ABOUT YOUR HOUSE

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BEFORE YOU START REPAIRING AND REPLACING MATERIALS—EXTERIOR WALLS

Exterior finish materials are expected to protect the house from the elements while providing an attractive appearance. They must prevent rain and snow from penetrating the building and causing moisture damage. Exterior finishes must be durable enough to resist normal expansion and contraction due to temperature changes, minor impacts from people and objects that can occur from everyday activities and premature deterioration from sunlight exposure. Repairing or replacing exterior wall finishes will help protect your home, preserve the durability and structure and make it more attractive.

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Common Situations

Some problems are common to all exterior finishes while others are specific to a particular material.

- **Problems common to all finishes**—water is the source of many problems. Moisture can penetrate the wall due to flawed roof elements, faulty flashing over windows or doors and at the base of the wall, flashing and caulking problems at penetrations or failure of the exterior finish to act as a rainscreen. Exterior finishes may also suffer from improper fastening or support, or problems with the wall sheathing and sheathing membranes behind the finish. The finish may be stained, damaged or soiled.
- **Wood siding**—wood siding may suffer paint failure, splitting wood and rot.
- **Metal or vinyl siding**—these types of siding may suffer from aging, fading, cracks or dents and buckling.
- **Masonry**—masonry problems include efflorescence (white, chalky stains), crumbling mortar, cracked or loose bricks and spalling (breaking off of exterior layer) or flaking.
- **Stucco**—cracks and loose or damaged areas are common stucco problems.

Healthy Housing™

Renovating is an ideal time to make your house healthier for you and your family, the community and the environment. When doing your exterior wall renovations, be sure to consider:

- **Occupant health**—good air vapour barriers and ventilation to prevent any accumulation of chemical contaminants inside the house, emitted from the exterior cladding materials; careful selection of materials to maintain good indoor air quality.
- **Energy efficiency**—effective air sealing and insulation to reduce energy consumption.
- **Resource efficiency**—durable materials, made from renewable or sustainable products that will last under the anticipated weather conditions.
- **Environmental responsibility**—locally produced materials to reduce transportation, separation of reusable or recyclable materials from waste, proper disposal of hazardous waste, particularly lead paints and asbestos siding.
- **Affordability**—improved performance characteristics to reduce energy and maintenance costs.

House as a System

A house is much more than just four walls and a roof—it's an interactive system made up of many components including the basic structure; heating, ventilation and air conditioning (HVAC) equipment; the external environment; and the occupants. Each component influences the performance of the entire system. A renovation provides an opportunity to improve how your house performs.

If the exterior walls don't protect the house from the elements, further problems throughout the house can be expected.

Avoid Surprises

Failure of the exterior finishes often means that rain or snow can penetrate the building envelope. It can also mean that the materials will deteriorate. Failure may result from defective materials or poor installation.

However, some causes of defects are indirect and can be attributed to a failure of another component of the building's systems. Here are some of the likely situations that people encounter. However, every situation is unique and you may need to hire a qualified professional to do a thorough investigation, find the problems and suggest the best solutions.

Ask yourself…	Consider your options…	…and if you don't
Problems common to all finishes		
• Does the exterior finish show signs of staining, uneven weathering or decay? Is there any sign of damage to the interior finish in the same area?	• Repair roof leaks. Check flashings and repair if needed.	• Continued moisture penetration will deteriorate exterior and interior finishes, leading to structural damage.
• Is the siding deformed or displaced?	• Caulk cracks around windows, doors and penetrations. Repair any damage.	• Loose or deformed siding will not protect the building from the elements and may become detached.
• Is there damaged siding at or near grade?	• Remove and re-apply loose or deformed siding.	
	• Re-landscape to keep siding at least 200 mm (8 inches) above finished grade.	
	• Install eavestroughs with downspout extensions.	
Wood siding		
• Is the paint blistered or peeling?	• Keep wood siding clean, painted and sealed. Refinish every four to five years or as needed. Seal the walls from the inside to stop air leakage. Provide ventilation to reduce indoor humidity levels.	• Wood siding that is not maintained will continue to deteriorate. Unchecked air leakage from inside the house will transport moisture to the outside and may affect the siding. Excessive moisture in houses will only compound this problem.
• Has the wood split?	• Protect ends, joints and gaps in hardboard siding. Re-landscape to keep siding at least 200 mm (8 in.) above finished grade.	• Any unpainted surfaces of wood or hardboard siding can absorb moisture, swell and deteriorate.
• Is there any rotten wood?		• Siding too close to grade may absorb water and become stained from water splashing. Hardboard siding may buckle. Wet hardboard and wood may rot.
• Has hardboard siding buckled?		

Ask yourself…	Consider your options…	…and if you don't
Metal or vinyl siding		
• Does the siding look chalky?	• Clean and paint metal siding to protect from chalking, corrosion and pitting. Replace or paint chalky vinyl siding.	• A chalky, faded finish on vinyl or metal siding can give a house a tired appearance. Corroded siding is unattractive and offers poor protection.
• Is the metal siding corroded or pitted?		
• Are there water stains or moss under the lip of overlapping pieces?	• Check flashings and repair as necessary. Water staining or moss under the lip indicates moisture behind the siding. Seal air leakage paths inside the house. Provide ventilation in rooms to reduce moisture.	• Moisture behind the siding can damage both the interior finish and the structure of the building.
• Are there dents in metal siding or cracks in vinyl?	• Repair metal siding dents with autobody filler and refinish, or replace.	• Dents and cracks are unsightly. Water can penetrate cracks.
• Has the siding buckled?	• Repair cracked vinyl siding with a colour-matched caulking or replace.	• Buckled siding is unattractive and more prone to water penetration. Further loosening or detachment of the siding may occur. Appearance is important for resale value.
	• Remove buckled metal or vinyl siding and re-apply properly.	
Masonry		
• Are there dirty bricks?	• Clean bricks with high-pressure steam. This may not be suitable for older brick or brick that is in poor condition.	• Soiled bricks detract from the appearance of the home.
• Is there any efflorescence (a white, chalky stain) on bricks?		• Efflorescence is unsightly and should be considered a sign of future crumbling mortar, spalling, flaking and structural damage.
• Is the mortar crumbling?	• Repair flashing and caulking. Seal air leakage paths from inside the house. Moisture penetration causes efflorescence. Provide ventilation in the house to reduce interior humidity.	
• Are there cracks or loose bricks?	• Scrape out and repoint crumbling mortar. Maintain flashing, caulking and chimney caps.	• Crumbling mortar, cracked or loose bricks and flashing and caulking problems will continue to allow water penetration. More crumbling, efflorescence, spalling and possibly interior damage will result.
• Is there spalling or flaking bricks?	• Repair or replace cracked or loose bricks. If damage is extensive, consult an engineer regarding foundation settlement problems.	
	• Solve water penetration and replace the bricks.	

Ask yourself...	Consider your options...	...and if you don't
Stucco		
• Are there cracks? • Are there loose or damaged areas? • Is there moss or algae on the stucco?	• Fill, then paint small cracks and blemishes. Structural movement usually causes cracks. For enlarging cracks, consult a qualified home inspector. Solve the problem, then seal or repair the crack. Do not use waterproof sealers. • Break off and replace loose stucco. Water freezing behind the stucco can loosen large areas. • Moss or algae growth indicates high levels of moisture. Minimize water paths into and behind the stucco.	• Small stucco cracks may allow water penetration that can result in loosening of large areas and possible deterioration of the structure. • Structural movement causing stucco cracks may be an indication of a much greater problem. • Large loose areas of stucco are unsightly and cannot protect the house from the elements. • High levels of moisture will continue to degrade the structure.

Rewards

- Repairing or upgrading your exterior finish material can work wonders for the appearance of your home.
- You can enjoy renewed pride in your home along with the peace of mind that comes from knowing that it is well protected from the elements.
- Your home will also appear more attractive and better-maintained to others. Resale value will be enhanced.

Skills to Do the Job

A homeowner with good fix-it skills may be able to do much of the work including:

- Keeping sidings clean, painted and sealed.
- Re-landscaping.
- Sealing air leakage paths from inside the house.
- Fixing dents or cracks.
- Removing and re-applying siding.
- Sealing small stucco cracks.

Hire a professional masonry contractor to clean, re-point or replace bricks, a stucco contractor to repair large areas of stucco damage and a professional engineer to solve extensive foundation settlement problems.

Use the Exterior Finish Repair Worksheet to help you assess the problems and plan your repair strategy.

Exterior Finish Repair Worksheet					
Problem	Options	Advantages	Disadvantages	Help Required	Estimated Cost

Costing Your Project

The cost of essential repairs will depend largely on the deterioration of the existing finish materials and the extent of the underlying causes. These factors will dictate which finish materials must be replaced rather than repaired and the amount of professional labour required. Use the checklist above to help you evaluate your options.

Other useful information from Canada Mortgage and Housing Corporation

Building Materials for the Environmentally Hypersensitive
6742E $29.95
Healthy Housing Renovation Planner
2172E $34.95
Homeowner's Inspection Checklist
2444E $19.95
Renovator's Technical Guide
6993E $34.95
The Clean Air Guide: How to Identify and Correct Indoor Air Problems in Your Home
6695E $ 5.95

About Your House fact sheets, Free
Measuring Humidity in Your Home, CE 1
After the Flood, CE 7
Fighting Mold, CE 8
How to Hire a Contractor, CE 26
Before You Start Renovating Your Basement—Structural Issues and Soil Conditions, CE 28b

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