

Services Guide

Siding Contractors

**NOTE 1: This information is pulled from credible sources. This information is a guide. Any information used from this guide must be re-contextualized (no copying and pasting). Re-contextualize information incorporating SEO and business specifics.*

**NOTE 2: For MCP websites, stick to general information and avoid specifics.*

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1. SIDING CONTRACTOR OVERVIEW

1.1 GENERAL INFORMATION

<https://en.wikipedia.org/wiki/Siding>

- Siding is the exterior material applied to the walls of a house or other building, meant to shed water, protect the walls from the effects of weather and insulate. The siding also plays a large part in the aesthetics of the structure.
- Some walls, such as solid brickwork and masonry veneer are not covered with siding, but some buildings such as log buildings can have siding added.
- Siding may be formed of horizontal or vertical boards, shingles, or sheet materials.
- In all cases, avoiding wind and rain infiltration through the joints is a major challenge, met by overlapping, covering or sealing the joints, or by creating an interlocking joint such as a tongue and groove.
- Siding may be made of wood, metal, plastic (vinyl), masonry, or composite materials. It may be attached directly to the building structure (studs in the case of wood construction), or to an intermediate layer of wood (boards, planks, plywood, oriented strand board) called sheathing.

1.2 SEO

Keywords (First Row – BEST, Last Row – LEAST)

○ Sheathing	○ Board and batten siding	○ Wood siding	○ Siding
○ Vinyl siding	○ Hardie siding	○ Vinyl siding repair	○ Stucco siding
○ Siding installation	○ Aluminum siding	○ Shingle Siding	○ Wood siding options
○ House siding	○ Home siding	○ House siding ideas	○ Brick siding

2. SIDING SERVICES

<http://www.pjfitz.com/siding/installation-process/>

<http://www.pjfitz.com/siding/repairs/>

<http://www.vivilon.com/article-014.html>

<http://www.realcedar.com/siding/restoration/>

<http://wendellsiding.com/2014/01/14/3-steps-to-restore-your-aluminum-siding/>

<http://www.nytimes.com/1997/03/23/realestate/restoring-aluminum-siding.html>



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<https://modernize.com/siding/removal>

Service	Description
Installation	<ul style="list-style-type: none">○ Siding companies will be able to expertly install a variety of siding types on your home, no matter the challenges your home or the installation type poses.○ Fast, thorough, and guaranteed installation processes are ideal○ Installers should be trained experts who can deliver the materials, remove existing siding, prep for new siding, flash corners, install quality starter strip, and then install the siding.
Removal	<ul style="list-style-type: none">○ Siding companies will often provide specialized removal services, such as for asbestos siding, which is difficult and potentially dangerous to do a DIY removal for.○ Removing asbestos siding costs between \$3 and \$5 dollars per square foot of siding removed, versus approximately \$1 dollar per square foot for non-asbestos siding.○ Removal is typically part of the replacement process○ Siding removal and replacement is labour intensive, and requires a multitude of tools, equipment, and knowledge to achieve a professional result. In addition, improper or poorly installed siding can have an adverse effect on your property value.○ Siding removal is a big part of the job, more so than the actual installation itself. The material must be removed safely and carefully to reduce the risk of injury and to minimize damage to the substrate or existing structure.○ Many contractors will provide a dumpster or use a dump trailer to remove job related debris from the property and include this charge in the original estimate.
Repair	<ul style="list-style-type: none">○ Whether your siding is damaged by a storm, mishap, or another cause, siding companies can help repair the problem. They can quickly repair your siding's leaks, cracks, damaged soffit, damaged fascia, missing panels, or fungus.○ Companies should be able to fix it right the first time so you don't have to worry about future problems.○ Siding plays an important role in home protection (not to mention curb appeal), and if yours isn't in top shape, it could mean entry points for moisture. Over time, this moisture can cause problems that can compromise your home's safety, which is why you shouldn't wait to repair your siding.○ Repair assessment should include: visiting your home to assess your

	<p>situation, taking a look at any areas of siding that need attention and noting the severity of the damage, as well as look for any underlying damage, and then taking note of your siding's colour, texture, and style to match it perfectly, giving you a seamless look.</p>
Restoration	<ul style="list-style-type: none">○ Vinyl<ul style="list-style-type: none">• Companies will restore dull, oxidized, chalky, sun weathered, faded vinyl siding surfaces with water-based restoration products.• These products are either sprayed or rolled onto your current vinyl after the vinyl has been properly cleaned• Modern restoration products also provide protection against UV sunlight fading, industrial fallout, acid rain, mold, mildew, algae, fungus, airborne pollution, bird droppings, and everyday dirt and grime.○ Cedar<ul style="list-style-type: none">• To make your cedar look new again, companies will prep your siding by washing it with warm water and phosphate-free soap. If there's mold or mildew, they will kill it either with mildew killer or a warm water and oxygen bleach solution.• If there's old paint or solid colour stain peeling and cracking, companies will remove the old finish prior to tackling any kind of mildew issues.• Untreated siding will eventually turn a beautiful silvery grey. But, if this is no longer the desired effect, companies will get your siding back to its original colour with wood brighteners, cleaners and restorers.○ Aluminum<ul style="list-style-type: none">• Aluminum is virtually indestructible, but unfortunately, the same cannot be said for the fine layer of paint that stands between aluminum siding and the rest of the world.• Companies will make corrections to any damaged existing siding, make sure that the surface of the siding is clean and free of any dirt, grease, bird droppings, mold, mildew or tree sap with a heated pressure washer, then (sometimes prime) and paint the siding.• A good paint job should last for 20 years.○ Other types of siding which require less maintenance typically only need to be pressure washed to remove built-up dirt and grime and restore the siding to its original look

3. CHOOSING A SIDING TYPE

3.1 DETERMINE YOUR HOME'S NEEDS

Before choosing a siding type, consider these issues:

Consideration	Description
Water resistance	<ul style="list-style-type: none">○ Water-resistant types of siding will have longer life spans.
Ease of installation	<ul style="list-style-type: none">○ If you're installing the siding on your own, make sure it is within your skill set, requires no special tools, and creates no harmful dust when cut.
Energy efficiency	<ul style="list-style-type: none">○ Check the R-value rating for energy savings and understand what will be needed as far as insulation beneath the cladding.
Aesthetics	<ul style="list-style-type: none">○ Your siding will be in full view as you come and go, so make sure it is beautiful to you.○ Does it fit in with the style of the rest of the structure? Does it match the neighbourhood?
Versatility	<ul style="list-style-type: none">○ Make sure the siding has the versatility to meet the varied needs of your specific project.○ If there are aspects of your home's exterior that will make using a particular type of siding more challenging than others, make sure you understand what the added costs or necessary adjustments will be.
Durability	<ul style="list-style-type: none">○ Does it have the strength to resist temperature shifts present in your climate?○ How does it stand up to everyday wear and tear?

3.2 DETERMINE YOUR HOME'S STYLE (A GUIDE)

[http://www.all-about-siding.com/vinyl-siding-styles.html#gallery\[pageGallery\]/0/](http://www.all-about-siding.com/vinyl-siding-styles.html#gallery[pageGallery]/0/)

Houses have different styles – some houses look better with particular types/styles of siding. The key to a beautiful home is to pick the right type and style.

You'll want to first determine what style of house you have. Drive around and find other homes like yours and see what you like about each one, and what you don't like. Make notes, and take plenty of pictures.

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The siding that will look best on your home will play up your house's architectural style, calling attention to it.

- For example, if you have a very contemporary home, you may want to emphasize each one of the different planes and angles separately either by using different types of siding or different colours of the same siding. This may mean using architectural panels over the lower section of the home, then switching to lap siding above in small areas only. The result is that your home looks even more contemporary than it might if you use one siding over the entire exterior.
- This trick of emphasizing can be used on many different styles of home. The key is to simply pay attention to the different lines of the home, and choose one or more that you want to call attention to, then cover that section in a different, yet coordinating, type of siding.
- This actually ends up emphasizing not only the small area, but the architecture as a whole, boosting your curb appeal and making the most of your home's exterior.

3.2.1 Styles of Homes

 Craftsman	 Prairie	 Shingle	 Georgian	 Folk Victorian
 French country	 Tuscan	 Mid-century modern	 Low country	 Tudor
 Beach	 Chic	 Modern	 Ranch	 Split level

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3.2.2 Take Cues from Your House

<http://www.allurausa.com/blog/choosing-the-right-style-siding-for-your-home>

- Different architectural styles sometimes have a map of how the exterior is supposed to look. By finding out more about the architecture of your home, and viewing other examples or photos of that style, you may be able to get a sense of what types of siding look best on it
 - For example, Victorians may have a lot of “gingerbread” and other decorative trim, while some beach cottages use board and batten-style siding.
- Look at your home’s current exterior.
 - If your home has a beam or other dividing piece running around it horizontally, this may be a clue that your home can support two different styles – one above and one below. You may want consider shingles below and lap siding above, for example.
 - Another example would be if your home is divided into sections, such as a main home and an addition; sometimes this type of property looks best if you cover the addition in a different siding than the main home, such as using lap siding on the main home and board and batten on the addition. What this does is emphasize the two buildings, letting you tell at a glance that while linked, they may have two different purposes – house and home office for example – or that one was added on long after the other.

3.2.3 Look at Your Neighbourhood

- You probably don’t want your home to stick out like a sore thumb in your neighbourhood, particularly if you have a similar style of architecture to the others nearby.
- Sometimes curb appeal is reliant on how your home looks in conjunction with the other homes surrounding it, so if you have a similar style home, and all your neighbours have shingles, you may want to invest in shingles for your home as well. Otherwise, siding your home with something different like lap siding may result in your home having a lower property value than your neighbours.
- It’s alright to have subtle differences between your home and the ones surrounding it, as long as the overall style is similar.
 - For example, showing off some gables or trim with decorative shingles in a bold colour while keeping the rest of the siding in line with the rest of the neighbourhood lets your home stand out in a way that doesn’t lower its value.

4. VINYL

4.1 PROS & CONS

<https://johnmccarterconstruction.com/the-best-siding-options-for-your-home/>

<http://nlcatp.org/9-key-pros-and-cons-of-vinyl-siding/>

<http://www.unitedhomeexperts.com/the-pros-and-cons-of-vinyl-siding/>

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Pros	Description
Style Variety	<ul style="list-style-type: none"> Comes in a variety of styles – homeowners may choose from vinyl siding variations in smooth panels, wood-grain panels, board and batten, vertical siding, Dutch lap, shake, shingle, and more.
Long-Lasting Colour	<ul style="list-style-type: none"> Coloured vinyl fades only slightly over a long period of time. There are darker and lighter colours that have been improved in recent years to ensure that their resiliency is as high as possible. Companies have added various coatings to the material to help reduce the effects of fading, though it is inevitable to fade slowly over time.
Flake and Chip-Resistant	<ul style="list-style-type: none"> Vinyl panels generally come fully painted, with the colour infused with the vinyl itself so it cannot flake or chip off.
Colour Variety	<ul style="list-style-type: none"> Homeowners can choose from a wide palette of colours, matching almost any colour scheme the homeowner can come up with. If just the right shade is not available in a pre-coloured vinyl panel, vinyl siding can be painted any colour that the homeowner chooses.
Visually Appealing with Less Maintenance	<ul style="list-style-type: none"> Vinyl is visually appealing with less maintenance required than that of wood and aluminum sidings. Today's vinyl mimics the look of real wood much more realistically than the faux-wood vinyl panels of just a few years ago. One of the reasons some people disliked the vinyl panels of even ten years ago was the fact that the panels had a seam in them that destroyed the illusion that they might be wood. Today's vinyl has no seams and the texture of the panels looks more like wood than ever.
Cost-Effective	<ul style="list-style-type: none"> Vinyl is one of the least expensive sidings a homeowner can buy. Not only are the initial costs less than virtually any other siding, but the installation is also fast and inexpensive as well due to vinyl's light weight and interlocking design.

Cons	Description
Susceptible to Cold Weather	<ul style="list-style-type: none"> Cold weather is not its friend – When exposed to extreme cold, your siding will get brittle and it will be more likely to incur cracks and breaks. This also applies if the material is exposed to high levels of heat as it will melt and distort itself.
Difficult Replacements	<ul style="list-style-type: none"> If a panel is dented or needs to be replaced for any other reason, it can be extremely difficult, time-consuming and expensive. Vinyl panels overlap, and because they are attached to an interlocking pattern, they

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	can be extremely difficult to remove and it can be almost impossible to insert a new piece of siding.
Hard to Colour-Match	<ul style="list-style-type: none">○ Matching the colour of an existing panel with a new panel can be virtually impossible unless the damaged panel is almost new. The reason for this is that the colours permeated into vinyl panels fade over time, making a newly inserted panel stand out. Also, it can happen that a manufacturer will cease manufacturing a certain colour of panel, making it impossible to colour-match an older piece of vinyl.
Dents Easily	<ul style="list-style-type: none">○ Vinyl dents rather easily, even the heavier gauges. An errant baseball, hail, or even a power wash can dent vinyl, and very often the dents do not pop back out no matter what the homeowner does.
Water Retention and Mold	<ul style="list-style-type: none">○ Vinyl siding is water-resistant but not waterproof. If it rains a lot where you live, there is a possibility for water to make its way into the cracks between your siding and your house. This can cause an array of problems further down the line if the water builds up over a long period of time. The more water that is retained between the walls of your house and the vinyl will increase your home's chances of developing a mold problem.
Poor Insulation	<ul style="list-style-type: none">○ Vinyl does not insulate well. This problem can be alleviated, at least to a large degree, by either wrapping the home with an insulating house wrap or putting heavy-duty insulation into each wall cavity before the vinyl is applied. The cost of additional insulation must be calculated into the total price of vinyl siding when making siding comparisons.

4.2 VINYL FEATURES TO CONSIDER

<http://www.consumerreports.org/cro/siding/buying-guide.htm>

Consideration	Description
Deep Profile	<ul style="list-style-type: none">○ On clapboard-style vinyl, a profile that's raised 3/4-inch or more deepens shadow lines, making the siding look more like wood. It's also likely to be more rigid and less wavy when installed.
Double-Hem Nailing Area	<ul style="list-style-type: none">○ The best vinyl siding has a double-layer mounting hem, which provides a stronger attachment and better resistance to high winds than a single-layer hem does.
Extra-Long Panels	<ul style="list-style-type: none">○ Some vinyl siding comes in 16-foot or longer lengths to reduce the number of seams on long, unbroken walls.

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Foam Backing

- Besides making vinyl siding more rigid, foam backing adds insulation.

4.3 VINYL SIDING TYPES

4.3.1 Clapboard

- Siding that runs horizontally across your house from end to end is sometimes referred to as horizontal siding or lap siding.
- People generally use the words clapboard, lap siding and horizontal siding interchangeably.

<http://www.royalbuildingproducts.com/siding/home-siding/options/>

<http://www.all-about-siding.com/dutch-lap-siding.html>

<http://www.all-about-siding.com/clapboard-siding.html>

Style	Description
 Traditional Lap	<ul style="list-style-type: none">○ Clapboard in modern usage is a word for long, thin boards used to cover walls○ Also known as lap or bevel siding○ Distinguished by its overlapping thin planks, and can be found covering many New England-style cottages.○ In addition to adding quaintness, the overlapping nature of clapboard siding adds natural protection from snow and rain.
 Dutch Lap	<ul style="list-style-type: none">○ The Dutch lap variation of the clapboard theme exudes the traditional look of early settler mid-Atlantic homes and has its roots in the original wood versions used in North European home construction.○ It imitates vintage wood looks○ It has a curve that runs along the top edge of the siding panel. This is what creates the heavy shadow line characteristic of this style of siding. The extra labour required to hand cut the notch made it a more expensive siding and was used by homeowners who could afford it. It was considered to be a premium siding.○ It is used on all styles of homes but is especially applicable on homes with more traditional architecture.
 Beaded	<ul style="list-style-type: none">○ Another slightly more dramatic variation of clapboard siding○ Uses a rounded bead at the bottom of a course of clapboard shingles to display more pronounced shadow lines.

4.3.2 Vinyl Cedar Shake and Shingle Siding

<http://www.all-about-siding.com/vinyl-cedar-shake-siding.html>

- This siding type replicates the appearance of cedar shakes without the costly upkeep
- Many homeowners use shakes in strategic areas to complement another type of siding for a warmer, more natural look.
- Shake and shingle siding comes in a variety of geometric shapes like hexagons, half cove, square and octagon.
- Generally comes in two basic styles, straight edge and staggered edge.

Style	Description
 <p data-bbox="94 1192 284 1224">Straight edge</p>	<ul style="list-style-type: none">○ Creates a beautiful, classic appearance○ All of the shingles are the same length, making them look uniform and continuous
 <p data-bbox="102 1608 321 1640">Staggered edge</p>	<ul style="list-style-type: none">○ Shingle lengths vary, creating contrast and extra dimension

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Half rounds

- Half round shingles work beautifully with all siding styles.
- Adds a distinctive touch when used as a trim accent on existing homes.
- Shingles have rounded edges

4.3.3 Vertical Siding

<http://www.all-about-siding.com/board-and-batten.html>

- Vertical siding is siding that runs up and down
- It recreates the historic charm and rustic look of centuries-old cedar plank siding.
- Vertical siding has its roots in early colonial America where it was used on barns. It is sometimes still called 'barn siding'.
- Board and batten is the most common style used today, but simple vertical panels can also be used.

Style	Description
 <p data-bbox="92 1497 337 1528">Board and Batten</p>	<ul style="list-style-type: none">○ Has alternating wide and narrow panels○ This is a style of siding where 10" to 12"+ wide long cedar boards are nailed vertically from top to bottom of the house. The widths of the boards come in many different sizes.○ A small batten, usually one or two inches wide is nailed where the two wooden planks come together in order to seal the crack at the joint between the boards, making early homes more weather tight.



Plain Vertical panels

- Panels that run vertically, usually with some texture to add visual appeal

5. METAL

<http://www.sidingestimator.org/types-of-siding/>

- Metal siding is usually associated with retro and modern-style buildings.
- Installing metal siding for your home can give it a unique appeal if done properly. The most common types of materials are aluminum and steel siding.

5.1 PROS AND CONS

<http://www.sidingestimator.org/types-of-siding/>

<http://www.unitedhomeexperts.com/the-pros-and-cons-of-metal-siding/>

Pros	Description
Resistant to Moisture and Mold	<ul style="list-style-type: none">○ Metal cannot mold or rot, unlike other siding with the potential for water damage.○ Metal doesn't absorb moisture or promote the growth of mold or fungus (both of which can destroy a home's framing and can pose health hazards to occupants).
Low Maintenance & Weather-Resistant	<ul style="list-style-type: none">○ Very low maintenance, even in harsh winters.○ Compared with some other choices, metal requires very little attention from the homeowner once it is properly installed. This is especially true for areas of the country subject to severe winters. Snow, sleet, frost, rain, wind, and even heat have very little effect on metal.
Fade-Resistant	<ul style="list-style-type: none">○ Aesthetics: no fading of colour with steel siding, unlike vinyl.○ Today's aluminum and steel siding come in pattern and textures which

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	mimic wood, and pre-painted metal can be maintenance-free for up to twenty years (or even more in some cases)
Eco-Friendly	<ul style="list-style-type: none"> ○ Eco-friendly and green product since each panel is cut precisely, with little waste material. ○ Metal is recyclable and won't end up in a landfill.
Fire-Resistant	<ul style="list-style-type: none"> ○ Fire-resistant and resilient, good for dry areas or locations with frequent lightning storms. ○ Such protection might also translate into lower monthly homeowner insurance premiums in fire-prone areas
Insect-Free	<ul style="list-style-type: none"> ○ Insects cannot find a home in metal siding and doesn't require periodic spraying of insecticide, unlike other siding types.

Cons	Description
Colour Issues	<ul style="list-style-type: none"> ○ Metal siding, if not properly sealed and finished, can rust and discolour. ○ Matching the colour of the replacement pieces can pose a problem. Aluminum siding (as opposed to steel siding) often does not hold colours well. Pre-coloured aluminum siding has a tendency, in many cases, to fade or turn chalky after only a few years of exposure to elements. Some homeowners also complain that colours tend to run off of aluminum siding after a while. ○ Also, when trying to match pre-coloured aluminum siding, there is little or no guarantee that a manufacturer will continue producing a specific colour. However, it should be noted that aluminum siding can be re-painted with a quality paint for long-lasting beauty.
“Shed-like” Appearance	<ul style="list-style-type: none"> ○ With ever-newer materials, metal has lost appeal and some still see it as “shed-like.”
Easily Damaged	<ul style="list-style-type: none"> ○ Aluminum siding is a soft metal and is prone to dents from hail, rocks, baseballs, etc. ○ When one piece or one section of aluminum siding is dented, it can be difficult to replace. ○ All metal sidings, even the most heavy-duty siding, are subject to denting if struck with sufficient force. Sharp objects can even pierce metal, especially aluminum. ○ Metal sidings are also subject to scratching, which will reveal underlying metal. Aluminum will not rust, but steel siding that has been scratched must be repainted immediately, otherwise it is subject to rusting.

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More Expensive	<ul style="list-style-type: none">○ Steel siding is more expensive than aluminum or most other types of siding. Not only does it carry a higher initial price tag, but steel siding is thicker and heavier than aluminum siding and is more difficult and time-consuming to install. This can drive up installation costs and time considerably. However, these initial costs can be balanced by the longer life expectancy of steel siding over most other types of siding.
Poor Insulation	<ul style="list-style-type: none">○ Metal does not insulated as well as other types of siding, although adding insulation underneath the metal can alleviate most of this problem. Many homeowners with metal cladding also complain that they are not protected from outside noises as well as homeowners who choose other types of siding. Again, this problem may be rectified, at least to a large extent, by adding additional insulating material under siding. However, this adds an additional cost.
Susceptible to Rusting	<ul style="list-style-type: none">○ Steel generally holds its colour better than aluminum. Steel siding does not turn “chalky” over time as aluminum can. However, after exposure to the elements, steel siding can be susceptible to rusting. This is true even of steel siding, which has been coated with a rust-resistant compound.○ Homeowners in coastal areas that are subject to salt spray, frequent fogs or other dampness, need to keep this consideration in mind.

5.2 TYPES OF METAL SIDING

<https://modernize.com/home-ideas/17742/seamless-steel-siding-pros-and-cons>

<https://modernize.com/siding/types/aluminum>

https://www.hometips.com/aluminum_steel_metal_siding.html

Type	Description
Aluminum	<ul style="list-style-type: none">○ Aluminum siding is a great option if you want to give your home a fresh look, as well as long-lasting protection from the elements.○ Aluminum siding comes in a wide variety of colours and can convincingly create the look of more expensive wood siding.○ Modern aluminum siding is dent-resistant, impervious to insects, and fire-proof.○ Aluminum siding requires very little maintenance and with proper care can last up to 40 years.○ Aluminum siding is one of the more cost-effective materials on the market (\$3 to \$6 per square foot)○ Because of the lightweight panels, installation is relatively simple, making it a project that you may be able to take on as a homeowner, saving you the cost of professional installation.

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Steel	<ul style="list-style-type: none">○ Steel siding has similar benefits to aluminum – it rejects insects and rot and is resistant to fire – but it can rust and be scratched. It is stronger, heavier, and more resistant to denting than aluminum.○ Professional installation is recommended.○ Steel siding panels are extruded in the same types of panels as aluminum (and vinyl) siding. The material is given a baked-on, guaranteed finish in a broad array of colours in textures that are smooth, or mimic the look of wood grain.○ Maintenance is easy – you just hose it down once a year. If scratches appear, prime and paint the material before rust can develop. With basic care and maintenance, this siding will last 40 years or more.
Seamless steel	<ul style="list-style-type: none">○ Seamless steel siding is a special product made from steel panels coated with a protective layer of vinyl. Each section of the siding stretches the entire span of the side of a home, no matter how wide it is. That means longer homes can enjoy a more durable seamless installation. It's an attractive siding option that is available in a range of colours and finishes.○ When you decide on seamless steel siding, you pretty much have all the colour options that you would with vinyl siding. That means you can pick nearly any colour that you would like to have put on your home. That's pretty exciting compared to options like aluminum siding, which limits your options.○ Unlike options like wood siding, there really isn't much maintenance to seamless steel siding. You should rinse it down now and again to keep it from growing mold or getting too dirty. Just learn how to scrub it down properly and that's all the maintenance that you'll ever have to do.○ One of the main limitations of seamless steel siding is how difficult it is to install. In order to get it on without any seams at all, professionals really need to do all the work. Each section of the siding is custom cut to fit, and improper cutting or lack of skill will result in installation problems. It's not a siding option that someone can try and tackle without extensive experience.

6. WOOD

<https://johnmccarterconstruction.com/the-best-siding-options-for-your-home/>
<http://www.unitedhomeexperts.com/the-pros-and-cons-of-wood-siding/>

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- Wood isn't nearly as popular as it used to be, but it provides an attractive and rich look if it's properly maintained, and it's extremely durable.
- Almost every type of siding on the market tries to imitate the look of real wood, because real wood has a timeless, classic look.
- Real wood siding comes in a wide variety of wood types and styles, enough to meet the needs of virtually any homeowner.
- Cedar and redwood are common woods when it comes to choosing a wood for siding because these types of wood are decay-resistant, but many other woods can also be used if a certain look is desired.
- Wood cladding is available in both horizontal and vertical styles, ready to accommodate virtually any home remodeling plan.
- The choice of wood, the style, and the colour, can all be combined in an almost endless array to create a plethora of siding choices for the discriminating homeowner.
- A good wood siding should last for many, many years, but it must be properly maintained. Proper maintenance includes power washing, staining and sealing whenever the heat of the sun fades the finish, or moisture starts to turn to mold or mildew. Always allow wood to dry well before applying a new stain or finish.

6.1 PROS AND CONS

<http://www.diynetwork.com/how-to/rooms-and-spaces/exterior/buyers-guide-for-exterior-siding>
<http://www.unitedhomeexperts.com/the-pros-and-cons-of-wood-siding/>

Pros	Description
Easy Installation	<ul style="list-style-type: none">○ Wood is easy to cut and shape, and can be installed by reasonably skilled DIYers.
Highly-Sustainable	<ul style="list-style-type: none">○ Wood siding is considered a highly-sustainable material that breaks down easily in landfills. The best grades are made from old-growth timber. To relieve the pressure from old-growth forests, choose wood siding that's certified by the Forest Stewardship Council as its being harvested from sustainable forests.
Natural Beauty	<ul style="list-style-type: none">○ It's a great-looking material prized by architects, designers and homeowners for its natural beauty.
Easy to Replace	<ul style="list-style-type: none">○ Siding made of wood is easily replaced should it become damaged.○ Many types of siding make small replacements difficult if not virtually impossible. With wood siding however, parts can be quickly and easily removed and replaced.○ In many cases, the homeowner can take care of repairs without needing to pay experts, saving the homeowner both time and money.

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Easy to Pain/Stain	<ul style="list-style-type: none">○ Wood is easy to paint and can be painted or stained almost any colour imaginable.
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Cons	Description
Expensive	<ul style="list-style-type: none">○ Better grades of wood can be very expensive, and wood typically has a high initial cost.
High-Maintenance	<ul style="list-style-type: none">○ Diligent maintenance is required, adding to the overall cost.○ Homes with wood siding require frequent painting, weather treatment, and flame retardant treatments to resist much of what the weather throws at it.○ Without regular painting, staining or varnishing, wood will crack, warp or rot.
Difficult to Retrofit	<ul style="list-style-type: none">○ Retrofitting with wood siding requires removing existing siding materials.
Susceptible to Rodents and Insects	<ul style="list-style-type: none">○ Wood is not very good at resisting rodents and insects that can chew through it to get indoors.

6.2 SIDING STYLES

- Wood siding generally comes in a variety of styles, including clapboard (or bevel) siding, shingles, and even logs. Clapboard siding consists of using planks of wood and installing them horizontally, while shingles are just what they sound like: shingles of wood attached to the side of the house.

<http://www.bhg.com/home-improvement/exterior/siding/wood-siding-visual-guide/#page=1>

Style	Description
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Shingle Siding

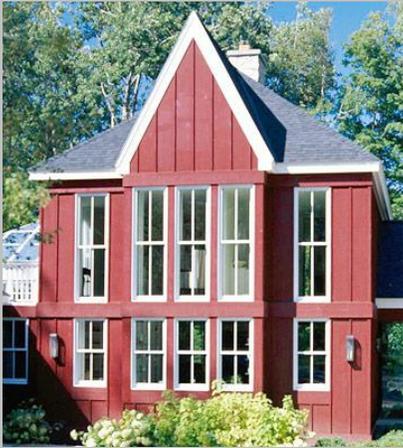
- Shingles have a smooth appearance, work well on walls with odd shapes, and are relatively easy to apply. Shingles offer wonderful flexibility, as they can be cut into different shapes to form patterns and intricate designs.
- Shingles are cut from a variety of woods, most commonly western red cedar and redwood. Shingles are available with a fire-retardant treatment, which is a requirement in locations that are considered high-risk for fires.
- They are installed over a solid surface, such as plywood, with a moisture barrier between the two, a finishing coat (paint or stain), and caulking on the outside.
- Shingle siding requires periodic maintenance, including painting or staining, and caulking to prevent weather damage.



Shake Siding

- Shakes are intended to be coarse in appearance with less uniformity in size, shape, and thickness than shingles.
- Shakes come from a variety of woods but most commonly are made from Western red cedar and redwood.
- Shakes are available with a fire-retardant treatment, which is a requirement in locations considered to be high risk for fires.
- They are installed over a solid surface such as plywood with a moisture barrier between the two and a finishing coat (paint or stain) and caulking on the outside.
- To prevent weather damage, shake siding requires periodic maintenance including painting or staining and caulking.

- Board-and-batten siding is a vertical design made by applying wide boards spaced apart with narrower boards, called battens, covering the joins, or spaces between.
- There is no set board or batten width, as various sizes can be used to create looks suitable to a specific home. A possible combination is 2.10-inch boards and 1x3-inch battens.
- The boards and battens are nailed in the middle of the face when installed in order to prevent splitting during expansion and contraction of the wood in the changing seasons.
- This siding requires periodic maintenance including painting and caulking to prevent weather damage.



Board-and-Batten Siding



Tongue and Groove Siding

- Tongue and groove boards fit into each other, resulting in boards that sit close together and don't show any gaps
- The versatility of tongue-and-groove siding allows for horizontal, vertical, and even diagonal installation, with each creating a distinct look.
- Tongue-and-groove siding is manufactured with rough or smooth faces, in clear or knotty grades of wood, and can be found as either seasoned (dried in a kiln) or unseasoned boards. The variety of joints and surface textures available offer a wide array of shadow line effects that enhance the versatility of uses.
- To prevent weather damage, tongue-and-groove siding requires periodic maintenance including painting and caulking.
- The joints between adjoining pieces are usually v-shaped. Other joints are also available i.e Radius Joints and Reveal Joints. The different joints and surface textures in tongue and groove wood siding combine to provide desirable visual effects which contribute to the product's versatility and popularity.

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Drop Channel Siding

- The profile of each board in channel siding slightly overlaps the adjoining board, creating a channel that provides shadow line effects, protection from moisture, and room for contraction and expansion in changing weather.
- Channel siding can be installed vertically, horizontally, or diagonally.
- Channel siding is typically available in unseasoned knotty grades, but clear grades are manufactured to order. The face side is saw-textured.
- As with all wood siding, drop channel requires periodic maintenance including painting and caulking to prevent weather damage.



Bevel Siding

- Bevel siding, also called clapboard or lap siding, is manufactured by re-sawing boards at an angle to produce two pieces that are thicker on one edge than the other. The thin upper edge is intended to help the board shed water. Bevel siding is installed horizontally with boards overlapping at least an inch.
- The length of the area of the lap is usually left to the installer to decide, except when the siding is rabbeted (or grooved) to set up an easy-to-follow preset exposure. Standard installations of bevel siding generally have exposures of 4-8 inches. The smaller the amount of exposed board area, the thicker the coverage and the higher-end it looks.
- Bevel siding comes in smooth or sawed textures and requires periodic maintenance including staining or painting and caulking to prevent weather damage.



Split Log Siding

- Split log siding is generally used in forested locations to provide a rustic or woody feel. Typically, split log siding is custom-made at local sawmills that work with wood from rot-resistant trees, such as cypress, red or white cedar, and white oak.
- As a log is milled, the first saw cuts result in planks with one sawed surface and one natural surface with bark. When used as siding, vertically or horizontally, the rustic planks give the impression of solid logs.
- Those who choose log siding should be aware that split log siding requires regular ongoing maintenance, primarily caulking, to prevent moisture damage.

6.3 WOOD TYPES

<https://www.bobvila.com/articles/500-wood-siding-options/>

Type	Description
Pine	<ul style="list-style-type: none">○ Pine has long been a standard for exterior siding.○ Pine and its related softwoods – spruce and fir – can be less expensive than other species.○ Knot-free pine can be difficult to get in longer lengths, which can make a project more labour-intensive and costly.○ Pine holds finish well, and is preferable when painting or staining horizontal siding.○ It is typically used for clapboards, but some contractors are wary of fast-growth pine for siding because it can be prone to cupping, splitting, and checking.○ Pine is not a rot-resistant wood, so it is important to keep it sealed and well-maintained.
Spruce	<ul style="list-style-type: none">○ A member of the pine family, this softwood is readily available in East Coast markets as a substitute for pine.○ It comes in longer lengths than pine, and has many of the same characteristics.○ It is typically used for board siding, especially clapboards.○ Again, since it is not a naturally rot-resistant wood, it is important to regularly maintain and seal the wood.
Fir	<ul style="list-style-type: none">○ Like pine and spruce, fir is used as an economical siding option.○ It comes in long lengths, is easy to cut and install, takes a finish well, and is readily available in the West.○ Like the other softwoods, fir is easily milled to a pattern, be it shiplap, tongue-and-groove, or board-and-batten.
Cedar	<ul style="list-style-type: none">○ Cedar siding is known for its grain and its rot resistance. It is straight and resists splitting.○ Cedar takes a stain well and reveals a rich character.○ It is commonly used in shakes and shingles because it is dimensionally stable, resists swelling, and has less cupping and splitting.○ Cedar clapboards are popular, too, but clear grade A cedar can be costly. Still, for its grain and texture, cedar is preferred for stain applications.○ Cedar siding is naturally more moisture and insect-resistant than pine, but must be treated and maintained to retain these qualities

Redwood

- Perhaps the hallmark of rich texture and tone, redwood is a good choice for siding in all climates.
- Redwood resists shrinking, so it holds its profile and keeps its joints with little warping or cupping.
- Redwood has little pitch or resin, so it absorbs and retains its finish very well and requires less maintenance than some other species.
- Redwood is also naturally insect resistant, not just on the face but throughout the wood.
- Grown in the West, redwood can be difficult to obtain in other regions.

7. ENGINEERED WOOD

https://en.wikipedia.org/wiki/Engineered_wood

<http://www.renocompare.com/projects/siding/engineered-wood-siding/>

<https://modernize.com/siding/types/engineered-wood>

- Engineered wood siding is a manufactured siding that is made up of composite wood. Composite wood is mixed with different fibers and strands of various woods to create the finished product.
- Engineered wood siding is typically available in 4 foot by 8 foot sheets or lap panels, as well as in smooth or embossed textures.
- Engineered wood siding is relatively inexpensive – \$1.50 to \$3.00 per square foot.
- You can expect your engineered wood siding to last 20 to 30 years.
- Engineered wood siding is virtually maintenance free. You may want to rinse your siding with a power washer to remove loose dirt once a year, but no further maintenance is required to keep your siding strong and looking attractive
- Engineered wood comes in the same types as regular wood siding, such as board and batten, lap, etc.
- Engineered wood also comes in smooth texture or rich grain texture.

7.1 COMPARISON TO REAL WOOD



Real Wood



Engineered Wood

Type	Description
Strength	<ul style="list-style-type: none"> Engineered wood siding is made up of wood strands that are coated with a resin binder and compressed to create a board of superior strength, making your siding more durable when it comes to standing up to inclement weather. Real wood must be sealed regularly to keep it strong.
Moisture, Rot, and Pest-Free	<ul style="list-style-type: none"> Engineered wood siding is pre-treated to protect against termites and rot. It is also coated with a moisture-resistant overlay that creates a cedar-grain pattern for an authentic wood appearance, while providing superior protection against moisture.
Ease of Installation	<ul style="list-style-type: none"> Engineered wood siding is easier and less costly to install than real wood siding. It is lighter in weight than wood and features advances that make installation easier. For instance, engineered wood siding can be purchased pre-primed, ready to paint, or pre-finished in any number of finish options, which reduces the field and labour time once installed.

7.2 PROS AND CONS

<http://chicago.innovativehomeconcepts.com/siding/engineered-wood-siding-lp-smartside/engineered-wood-siding-pros-and-cons/>
<https://modernize.com/siding/types/engineered-wood>

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Pros	Description
Versatility	<ul style="list-style-type: none">○ Once you choose engineered wood siding for your home, you still have a wealth of options to customize your siding to the aesthetic you are trying to achieve with your home.○ Engineered wood siding is available in a variety of colours and design options, including textures that convincingly mimic cedar, brick, and stone – making the look of premium siding options that may be beyond your budget more attainable
Durability	<ul style="list-style-type: none">○ Engineered wood siding will not split, crack, or warp after installation and the production process also avoids the problem of knots in the wood surface.○ Engineered wood siding can stand up to hail and other weather damage, keeping your home safe from the elements.○ During production, engineered wood siding receives an additional chemical compound that helps it withstand mold, mildew, decay, and insect infestation. These chemical resins coat the surfaces of the siding to form a tight and impenetrable layer of protection that traditional wood siding can't offer.○ Engineered wood products typically carry a 30 year warranty.
Less Expensive	<ul style="list-style-type: none">○ Engineered wood siding does not require the same extensive manufacturing process as wood siding, making it considerably less expensive – between \$1.50 to \$3 per square foot.○ Engineered wood siding is also lighter than wood, reducing the labour cost of installation.○ Additionally, in contrast to natural wood, engineered wood siding pieces are uniform and consistent in appearance, creating less waste during installation.
Environmentally Friendly	<ul style="list-style-type: none">○ Engineered wood siding contains sawdust and a bonding agent that holds the sawdust together effectively. The high wood waste content of engineered siding boosts its sustainability factor.○ Engineered siding also comes with a baked-on factory finish that reduces maintenance.○ When it is time to replace your siding, your discarded engineered wood siding will easily biodegrade in a landfill.

Cons	Description
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Lack of Character	<ul style="list-style-type: none">○ Some people would call the 'perfect' appearance of engineered wood a downside. Traditional wood sidings have a charming, natural and authentic look to them. In contrast, engineered wood is either smooth and perfect, or has an overlay that acts as some reinforcement while also providing the superficial appearance of a different kind of wood. For some people, engineered wood siding is ideal because they like that look but for others, it could be considered a downside.
Susceptible to Environmental Wear and Tear	<ul style="list-style-type: none">○ Both real and engineered wood is quite durable. Engineered wood siding tends to have by-products added to it which will help it to resist rotting and infestation, but it may be more susceptible to environmental wear and tear. In contrast, traditional wood will be more likely to resist the weather, but could fall prey to pests.
Lack of Product History	<ul style="list-style-type: none">○ Some builders believe that the new variety of engineered wood siding hasn't been on the market long enough to truly demonstrate its durability.
Previous Class-Action Lawsuits	<ul style="list-style-type: none">○ Even though engineered wood siding is now supported by significant research and solid product warranties, earlier versions were plagued by moisture problems, resulting in class-action lawsuits.

8. FIBER CEMENT

<https://johnmccarterconstruction.com/the-best-siding-options-for-your-home/>

- Fiber-cement siding is one of the most popular home siding options, thanks to its low cost and high-end look. It is low-maintenance, water and weather-resistant, easy to install, durable, non-flammable, insect-resistant, and available in a variety of styles and colours.
- This is a mixture of wood fibers, sand, and cement.
- It is built to mimic the look and feel of natural wood siding, with less hassle of maintenance, insects, and cost.
- One of the most popular brands of fiber cement is James Hardie Siding from Australia. Interest in this type of siding has risen dramatically because it is a low-cost wood alternative.
- Fiber cement is often compared to vinyl
- Comes in the same board styles as wood

8.1 PROS AND CONS

<http://www.sidingestimator.org/types-of-siding/>

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Pros	Description
Mimics Wood with Better Performance	<ul style="list-style-type: none">○ Gives you the look and feel of real wood without the high cost or susceptibility to wood insects.
Extremely Fire-Resistant	<ul style="list-style-type: none">○ Fiber cement is extremely fire-resistant with a class 1A fire rating.
Not Prone to Decay	<ul style="list-style-type: none">○ It's not prone to rot or decay like wood, and it is resistant to salty air in coastal areas.
Easy Maintenance	<ul style="list-style-type: none">○ It's easy to maintain and is guaranteed for 15 years not to fade or chip.
Variety of Finishes & Textures	<ul style="list-style-type: none">○ It is very versatile in its finish and texture, offering many designs and colour options such as brick and stone textures.

Cons	Description
Difficult Installation	<ul style="list-style-type: none">○ Hard to DIY – the material is quite heavy, requiring at least two people to install it and special cutting tools.
More Costly	<ul style="list-style-type: none">○ It's more costly than its synthetic vinyl siding, by 2 to 3 times as much.
Requires Re-Painting	<ul style="list-style-type: none">○ Although not as often as wood, it does have to be repainted every 12 to 15 years.
Delaminating & Gapping Issues	<ul style="list-style-type: none">○ There is some evidence of the material delaminating or gapping, although this is not frequent.
Touch-Ups Required	<ul style="list-style-type: none">○ The colour does not go all the way through like vinyl, so touch-ups will be required for chips and damage.

9. BRICK

<https://johnmccarterconstruction.com/the-best-siding-options-for-your-home/>

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- **English cottage, Colonial, and Tudor homes** are beloved for their beautiful brick exteriors, but ranch-style homes can also look great with this type of siding, which is made from fired clay and uses mortar as a sealant.
- If you're looking to make a major upgrade to the appearance and safety of your home, you can't miss with brick. Brick gives your home a timeless, high-end look. It is also extremely durable.
- While the initial investment may be costly, you can expect your brick siding to last the lifetime of your home. Additionally, even if you don't plan to stay in your home for many years, you'll still reap the benefits of your investment in brick siding when you go to sell your home, as homeowners will pay a premium for homes with brick. It may even survive as long as the house does.

9.1 PROS AND CONS

<http://www.gobrick.com/Resources/Why-Choose-Brick>

<https://www.angieslist.com/articles/what-are-pros-and-cons-brick-homes.htm>

Pros	Description
Made from Natural Materials	<ul style="list-style-type: none">○ Genuine clay brick is made from natural materials. Brick is made from clay and shale – some of the most abundant, natural materials on earth – and then fired through a kiln at up to 2000 degrees. The reason the brick turns into such a durable material is because the clay/shale unit goes through a vitrification process in the kiln, which enables the clay particles to fuse together.
Reliable End Product	<ul style="list-style-type: none">○ Brick has been proven for centuries. What began as a building essential in the Near East and India more than 5,000 years ago wound its way through the ancient Egyptians, the Indus Valley civilization and the Romans, and today has amazingly become the all-American building product.○ Bricks today are subject to much more stringent manufacturing processes than used in the past, which results in a more consistently-performing end product.
Superior Protection	<ul style="list-style-type: none">○ Bricks offer superior protection over other wall cladding materials. Research confirms that genuine clay brick provides superior shelter in three major categories:<ul style="list-style-type: none">• Fire Protection. Since the primary ingredient in brick is clay which is fired to around 2000 F, it is a non-combustible material. As such, it is an excellent cladding choice to resist or confine fires.• High wind protection. A Shelter from the Storm study conducted in September 2004 shows that homes built with brick offer dramatically

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	<p>more protection from wind-blown debris than homes built with vinyl or fiber-cement siding.</p> <ul style="list-style-type: none"> ○ High wind protection. A Shelter from the Storm study conducted in September 2004 shows that homes built with brick offer dramatically more protection from wind-blown debris than homes built with vinyl or fiber-cement siding.
Superior Moisture Control	<ul style="list-style-type: none"> ○ According to a nationally-renowned, independent building products research laboratory, brick veneer wall assemblies control moisture better than wall systems clad with other exterior materials. Brick veneer wall systems help minimize mold growth, wood rot and infestation by insects, and corrosion of fasteners embedded in wood, better than other wall assemblies.
Long-Lasting & Low Maintenance	<ul style="list-style-type: none"> ○ Bricks look better, for far longer and with less maintenance, than other building materials. It doesn't rot, dent, or need to be painted, and it will never tear or be eaten by termites. Its modular units and variety of shapes have resulted in beautiful structures in just about every architectural style. It is one of the few materials that actually look better with age. ○ Brick also absorbs noise, giving it an acoustic advantage over other materials – especially helpful in densely populated areas.
Energy-Efficient	<ul style="list-style-type: none"> ○ Brick is naturally energy-efficient. Brick is a building material that has exceptional "thermal mass" properties. Thermal mass is the ability of a heavy, dense material to store heat and then slowly release it.

Cons	Description
Expensive	<ul style="list-style-type: none"> ○ Brick tend to be more expensive than other exterior products, such as vinyl siding. ○ According to the Brick Industry Association, a 2,500-square-foot brick home typically costs 6 to 7 percent more than vinyl. ○ Installation costs are also high.
Colour Limitations	<ul style="list-style-type: none"> ○ Bricks come in a variety of colours, depending on their composition and the temperature at which they were made but choices are limited compared to siding or stucco. ○ Brick can be painted but it's often a painstaking process because each groove and side of a brick has to be covered. ○ It's easy to miss spots with the paint if you choose to paint the brick yourself.
Repointing	<ul style="list-style-type: none"> ○ While bricks are highly durable, the mortar used to attach them together

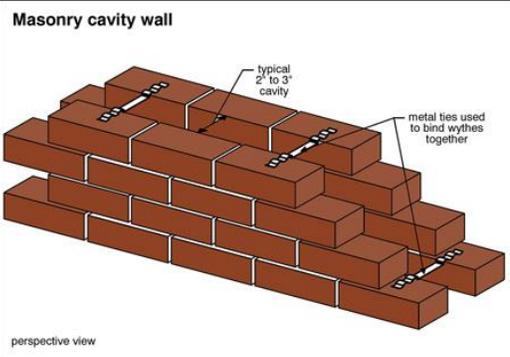
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	<p>(pointing) can be more troublesome.</p> <ul style="list-style-type: none"> ○ Pointing can wear out over time due to exposure to the elements, especially when installed improperly. Repointing may be needed over time to replace the mortar and ensure the integrity of your brick structure.
Harder to Maintain Cool Temperatures	<ul style="list-style-type: none"> ○ Brick is a high conductor of heat, which may cause your cooling bills in the summer to increase.

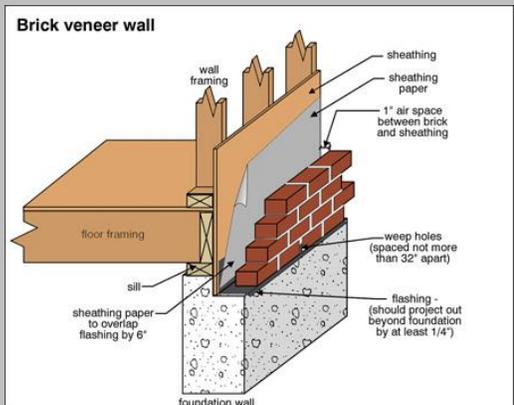
9.2 SIDING TYPES

<http://www.doityourself.com/stry/real-vs-faux-brick-siding-pros-and-cons>

<http://www.carsondunlop.com/resources/articles/brick-houses-solid-masonry-vs-brick-veneer/>

Style	Description
<p>Masonry cavity wall</p>  <p>perspective view</p> <p>Solid Masonry (or Solid Brick', 'Double Brick', and sometimes 'Brick and Block')</p>	<ul style="list-style-type: none"> ○ Solid masonry is a more accurate description than solid brick or double brick, because the inner wythe may not be brick. Because the inner wythe will never be seen, concrete or cinder block is sometimes substituted for brick. ○ Structurally, solid masonry walls are very strong and can, if properly maintained, provide hundreds of years of service.

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Brick Veneer

- Differs from solid masonry in that with solid masonry, the brick is holding up the house. With brick veneer, the house is holding up the brick.
- The wall is only one wythe thick. Behind the brick veneer is a wood frame wall which is actually holding up the house. The brick veneer is, in effect, just siding.
- Brick veneer became the norm when building codes began to require insulation in the exterior walls. One of the best insulators is air. Most good insulation does nothing but trap air; that's why most insulations are light and fluffy. Brick is not exactly light and fluffy, and therefore it's not really a very good insulator. A brick veneer house then, is really a wood frame house where the cavity between the studs in the wall can be insulated.
- Brick veneer is not very waterproof. One inch of air space is necessary behind the brick to allow water to run down the back surface of the brick. At the bottom of the wall cavity, a plastic or metal flashing collects the water and allows it to drain out through weep holes.

9.3 BRICK TYPES

Note: there are so many different types of bricks. This is just a start.

<https://www.thebalance.com/bricks-types-uses-and-advantages-844819>
<http://www.doityourself.com/stry/real-vs-faux-brick-siding-pros-and-cons>

Asphalt Brick Siding (imitation brick)	<ul style="list-style-type: none"> ○ This was the first type manufactured, and it is still often used for garages and sheds to give them the actual texture of stone or brick. Before the development of vinyl and aluminum siding, it was used for residences on a regular basis. One common appearance is red-coloured stamped brick patterns that look like actual brick from a distance. Another is a grey or tan stamped stone pattern.
Insulated Brick Siding	<ul style="list-style-type: none"> ○ Insulated brick adds a layer of insulation fiber to the traditional structure of asphalt brick siding. This is often installed over an existing panel of wood siding that has proven to be too impractical to paint, whether economically or otherwise.
Veneer Brick Siding	<ul style="list-style-type: none"> ○ Veneer brick siding is fashioned by fusing a thin layer of actual brick over panels of siding made from another material, usually vinyl,

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	<p>wood, or aluminum. It has the advantage of appearing to be much closer to real brick, though the brick veneer can crumble or chip over time, requiring regular maintenance and/or replacement over the years.</p>
Common Burnt Clay Bricks	<ul style="list-style-type: none">○ Common burnt clay bricks are formed by pressing in molds. Then these bricks are dried and fired in a kiln. Common burnt clay bricks are used in general work with no special attractive appearances. When these bricks are used in walls, they require plastering or rendering.
Sand Lime Bricks	<ul style="list-style-type: none">○ Sand lime bricks are made by mixing sand, fly ash and lime followed by a chemical process during wet mixing. The mix is then molded under pressure forming the brick. These bricks can offer advantages over clay bricks such as:<ul style="list-style-type: none">● Their colour appearance is gray instead of the regular reddish colour.● Their shape is uniform and presents a smoother finish that doesn't require plastering.● These bricks offer excellent strength as a load-bearing member.
Engineering Bricks	<ul style="list-style-type: none">○ Engineering bricks are bricks manufactured at extremely high temperatures, forming a dense and strong brick, allowing the brick to limit strength and water absorption.○ Engineering bricks offer excellent load bearing capacity damp-proof characteristics and chemical resisting properties.
Concrete Bricks	<ul style="list-style-type: none">○ Concrete bricks are made from solid concrete.○ Concrete bricks are usually placed in facades and provide an excellent aesthetic presence. These bricks can be manufactured to provide different colours as they are pigmented during production.
Fly Ash Clay Bricks	<ul style="list-style-type: none">○ Fly ash clay bricks are manufactured with clay and fly ash, at about 1,000 degrees C.○ Some studies have shown that these bricks tend pop out when bricks come into contact with moisture and water, as the bricks expand.

10. STUCCO

<https://johnmccarterconstruction.com/the-best-siding-options-for-your-home/>
<https://en.wikipedia.org/wiki/Stucco>

- Traditional stucco siding is made of Portland cement, sand, lime and water - similar to concrete. A wire mesh is nailed to the side of the house, right over the house wrap, and special

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flashing is installed around windows and doors. Three coats of stucco are trowelled over the wire mesh - a scratch coat, a brown coat and then the coloured topcoat, to which pigment is added.

- Stucco is most common on Mediterranean, ranch, and Spanish-style homes.
- It creates a smoother brick-style exterior, and when properly installed and maintained, it can last as long as your house.
- Modern synthetic stucco can be applied as one base layer and a finish layer, which is thinner and faster to apply, compared to the traditional application of three-coat stucco.

10.1 PROS AND CONS

<http://www.doityourself.com/stry/pros-and-cons-of-stucco-homes>

<http://www.movoto.com/foundation/home-improvement-style/stucco-homes-the-pros-and-cons-of-a-stucco-exterior/>

<http://www.theglobeandmail.com/life/home-and-garden/stucco-presents-a-unique-set-of-problems/article571936/>

Pros	Description
Energy-Efficient	<ul style="list-style-type: none">○ Stucco layers basically form a concrete shell around a house so a stucco home requires less energy to keep it cool in the summer and warm in the winter.
Noise Reduction	<ul style="list-style-type: none">○ Stucco can help to reduce sound transmission. This is a great benefit to anyone living in a crowded neighbourhood or across from a freeway interchange.
Fire Retardant	<ul style="list-style-type: none">○ It is fire retardant and in some situations, it has saved homes from being consumed in grass and forest fires. It even resists rot, mildew, and mold.
Long-Lasting & Low Maintenance	<ul style="list-style-type: none">○ Despite the large initial cost, stucco will pay for itself eventually because of its maintenance plan and longevity.○ Stucco can last over 50 years, depending on your local climate and how well you maintain it.
Quick Installation	<ul style="list-style-type: none">○ Stucco installation doesn't take too long and works on many different kinds of homes. Even though stucco is applied in several coats, it may take as little as a day or two to install.
Colour Variety	<ul style="list-style-type: none">○ You have a great deal of control over the colour of the finished product as well. While other types of siding are only available in the manufacturers' predetermined colour palettes, stucco can be mixed to give you the exact colour you need.
Complements	<ul style="list-style-type: none">○ Its seamless appearance draws more attention to the home's other

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Other Details	details, such as window trim, railings, wooden beams, roofing, etc.
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Cons	Description
Oversaturation Issues	<ul style="list-style-type: none">○ Although stucco does very well at repelling moisture in normal climates, it doesn't do very well in rainy environments because it has a tendency to become oversaturated. This can cause the wood and other building materials to get and stay wet over time.
Poor Breathing	<ul style="list-style-type: none">○ Traditional stucco breathes and will eventually dry out but new synthetic stucco systems are a different story. These stuccos are made from acrylic polymers and they are designed to be completely waterproof. They don't breathe at all, which is great, except when water does not manage to get behind the surface, it has no way to escape, unless it can weep out the bottom of the wall.
Fairly Brittle	<ul style="list-style-type: none">○ Stucco is considered a fairly brittle material so if you live in a location where the ground isn't prone to shifting, then it's a great option. However, if you live in an area that's prone to earthquakes, then stucco might not be the best way to go.
Labour Intensive	<ul style="list-style-type: none">○ Using stucco can be a cost-effective alternative to many kinds of siding however; it's not the least expensive in all cases. For example, stucco is generally more expensive due to the labour costs. The installation of stucco is very labour intensive and therefore costs more.
Easily Damaged	<ul style="list-style-type: none">○ Stucco can be easily damaged to flying debris, lawn equipment and so on by being hit or run into.
Shrinking & Cracking	<ul style="list-style-type: none">○ Stucco will shrink and crack, just like any concrete, especially in places where there is a freeze-thaw cycle.

10.2 STUCCO TYPES

<http://www.greenbuildingadvisor.com/green-basics/stucco-and-synthetic-stucco>
http://www.kenyonweb.com/products/types_of_stucco.html

Type	Description
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Traditional three-coat stucco	<ul style="list-style-type: none">○ A longstanding, nonproprietary cladding system that has a scratch, then base, then finish coat, resulting in a 7/8-inch- to 1-inch-thick cladding. This system is the most time and labour intensive.○ Colour can be added to the finish coat. One advantage of stucco is that there is a never ending variety of textures ranging from a smooth, “egg shell” type texture all the way to a heavy lace texture.
One-coat stucco	<ul style="list-style-type: none">○ One-coat stucco systems have just one base coat that is about 1/2-inch thick with a thin finish coat, so these claddings are sometimes called “two-coat.”○ The base coat is a blend of portland cement, fibers, and proprietary additives, with each system carrying its own International Code Council (ICC) Evaluation Service (ES) report that dictates the installation details.○ There is less labour and time required for this system than three-coat stucco, but custom installation standards must be followed.
Exterior insulating and finish systems (EIFS)	<ul style="list-style-type: none">○ Exterior insulation and finish systems (EIFS) are essentially one-coat systems, but the marriage of a stucco finish to exterior rigid insulation brings with it different water-management details than the other two types.○ EIFS claddings consist of synthetic stucco applied over an insulating layer of rigid polystyrene insulation. Insulation can be up to 4 inches thick.○ EIFS has many energy advantages over conventional stucco.○ EIFS is normally found on large commercial projects

10.3 MAINTAINING STUCCO SIDING

<https://modernize.com/siding/types/stucco>

- Like most siding materials, stucco does require some maintenance to keep it in good shape. That means you’ll have to dedicate a bit of your time to the cause, but the level of maintenance required is very minimal.
- Regularly pressure-washing stucco will remove any water marks and stains that develop.
- Hairline cracks will form over time as well, but they are simple to patch with an elastomeric sealant product.
- These maintenance tasks rival the simplicity of vinyl siding, and they make stucco into a real contender as one of the most popular forms of siding installed today.

11. STONE

<https://johnmccarterconstruction.com/the-best-siding-options-for-your-home/>

- Stone provides a natural beauty with granite and limestone.
- It's a high-end look that's very durable and highly resistant to weather. It's also extremely expensive to install, and it requires a substantial amount of maintenance in order to keep it looking classy.
- Homeowners who choose stone siding can expect annual cleanings and inspections in order to ensure the siding hasn't caved and will last as long as the house.

11.1 REAL STONE VS STONE VENEER

Real Stone	Stone Veneer
<ul style="list-style-type: none">○ Stone is impenetrable by mother nature and will last a lifetime	<ul style="list-style-type: none">○ Stone is impenetrable by mother nature and will last a lifetime
<ul style="list-style-type: none">○ The look and feel of real stone is unmatched and is considered the Rolls-Royce of siding	<ul style="list-style-type: none">○ Stone veneer looks similar to stone but costs about half as much.
<ul style="list-style-type: none">○ Resistant to moisture, extreme temperatures, insects, and fire	<ul style="list-style-type: none">○ Resistant to moisture, extreme temperatures, insects, and fire
<ul style="list-style-type: none">○ Requires zero maintenance other than being cleaned with a pressure washer	<ul style="list-style-type: none">○ Stone requires zero maintenance other than being cleaned with a pressure washer
<ul style="list-style-type: none">○ Installing natural stone requires heavy labour and installation time driving up the cost	<ul style="list-style-type: none">○ Stone veneer can have the same moisture problems as stucco
	<ul style="list-style-type: none">○ Does not adapt well to extreme temperatures, freezing and thawing

12. ECO-FRIENDLY

<http://www.sidingestimator.org/eco-friendly-siding/>

- A national standard in green buildings and homes is the Natural Resources Canada Green Building Certification. This is a building certification that gives points for building sustainable, eco-friendly, and environmentally safe construction.

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- This site is a good resource on the eco-friendliness of each different type of siding: <http://www.sidingestimator.org/eco-friendly-siding/>
- Some siding companies also make extra efforts to provide eco-friendly alternatives to different types of siding, such as products that use recycled materials.

11.2 THINGS TO CONSIDER

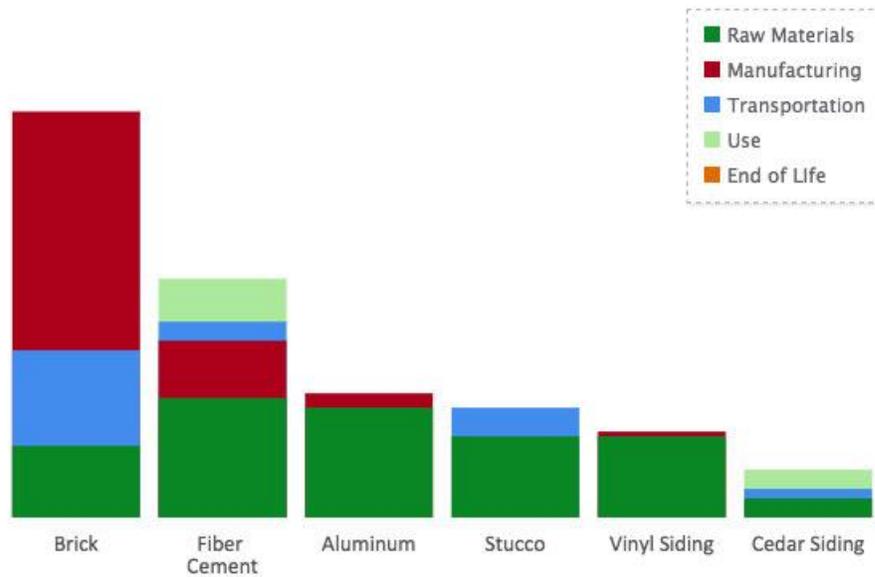
When researching what type of siding to purchase, it's important to consider these factors. They may change depending on where you live. For instance, wood is eco-friendly but the cost for repairs/replacement in a fire-prone area would probably outweigh its benefits.

Type	Description
Material	<ul style="list-style-type: none">○ Is the material of the siding you choose toxic or biodegradable? Is it a man-made material or does it come straight from nature? Is it certified green?
Labour	<ul style="list-style-type: none">○ While natural stone is a rare beauty to behold, it takes lots of intensive labour to move those stones around. The more complex, heavy, and rare material you use, the more energy it will take to install.
Energy efficiency	<ul style="list-style-type: none">○ R-value represents how well your siding preserves thermal heat. The higher the R Value the more insulated the material is saving on heating and cooling costs.
Locally sourced	<ul style="list-style-type: none">○ Installing locally-sourced cedar clapboard is more environmentally friendly than trucking it across the country. Know where your material comes from.
Manufacturing	<ul style="list-style-type: none">○ What processes are needed to create the siding material of choice? For example, the process of creating a clay brick uses up a lot of energy by baking the bricks at over 2,000F for several days.
Recyclability	<ul style="list-style-type: none">○ Does the siding you're considering come from recycled or salvaged material? Also, what about the waste product? It is estimated a good 10-15% of siding material will go unused after installation for waste. Can you recycle this?

11.3 ENVIRONMENTAL PERFORMANCE BY SIDING TYPE

This chart compares a handful of siding options by their environmental performance of the life cycle. This data is given by the National Institute of Standards and Technology. It gives ratings on 5 factors of the material:

Environmental Performance by Life Cycle



source:<http://ws680.nist.gov/Bees/>

sidingestimator.org