



LIKE A ROCK

Why it makes sense to build
with more masonry Story and photos by Steve Maxwell

In 1990 I had a decision to make. I was building my house back then, and the time came to make a final choice for the construction of exterior walls. I'd always planned on natural stone, but when I had to decide, easier, cheaper, faster-to-install alternatives started to look pretty good. That's the kind of impatient, short-term thinking that sometimes kicks in when you're part way through a project and sick of spending money.

To confirm my rejection of stone, I did a quick pro-con analysis on paper. It's a good thing I did. When I compared costs of the various options in black and white, looking at the durability, the maintenance involved and the resale value, the masonry option came out ahead. Way ahead. Looking at those stone walls, arches and lintels today, I'm thankful. If I'd 'cheaped' out and chosen something else, I'd probably be planning a big siding replacement or refinishing project right now.

Is masonry suitable for every building? ➔



No. Should it be used in Canada more often? Absolutely, and there are three reasons why.

Reason #1: Masonry is Beautiful

Think for a minute about the classic destinations of the world, the cities people flock to from all over the globe because of the look, feel and atmosphere of the place. Venice, Barcelona, Reims, London, Rome, New York - all these places are unique and famous, yet they all have one thing in common. Masonry is used extensively in these places, both for large buildings and small.

Could it really be any other way? Can you build a cathedral with plastic siding? Is there a great city anywhere that doesn't have lots of skillfully laid, timeless masonry?

When I first began building 30 years ago, I didn't understand why I liked masonry so much. I just knew it felt right. The more I've thought about it, the more I understand how the beauty of masonry comes from three features: texture, colour and patterns.

The texture of hand-chiseled stonework, the raised arches and entranceways framed by corbeled brickwork, the varied shades and irregularities that make antique brick so attractive - these are the kind



Traditional Stonework in the 21st Century

When I got interested in masonry in the 1980s, I became curious about traditional stonework. So much of what passes for stonework these days is just stone veneer. How were structural stone walls built using nothing but stone and mortar? There are almost no books that teach this craft, and no working stonemasons that I could find who build in the old ways.

There was, however, the old buildings themselves. These became my teachers, at least as far as structural lessons went. I also learned that by using modern tools to speed the process, traditional stonework can be done more efficiently without losing any of the authenticity. Here's how I do it in a nutshell:

1. Structural stone walls are 18 to 24 inches thick. Separate stones form the inside and outside faces of the wall, with rubble and mortar in between. Occasional stones span the entire width of the wall.
2. Self-supporting thick stone veneer walls are 9 to 12 inches thick, used next to a

wood frame wall for insulation. Thick stone veneer creates deep recesses around window and door openings and makes authentic corners.

3. Ideal mortar for stonework is 1 part Portland cement, 1 part masonry cement and 6 parts clean sand. The masonry cement makes the mortar sticky and the Portland makes the thicker joists of stonework strong.
4. Mortar can be mixed in a small drum-type cement mixer, tilted over a bit so the drum is nearly horizontal.
5. Modern stone working tools include: 14-inch gas-powered masonry saw with diamond blade; pneumatic air hammer and chisels for removing bulk stone and texturing; 2-inch-wide pitching tool and 4 lbs mallet for facing stone; 4 lbs pitching hammer for rough shaping of stone.
6. Sedimentary stone is best for traditional stonework because it's formed in layers. Your job as a mason is to use existing layer thicknesses as much as possible, using the stone saw and pneumatic hammer to change length and depth of the stones so they fit with the pattern you're building.



of things that make masonry impressive. Then there's the feel. Great buildings are solid when you push against them. They don't flex or break. They don't sound hollow when you knock on them.

Reason #2: Masonry is Durable

Durability is one of the big reasons stone stands out for me and maintenance-free durability is still a big advantage of masonry. It's essentially like you're buying a building material and the freedom from maintenance or replacement all at the same time. Does masonry ever deteriorate? Sometimes, but only if it's not done right.

Water freezes it and it expands and this unusual property is why masonry occasionally gets damaged by our Canadian climate. When moisture soaks into brick, block or concrete in the fall, then freezes when temperatures drop below 0°C, it can expand and break masonry from the inside out. This is called spalling, and though you sometimes see it, spalling is not inevitable. Properly-made bricks, block and concrete resist absorbing moisture, so spalling doesn't happen.

The addition of reinforcing fibres is a relatively new way that concrete is made even more durable and weather resistant. By adding engineered synthetic fibres as the concrete is mixed, it adds tensile strength to the finished product. It's like tiny pieces



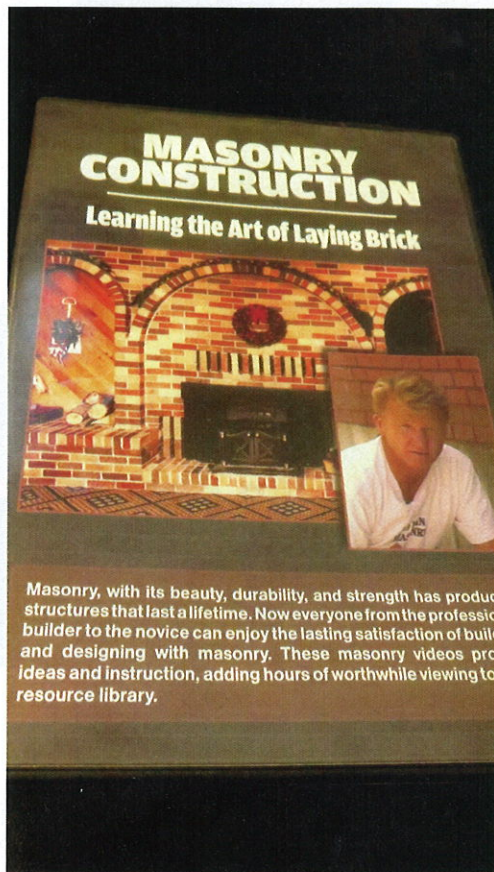
of rebar, all working together to hold the concrete together.

Reason #3: Masonry Boosts Property Values

More people these days are making changes in their lives to improve the environment, boost community health and enhance the social scene across the globe. They're taking

the long view, making decisions with more than just themselves in mind. This is great as far as it goes, but it should also extend to home building and renovation decisions, too.

Masonry costs more up front, but it holds extra value. Some jurisdictions even require the use of masonry building materials precisely because they want to



Masonry, with its beauty, durability, and strength has produced structures that last a lifetime. Now everyone from the professional builder to the novice can enjoy the lasting satisfaction of building and designing with masonry. These masonry videos provide ideas and instruction, adding hours of worthwhile viewing to your resource library.

Learn to Lay Brick

Laying brick isn't usually thought of as a do-it-yourself activity, but any able-bodied person with enthusiasm can learn this trade.

Paul Snyder is a journeyman bricklayer who spent his whole life in the trade and now he teaches ordinary people to lay bricks like a pro. I'm always reviewing how-to information products, and his DVD course *Learning the Art of Laying Brick* is the best I've seen so far. You can check it out at gumroad.com/learntolaybrick

maintain the value and classiness of specific neighbourhoods. You might hear someone say: "Can I get my money out of masonry when I flip this house in five years?" Yes, but a better question is: "What's the best way to launch something great into history with this building?"

Canada doesn't have the deep tradition of masonry that Europe does, but that doesn't mean it should stay this way. As the building scene matures in this country, I count it a good thing that we're seeing more masonry used in both traditional and modern ways. 



How to Buy Antique Bricks

There's something special about the look of old bricks, and that's why there's an industry devoted to reclaiming them.

Before the advent of prefabricated commercial building systems, much of the world was made with brick. Even structural walls in older warehouses and factories were made entirely with interlocking courses of brick that worked together to support the roof. No concrete. No blocks. As these buildings come down, they yield reclaimed brick that's got a lot going for it.

It saves energy and resources to simply reuse bricks instead of forming and firing new ones from scratch. Also, these bricks have obviously proven themselves to be durable in the climate they came from. And old bricks have a look and feel that many people love.

Antique brick often has irregularities because of how they were made. Edges and corners are a little rounded from wear and weather. Antique bricks often have a more varied pattern of colours than modern ones because of the more primitive manufacturing processes.

