Build a Better, Healthier Basement with Concrete Block Masonry

When it comes to constructing or expanding your living space and increasing the value of your home, look to concrete block masonry for a basement foundation that offers maximum versatility, strength, dryness, energy-efficiency and durability — all at a minimum cost.

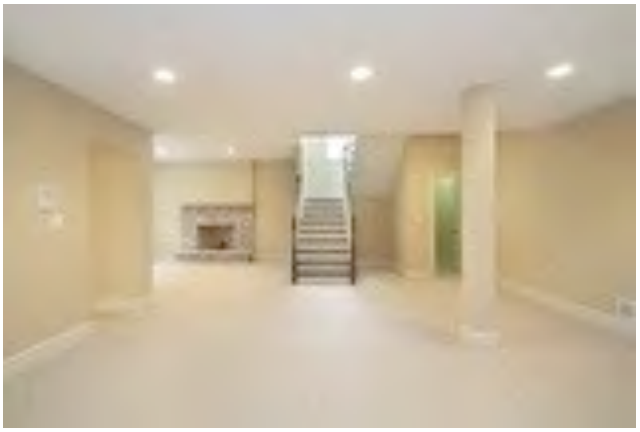
Concrete block is economical.

Concrete block foundation systems offer the greatest long-term savings, even where first-cost investment is considered. Whereas cast-in-place concrete wall systems have additional reinforcement requirements and demand more detailing and on-site inspections, design and construction requirements for block foundations are minimal. Block masonry is constructed straight, square, plumb and level, making above-grade framing and interior and exterior finishes easier to complete. In short, block is simple, convenient, and versatile to use. Together, these factors help shorten building times, and ultimately reduce construction costs.

It's strong and durable.

Concrete block is inherently strong and resistant to structural loads, impacts, mechanical damage, abrasion, forced entry, and abuse. Historically, unreinforced concrete block masonry foundation walls have been used to resist soil pressure against exterior walls. Now, with reinforced masonry becoming popular, thin, reinforced concrete block walls can easily be constructed to safely resist higher backfill soil pressures over any foundation and backfill height. Block also provides a rigid, straight, and continuous surface to which any cladding or finish, exterior or interior, is easily attached.

Block masonry offers long-term performance and unparalleled durability without the need for maintenance. It provides superior resistance to nearly all types of deterioration caused by moisture, chemicals, corrosion, ultraviolet radiation, and mould and mildew growth.



It's sustainable.

Masonry products are the original green products, with concrete block masonry having a carbon footprint 66% smaller than that of cast-in-place concrete wall systems. At manufacture, environmental impact is minimized because concrete block is made in Canada from a virtually inexhaustible supply of abundantly available raw materials and recycled materials, and is typically produced within a few hundred kilometres from home. During construction, block versatility helps minimize on-site waste and disposal. Once constructed, the masonry lasts for decades without deterioration and need for maintenance. At the end of its service life, block can be salvaged and re-used, or recycled in various forms.

It's energy-efficient and quiet.

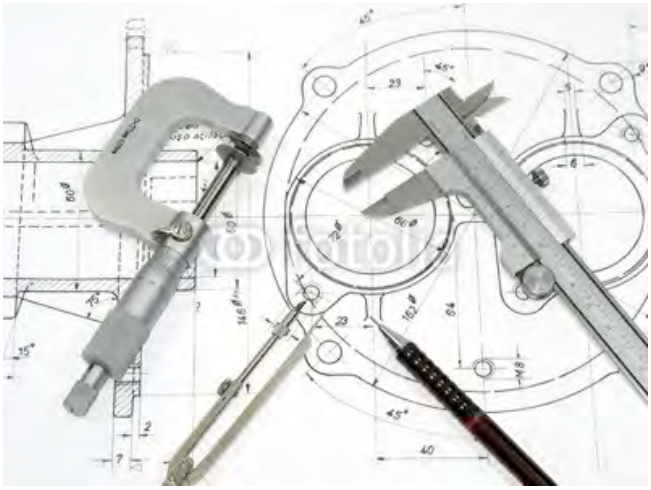
Unlike light-frame construction materials, concrete block offers a high degree of thermal mass — up to twice that of poured concrete — helping to stabilize interior heating and cooling, in turn lowering energy costs and providing a more comfortable indoor living area. Block masonry walls can be easily insulated with a variety of products ranging from rigid board to loose fill insulation. Insulation can be placed on the interior or exterior surfaces of the block to provide a continuous plane of thermal resistance, without heat loss through thermal bridges. And block's sound-insulation qualities help keep your home quiet over a wide range of sound frequencies, minimizing intrusive outdoor noise pollution.

It resists fire, termites and severe weather.

Concrete block is a noncombustible material that neither ignites nor supplies fuel to a fire. Fire studies and laboratory tests both show that no building material offers better protection against fire, smoke, and heat. For example, industry-standard CAN/ULC S101 fire tests show that materials such as wood and gypsum board burn or rapidly deteriorate, while block remains intact even after prolonged exposure to intense heat. In fact, because of its proven fire performance, concrete block is used to build firewalls in large wood frame buildings. Block foundation walls offer these same attributes, protecting against the spread of fire, yielding no smoke or toxic gasses under heat, and ensuring structural integrity both during and after a fire.

Protection from termite infestation is another benefit provided by block. Termites feed only on materials containing cellulose, most notably wood, and cannot feed on concrete block.

Overall, block masonry provides superior property and personal protection. In addition to withstanding fire and insects, block is highly resistant to strong winds and impact from wind-borne debris, and its use in basements provides refuge from severe weather such as tornadoes and hurricanes.



Block provides better air quality.

Concrete block foundations help maintain healthy, comfortable indoor environments. Unlike many other construction materials, including wood products and gypsum board, block does not provide a food source for toxic mould. Typically, moisture resulting from construction — for example, the thousands of kilograms of water contained in cast-in-place concrete basement walls — can contribute to mould growth, decay of moisture-sensitive materials, and odours. Block, however, is pre-cured and pre-dried, meaning faster dry-out to facilitate interior and exterior finishing, less risk of mould growth, less drying shrinkage and less cracking.

As well, block and mortar do not emit volatile organic compounds (VOCs), a byproduct of many other construction products that can pose serious health risks. Moreover, block can be used as a wall finish, eliminating the need for paints and other finishes that release VOCs or promote mould growth.

Block is convenient and versatile.

Block can be installed as is, with no need to wait for custom form-work and framing or pre-fabricated panels that later can't readily be modified on-site. And with concrete block, doors, windows and other openings and penetrations can be easily added, moved or eliminated during construction. Similarly, when renovating or expanding, a window or door can be cut out of a block basement wall much more easily and cost-effectively than other wall systems.

Unlike other foundation systems, concrete block masonry can be constructed in any shape to easily accommodate non-standard floor plans, lot specifications and foundation wall heights, as well as stepped footings and foundations, and last-minute changes during construction. Even complex foundations that use arcs, tees, and angled corners to construct intersecting walls, bays, bows and fireplaces can be built with ease and efficiency.

It's radon-resistant.

Concrete masonry basements effectively resist infiltration of radon and soil gases with little increase in the cost of construction. Such resistance is typically a standard feature provided as part of damp proofing, waterproofing and moisture control in block basement construction.

Concrete block foundations offer:

- Up to twice the thermal value of poured concrete
- Versatility in design
- Drier basements
- Reduced risk of shrinkage cracks and honeycombing
- Built-in quality control

Learn more about the benefits of building with concrete block.

Consider the advantages of concrete block when building your basement. Get more information or get the name of a local block supplier by contacting the Canadian Concrete Masonry Producers Association (CCMPA).

1-888-495-7497
information@ccmpa.ca
www.ccmpa.ca

Canadian Concrete Masonry Producers Association
Region 6 of the National Concrete Masonry Association
CCMPA
Building Strength