not leave the garage door partially open. When activated again, it may travel downward and meet an object in its path. This also impacts your home's security.
- While on holiday, unplug the garage door opener unit or use the vacation mode, which renders all but one remote unusable.

- A worrying trend in home invasion is gaining access to the home by stealing the opener or car. Never leave your remote control in the car or with a parking attendant. Consider attaching the remote to a key chain.

SWIMMING POOLS

Swimming pools are popular features in South Africa. The pool requires regular maintenance. Read the following guidelines and follow the instructions your pool contractor gives you to avoid costly repairs. Whilst swimming pools add value and entertainment to a property, there are several important factors one must be aware of when investing in a property.

Pool Structures and Finishes

There are several types of pool finishes. “Gunite “concrete applied to a steel structure” tiled and Glass fibre pool mouldings. It is important to check the condition of the pool shell noting if there is any evidence of visible cracks; possibly due to expansion and /or contraction movement, evidence of root intrusion, blistering to the surface, stains, and markings that may have been caused by algae and the likes.

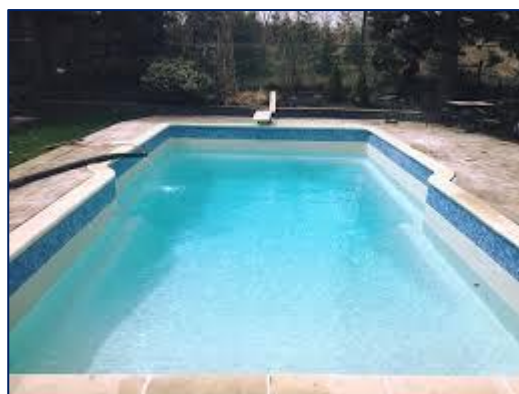


Figure 73: Marbelite Pool



Figure 74: Fibreglass Pool

Pool External Surrounding Areas

These areas are as important as the pool itself. Whilst the paving may appear to be a decorative feature, one must be aware of the structure and condition of the paving, decking, and coping tiles. Any evidence of cracks and lifting or displacement of paving and tiles; could be caused by either expansion and contraction movement, or due to incorrect expansion joints (or no expansion joints).

These may also be caused by pool movement, which could result in inadequate or poorly installed steel reinforcing.

Pool Operating Equipment



Figure 75: Pool Pump & Filter

Several different parts make up a good and efficient running of the pool.

Pumps and Motors. These must be accessible and must be installed in accordance with the manufacturer’s instructions. The pump and motor should be properly housed.

All Flow Outlets, Return Inlets and Vacuum Fittings

These must be properly operational and must be able to handle the circulation turnover rate. These

must be installed so that they are not hazardous to the swimmer.

Filter, lights and chlorinator These components must all be functional and in good condition.

Pool Light It is important to have sufficient pool lighting at night.

Pool Water

There must be an adequate water supply to maintain the water level in the pool.

The backwash water and drained water must discharge correctly, in terms of the local municipality by-laws.

The pool water must be transparent, clear, and free from cloudiness. The water must be chemically balanced.

Homeowner's Maintenance Guidelines

Weekly Pool Maintenance

Thorough pool care will ensure clean and safe water throughout the swimming season. Below are some important steps to include in your weekly pool maintenance routine.

Skim Off Leaves and Debris

A task that should be done daily, skimming is the first step of your weekly maintenance routine.

- Use a long-handled leaf skimmer to gather up leaves, insects, and any other debris floating on the surface of the pool.
- Try to remove debris before it sinks to the bottom of your pool where it becomes difficult to remove and may create stains.
- Have trees surrounding your pool? Consider trimming them back to reduce the number of debris that lands on the water.
- Skimming the surface of your pool takes just a few minutes and keeps the water looking crystal clear. More importantly, the debris you skim off the top of the water never has a chance to dirty the bottom of your pool or clog up your filtration system.

Brush Sediment from Pool Walls

Algae and small bits of debris can gather on the walls of your pool, as well as pool fixtures like ladders and slides. Brush the pool walls and fixtures each week to remove dirt and prevent the spread of algae.

Use a brush to remove dirt that has collected on the sides and bottom of your pool, as well as on ladders, slides, and other accessories. Brush sediment toward the main drain so it can be vacuumed up easily.

Vacuum the Pool

Once the algae and sediment have been brushed from the walls, they can be vacuumed up, along with any other debris that has floated to the bottom of the pool.

Automatic Pool Cleaners

If you are using an automatic pool cleaner, you just need to plug in your cleaner, set it in the water and let it work for you! There are three types of automatic pool cleaners robotic, pressure, and suction.



Figure 76: Robotic Cleaner

Robotic Cleaners are energy-efficient and work from your pool's existing filtration system.

Pressure Cleaners utilize a pressure line from the filtration system to move around your pool. They require a pool pump to run.



Figure 77: Pressure Cleaner



Figure 78: Suction Cleaner

Suction Cleaners use the water flow from your filtration system and attach it to either a dedicated suction port or skimmer. They are the most affordable option.

Clean Skimmer

You should also clean out your skimmer(s) weekly, or more often as necessary. Removing debris allows the skimmer to operate at maximum efficiency, catching most debris that ends up in your pool. Keep an eye on your pool's water level. If the water level is more than halfway up the skimmer, debris will not be collected effectively. Check the skimmer every time you skim the top of the pool, ensuring it is clean.

Keep Your Pump Running

Your pool's circulation system includes the skimmer, pump, pump strainer, drains, and filter. The system helps chemicals work effectively and ensures that water is properly filtered.

Run your pump long enough each day to make sure the water is properly filtered and each item in the circulation system is clean and in good condition.

Check Filter and Backwash as Needed

Filters screen out debris and particles from your pool water. You should clean and maintain your filter according to the manufacturer's directions. Check your pool filter weekly, removing any debris that has gathered within. Backwash the pool filter as needed (weekly for pools that see a lot of use).

Test Pool Water and Add Chemicals

Test your pool water frequently (daily or weekly depending on use) and add chemicals as necessary, following the manufacturer's directions. Chemicals are typically added to the pool daily. These pool chemicals include various kinds of disinfectants and sanitizers which work to control the growth of certain kinds of algae and bacteria in the pool water.

Regular shock treatments cleanse the water of algae, bacteria, dirt, and any other organic matter that may have entered the pool. Follow the manufacturer's directions for shock treatments.

5 Common Pool Pump Problems and How to Solve Them

Pool Pump Problem One: Loud Noises

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While pool pump noises do vary in volume, day-to-day, they still stay within a certain sound range. As a rule of thumb: Consider the sound range of your pump. Is your pump issuing noises that are a little out of bounds? Are the noises consistent, or do they seem to occur randomly? An extra loud pool pump might signal the need for more water in the pump basket. If this is the case, you should re-prime it.

Pool Pump Problem Two: Leaks

In some cases, examining your pump's water levels can result in finding a completely different problem. This problem, of course, can result in a loud pump throughout the day as well. If your pump area is taking on extra water, scout it out by re-priming the pump itself. Here's how:

An air leak causes a pump's O-rings to wear out. When they wear out, they can't create a proper seal to keep your pump's water contained. Listen for hissing air on any pipes leading towards your pool pump. If you find any, spray the area with a hose to identify which pipe leaks—as it'll sputter water.

Pool Pump Problem Three: A Bad Motor

Pool pump motors are responsible for keeping your pool's heating and sanitation systems running and do a lot of work in their lifetime. Over time, simple wear-and-tear can cause them to wear down to the point of dysfunction.

It's tough to spot a pool pump at the end of its days, but it's still possible. If you hear a screeching, metal-on-metal sound when passing by your pool pump—you might have a problem. This noise indicates that your pump's internals is either stuck, creating a lot of friction, or are loose.

Take a closer look at your pump motor. Can you hear any rattling noises? What about the sound of plastic striking metal? Any clanging, banging, or screeching should be treated professionally—as, in most cases, the mechanisms requiring adjustment or repair are too complicated for DIY projects.

Pool Pump Problem Four: Difficulty Starting Up

If your pump motor struggles to turn on entirely, contact a professional. A slow, semi-responsive pool motor is never a good thing—even if external conditions have made its job a little rougher in recent days.

To make sure you have a mechanical issue on your hands, though, you should check the pump's timer settings. Are they configured correctly? Is the pump's timer, itself, keeping the correct time? You'd be surprised how often pump timers can be accidentally readjusted causing plenty of panic for pool owners.

Pool Pump Problem Five: A Faulty Pool Cleaner

Even though your pool's cleaner might be considered separate from your pool system's other components, it's directly involved with them. As such, a malfunctioning vacuum can indicate deeper pool pump issues. If your vacuum is slow to pick up debris, or if its suction fails to collect the dirt on the pool's floor, take a closer look.

While your pool pump is on, make sure the vacuum cleaner line is open by checking the valve line. Clean the vacuum's filter if it's dirty. If none of these routine maintenance options work, you might have a pump air leak on your hands.

SAFETY TIPS FOR POOL OWNERS

(Tips that every parent and pool owner should take note of)

- Never leave a child unattended near any source of water.

- If you have a pool or water feature, get a safety cover fitted by a reputable supplier.
- Check the weight tolerance of any safety cover you purchase.
- Make sure that your pool is fenced and fitted with a self-closing and self-latching gate that opens to the outside of the pool. The latch should be out of reach of children
- Don't leave toys in or right next to a pool – children will be tempted to retrieve them.
- Display a safety chart with emergency numbers on your pool fence.
- Keep your cell phone or cordless phone near the pool so that you can call for help in an emergency.
- Discourage walking or playing on any pool cover. Fit a sensor beam if your children tend to flout the rules.
- If your child has suddenly gone quiet or wandered off, check the pool first. Even a minute can make the difference between survival, irreversible brain damage, and death.
- Never leave the pool area unattended even for a moment; take the children with you if you do.
- It is a good idea to learn how to swim and teach the children to swim. However, a child who knows how to swim is not out of danger. He or she still always needs supervision.

GARDENS & LANDSCAPING

Introduction

Well, cared-for gardens are seen as an added value to any property. It is therefore in the interest of the homeowner to spend time taking care of the garden around the house.

Grading

The drainage plan for your property was designed by engineers and approved by the various authorities having jurisdiction. Stormwater management is a critical part of yard design. The yard is carefully graded to direct stormwater away from the house into areas where it can soak away or eventually flow into the community stormwater drainage system.



Figure 79: Standing Water

After heavy rain, it is normal to see significant areas of standing water. This is a deliberate part of the approved drainage design; it allows water to enter the drainage system slowly and helps to limit the entry of nutrients, fertilizers, etc, into the interconnected fresh-water system. After normal, heavy rain, water should not be standing on paved areas after 48 hours.

Homeowner's Maintenance Guidelines

Over time, the grade around the house can settle. If this occurs, spread additional soil or sand in the depressions to raise and re-establish the grade. Be sure the grade slopes away rather than towards the house.

To prevent erosion and ponding of water

- Do not alter the soil grade.
- Direct water run-off away from the home to prevent washouts.
- Reposition splash blocks if they are moved.
- Do not allow sprinklers to wet the house or form puddles near or against the foundation.



Figure 80: Healthy Lawn

Lawns

Maintaining a healthy, thick lawn also benefits the environment. Unlike hard surfaces such as concrete, asphalt, and wood, lawn grass helps clean the air, trap carbon dioxide, reduce erosion from stormwater runoff, improve soil, decrease noise pollution, and reduce temperatures.

Homeowner's Maintenance Guidelines

The future beauty of your yard depends on the care and attention you provide. The following suggestions should make the job easier:

Watering

Grass requires constant moisture between mowing

During summer, water the lawn regularly in the morning.

When using the sprinkler system, avoid overwatering. Remember, too much water is just as bad as not enough.

Fertilizing

Fertilizer should be applied a minimum of three times a year for turf. In the winter months, two applications are necessary, and one should be a weed and feed. In the summer months, one application should be applied.

Be aware that sod, when initially laid, will occasionally go into shock, and turn brown. The sod is not dead, and you should continue to water it.

Mowing

Mow grass regularly. Do not mow if the ground is soggy. Set the mower height at approximately 5 Centimetres. Be sure the mower blades are sharp to avoid tearing the grass.

Shrub and Tree Care

No matter which method you use to plant your trees and shrubs, water them well after planting.

Spread a 5- to 8-centimeter -deep layer of mulch over the soil around the plant; this creates a protective zone, so you don't have to mow lawn grasses right up against a newly planted tree (and risk damaging its young bark). It will also help the soil maintain its moisture level longer, so you have to water less.

Pruning

No matter what trees and shrubs you're growing, it's a good idea to prune out any dead or diseased branches. This helps the plant look better and can prevent the disease from spreading.

You should prune out any wayward stems that block pathways, driveways or grow into the side of a house or other structures. Also, remove branches that cross and rub against one another; as the bark gets rubbed off, it makes the tree more susceptible to disease. Prune most summer-flowering shrubs

Sprinkler Irrigation System

Many homes have an automatic sprinkler system installed, and this is by far the most efficient method for watering your lawn.

Homeowner's Maintenance Guidelines

Most sprinkler systems are controlled by an automatic time clock. Refer to the instructions on setting

the time clock and watering times on the inside cover of the timer. Keep grass and shrubs trimmed around the sprinkler heads.

Occasionally, the sprinkler heads will clog with sediment build-up and will need to be removed and cleaned. Refer to your manufacturer's instructions on how to complete this task.

Depending on soil conditions, type of grass, and time of year, your sprinkler system can be adjusted to run every day, every other day, or certain days of the week. Also, be aware that local water restrictions can prevent you from watering on certain days or times of the day. A good time to water your lawn with a sprinkler system is between 2 a.m. and

GENERAL GUIDELINES WHEN DEALING WITH MAINTENANCE

Basic Maintenance is important and can be done by the homeowners, while a specialist should do specialist maintenance. Below are a few guidelines to keep in mind.

Use of Quality Materials.

Whenever you work on a project, you can choose what type of materials you work with. Materials are going to vary in cost, and this will depend, in part, on the quality of the product. Those that are cheaper may be lower in quality, and those that are more expensive are likely to last. To save money, some people opt for the cheaper materials. While this may seem like a good idea at the time, using poor-quality materials may result in a variety of problems.

- Higher-quality materials will last much longer, and this increases the durability of your project.
- High-quality materials look better than poor-quality materials, and this can enhance the overall aesthetics of your project.
- While you will initially save money on the project by opting for low-quality materials, chances are it will cost you more eventually.

Make use of QUALIFIED and reputable Contractors.

- Do your homework!
- Knowing what to look for in a contractor will go a long way to helping you select the right person, and could save you frustration, time, and money eventually.
- Good contractors are worth paying a little extra for. Do not take the cheap way out and try to get a contractor who charges much less than the going rate, it is likely that their work will not be of a high standard.
- Get a few quotes from different contractors and compare them.
- A contractor should be properly qualified, registered and insured.
- Insist on a properly drawn, legally binding, written contract to ensure that both you and your contractor are covered, if someone does not live up to their end of the deal.
- Insist on both material and workmanship guarantee in your contract.
- Ensure that payment terms have been solidified in writing and do NOT deviate from them.
- Perform quality checks as progress is being made.