

# HOME OF STONE

How to choose and use the king of building materials

BY Steve Maxwell

**S**tone is the oldest building material in the world, and it's more popular than ever these days. Stone has been gaining market share in Canada for decades and it shows no sign of letting up. But the thing is, the word 'stone' means so many different things in the building world.

Natural stone, cast stone, full bed, thin stone, dry stone, mortarless ledge stone – it's all stone but all so different. All types are durable, beautiful and boost property values like nothing else can. But, if you're thinking about stone for your next building project, there are fundamentals you need to understand before you can make an informed choice. That's what you'll get here.

## The Fundamentals of Stone

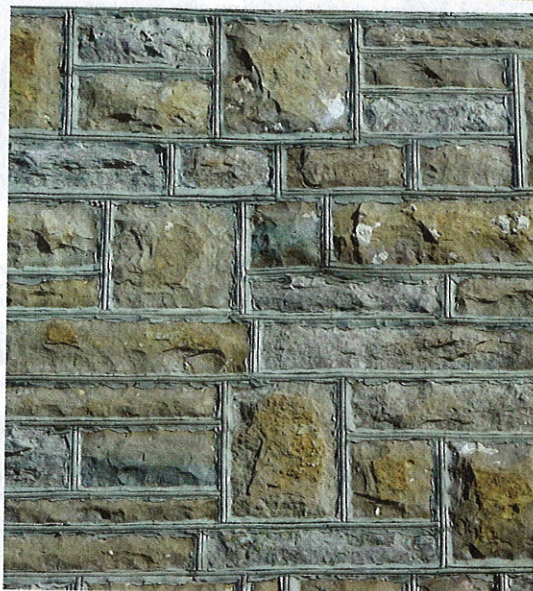
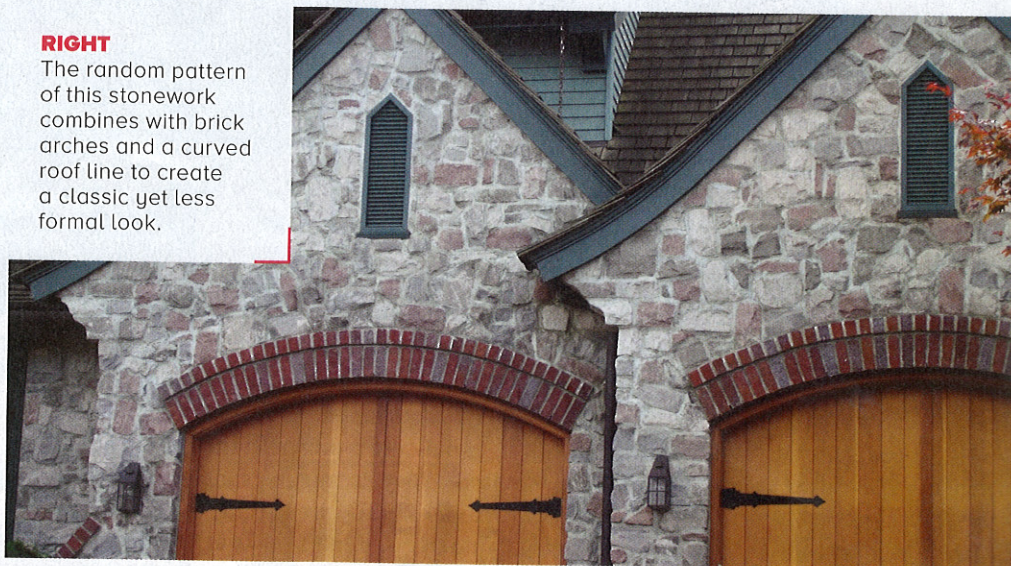
When it comes to choosing stone, there are three basics to consider: appearance, budget and installation skill required. Appearance is the first place to start because that's what stone comes down to. So, how do you want your home to look?

In the broadest visual sense, the world of stonework is divided in two parts: coursed and random. Coursed stonework is made of stones with edges that are roughly vertical or horizontal. Some coursed stonework rigidly follows this rule, while others bend the rules of horizontal or vertical joints a little. Some suppliers refer to all coursed stonework as 'ashlar' but that's just one pattern of coursed stonework.

Random stonework, by contrast, has edges that are curved and irregular, →

## RIGHT

The random pattern of this stonework combines with brick arches and a curved roof line to create a classic yet less formal look.



## Texture, Light and Shadow

Regardless of whether you're using natural quarry stone or manufactured stone, texture, light and shadow are a big part of the visual attraction. The irregular surface causes the play of light and shadow to change over the course of a day as the sun shifts in position and angle. This effect is something no other exterior wall treatment can match to the same extent as stone. Depending on how the individual faces of stone are shaped, you'll get more or less of the light and shadow effect. With the exception of sawn stone and smooth cast stone, the play of light and shadow is one big reason why people love stone, even without realizing why.



## One Difference Between Traditional and Modern Stonework

If you're aiming to create the authentic look of traditional, old-time stonework, then you need to understand something about recessed and non-recessed mortar joints.

Until the end of the Second World War, almost all stonework in Canada had non-recessed joints. It was a style thing that went back centuries. This means the mortar between the stones was either flush with the surrounding stone face, or it extended outwards slightly beyond the stone.

As styles changed after the war, masons began to recess mortar joints in from the face of stones, creating a more modern look that let the edges of stones remain visible. It might not seem like much, but the visual difference between the two joint styles is large.

Even modern manufactured stonework can have a very traditional look if non-recessed joints are used, and traditional full-bed natural stonework will look modern with recessed joints. Over the last decade stonework with no mortar showing at all has grown in popularity. Designed to simulate the look of a natural rock face, this style of manufactured stone is sometimes generically called ledge stone.

### ABOVE

The mortarless look is in. This manufactured stone looks entirely real, yet it's thin enough to install without support from below.

never continuously vertical or horizontal. This might not sound like a big thing, but in terms of appearance, the visual difference between coursed and random stonework is huge. These two options create very different looks for your home.

So how do you come to know the kind of stonework you really like? It's simple. Look at stone buildings that you find thrilling. Snap some pictures then study them side by side. Most people have a preference for coursed or random stone patterns. Colour, texture, size of stones and patterns are all visually important too, but they usually take a back seat to the big question of coursed or random. Coursed stonework creates a more formal look. Random is more casual.

Budget is the next thing to think about, and this sometimes comes down to the question of natural or manufactured stone. The thing to understand is that the difference in cost is about more than just pricier or less expensive materials. It also comes down to labour availability.

The most expensive stonework is usually

natural stone laid in what's called a 'full bed' installation. As raw stone suitable for building is dug from the ground, it comes out in irregular shapes. After these pieces of stone are roughly broken down into manageable chunks at the quarry and delivered to a building site, it takes specialized masons to shape these stones using hammers, chisels and saws so they fit together in pleasing and consistent patterns. There's very little about the process of laying natural, unsawn stone that's mechanized. It's skilled hand labour and that costs big money. The term 'full bed' refers to stonework that's 4 to 10 inches thick. Something like this must always be supported by a foundation below, not anchored to walls. Also, depending on the style of natural stonework, as much as 30 per cent of the stone delivered on site will be reduced to chips and off-cuts that never make it to the wall.

In an effort to make stonework more affordable, manufacturers have created moulded manufactured stone products that match the irregular look and feel of natural

stone. Canada has some of the finest stone manufacturers in the world, and these days the best manufactured stone is amazingly convincing. Not even a skilled mason can tell it's not natural stone from the curb.

Most stone isn't suitable for building, so quarry sites are rare and owners can charge a premium. Manufactured stone sidesteps this challenge by moulding cement and sand products into stone-like shapes meant to fit together without waste or the need for specialized building skills. This lowers the cost of materials, but also saves in other ways.

Since manufactured stone is typically made to create a specific pattern, there's almost no waste from chips and offcuts. Pieces are made to fit together in a certain pattern and everything comes together without the need for on-site shaping. This saves time but also avoids the extreme shortage of stone masons skilled in using raw, natural stone. Then there's also the issue of physical support for the weight of stone.

Many types of manufactured stone are especially easy to install because they



don't require the support of a foundation ledge. They simply anchor to the wall with an adhesive or metal clips.

Today's best stone systems offer corner components that create the impression of depth and thickness: Mitred or angled corner stone segments make the masonry seem like it's 6 inches to 12 inches thick, when it's really less than a couple of inches. As you're choosing a stone system, ask how corners and window/door openings are done. Different systems have different looks.

The world of building stone is full of choice, but there's no need to be confused. Make a decision about coursed or random, natural or manufactured and you'll be well on your way to making sense of all the choices available for your project. **HC**

### Practical Reasons to Choose Manufactured Stone

There are some building situations where manufactured stone is the only way to go, and the issue usually comes down to weight, foundation design and the skill required for installation. Manufactured stone is often made as a veneer, designed to be supported only by a frame wall behind it. The ability to avoid the need for full foundation support that's not affected by frost is a big engineering advantage. So exactly where is some version of manufactured stone an especially practical option?

**Renovation of an existing building:** If the home you're working on doesn't have a foundation ledge made to handle the weight and width of full bed natural stone, then wall-mounted stone is the easiest solution.

**Interior applications:** Indoor walls and fireplaces don't always have foundation surfaces that can support stone, so manufactured veneers are the way to go.

**Colour and appearance:** The colour, texture and look of natural stone is appealing, but choices are limited compared with the options offered with manufactured stone.

**Do-it-yourself projects:** Since manufactured stone is easier to use, it's a good choice for people wanting to work with stone themselves.

#### ABOVE

Mitred corners like this one create the impression of thick stones around corners. Canada produces some of the best manufactured stone in the world.

#### BELOW

Stone creates the most textured and interesting wall surfaces anywhere. These stones are ready for installation on an interior building application.