

CALGARY CONSTRUCTION NETWORK

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# Materials & Products

Questions about building materials, products,  
brands, and selection

9 Expert Answers from Construction Brain

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## Is vapor barrier required on basement ceiling joists under alberta code or just walls?

**Vapor barriers are required on basement ceiling joists under the Alberta Building Code, not just on walls.**

This is a critical moisture control requirement that many DIYers and even some contractors overlook.

Under the Alberta Building Code (2023 Alberta Edition), vapor barriers must be installed on the **warm side** of insulated assemblies to prevent moisture migration. In basement ceilings, this means the vapor barrier goes on the bottom (heated basement side) of the ceiling joists, covering the insulation from below. The vapor barrier creates a continuous air and moisture seal between the heated basement space and the unheated or differently heated space above.

**Why basement ceiling vapor barriers matter in Calgary:** Our extreme temperature swings and dry winter air create significant vapor pressure differences between basement and main floor spaces. Without proper vapor control, warm, moist basement air can migrate up through the ceiling assembly, potentially condensing when it hits cooler surfaces. This can lead to mold growth, wood rot, and insulation performance issues. Calgary's expansive clay soils already create moisture challenges in basements, so proper vapor control throughout the entire basement envelope is essential.

**Installation requirements** include using 6-mil polyethylene sheeting with all seams overlapped and sealed with acoustical sealant or vapor barrier tape. The barrier must be continuous across the entire ceiling area and properly sealed around penetrations like electrical boxes, plumbing, and HVAC ducts. Any tears or gaps compromise the entire system's effectiveness.

**Professional guidance:** While homeowners can legally install vapor barriers on their own basement development projects, the installation must still meet code requirements and pass inspection. Most basement developments require building permits, and the vapor barrier installation will be inspected along with framing, electrical, and insulation. Many contractors prefer to handle this work because proper sealing around mechanical penetrations requires experience and attention to detail.

**Next steps:** If you're planning a basement development, include vapor barrier on ceiling joists in your permit application and installation plan. The City of Calgary building inspectors will verify proper installation before allowing you to close up the ceiling with drywall.

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**Find a Basement Renovations Contractor**

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Q2

## How long does vinyl siding last in Calgary with chinooks and hail? The contractor said 25 years, but that seems optimistic?

**Your contractor is being optimistic – in Calgary's extreme climate, vinyl siding typically lasts 15-20 years, not 25.** The combination of chinook temperature swings, hail, and UV exposure at altitude makes Calgary one of the harshest environments for exterior materials in Canada.

**Chinooks are particularly brutal on vinyl siding.** Those famous temperature swings of 20-30°C in a single day cause constant expansion and contraction that fatigues the material. Vinyl becomes brittle in extreme cold (-30°C), then rapidly expands when chinook winds bring sudden warming. This freeze-thaw cycling causes cracking, warping, and loosening of panels over time. The thermal stress is far more severe than what vinyl experiences in more stable climates.

**Calgary sits in Canada's hail belt,** and severe hailstorms can destroy vinyl siding in minutes. Even smaller hail events cause cumulative damage – dents, cracks, and punctures that allow moisture infiltration. Unlike fiber cement or steel siding, vinyl cannot be repaired; damaged sections must be replaced entirely. Many Calgary homeowners discover after a major hailstorm that their siding is a total loss.

**UV exposure at Calgary's altitude (1,048m above sea level) accelerates vinyl degradation.** The thinner atmosphere provides less UV protection, causing fading and brittleness faster than at sea level. South and west-facing walls take the worst beating from both UV and chinook winds.

**Quality matters significantly in Calgary's climate.** Premium vinyl siding with higher impact ratings and UV stabilizers might reach that 20-year mark, while builder-grade vinyl often shows significant deterioration by year 12-15. Look for siding rated for extreme temperature ranges and impact resistance.

**Consider alternatives for Calgary's climate.** Fiber cement siding (like James Hardie) typically lasts 30-50 years here and handles hail much better. Steel siding is virtually indestructible but more expensive. Both require higher

upfront investment but offer better long-term value in our harsh climate.

**For your decision**, budget for replacement in 15-20 years rather than 25. If you're staying long-term, the extra cost of fiber cement or steel siding often pays for itself through longevity and reduced maintenance. If this is a shorter-term investment, quality vinyl with good warranties can work, but understand the realistic lifespan.

Find siding contractors experienced with Calgary's climate challenges in our directory at Calgary Construction Network – they'll give you honest assessments based on local conditions, not manufacturer marketing claims.

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Q3

## Is quartz or granite better for a kitchen renovation in Calgary's humid summers and dry winters?

**For Calgary's extreme climate swings, quartz is generally the better choice due to its non-porous surface and superior durability against temperature fluctuations, though both materials perform well in our dry climate.**

Calgary's climate is actually quite dry year-round compared to other Canadian cities, with low humidity even in summer. However, our extreme temperature swings from chinooks and freeze-thaw cycles create unique challenges for kitchen materials. **Quartz countertops excel in these conditions** because they're engineered to be completely non-porous, meaning they won't absorb moisture during those occasional humid summer days or expand and contract as dramatically with temperature changes.

**Granite can also perform excellently in Calgary**, but requires proper sealing every 1-2 years to maintain its stain and moisture resistance. Natural granite is slightly porous, so during Calgary's brief humid periods (typically July-August when we might see 60-70% humidity), unsealed granite could potentially absorb moisture. More importantly,

granite's natural stone composition means it can experience minor expansion and contraction with our dramatic temperature swings, though this is rarely problematic when properly installed.

**From a practical Calgary perspective**, both materials handle our dry winters beautifully - neither will crack from low humidity like some wood products might. Quartz maintains consistent performance year-round without any maintenance, while granite offers unique natural beauty but needs that annual sealing appointment. **Cost-wise in the Calgary market**, expect to pay \$60-\$120 per square foot installed for quality quartz, while granite typically runs \$50-\$100 per square foot installed, depending on the stone's rarity and origin.

**Professional installation is crucial** for both materials in Calgary due to our expansive clay soils that can cause minor foundation settlement. A skilled installer will account for potential movement and use appropriate support structures. Most Calgary kitchen renovations range from \$30,000-\$100,000 depending on size and finishes, with countertops representing about 10-15% of the total budget.

**Next steps:** Visit local stone yards to see samples in person, as lighting in Calgary homes (especially during our long winter months) can significantly affect how colors appear. Get quotes from experienced countertop installers who understand Calgary's climate challenges and can recommend the best substrate and installation methods for your specific home.

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## Find a Kitchen Renovations Contractor

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## What flooring is best for aging in place, non-slip, but still looks good, not hospital tile?

**Luxury vinyl plank (LVP) with textured surfaces is your best bet for aging-in-place flooring that's both safe and stylish.** Modern LVP offers excellent slip resistance, realistic wood or stone looks, and easy maintenance without the clinical appearance of traditional safety flooring.

**Luxury Vinyl Plank (LVP)** tops the list for aging-in-place flooring. Today's LVP features micro-beveled edges and textured surfaces that provide natural slip resistance while mimicking hardwood beautifully. The textured wear layer creates grip underfoot without feeling rough or looking obviously "safety-focused." Brands like Coretec, Shaw, and Mannington offer collections specifically designed with enhanced slip resistance ratings. LVP is also 100% waterproof, cushioned underfoot, and easy to clean – crucial factors as mobility changes over time.

**Engineered hardwood with matte finishes** provides another excellent option. Skip the high-gloss finishes that become slippery when wet, and choose wire-brushed or hand-scraped textures that add natural grip. The texture feels pleasant underfoot while providing safety benefits. Engineered hardwood works well in Calgary's climate since it's more dimensionally stable than solid hardwood during our extreme temperature swings and dry winters.

**Porcelain tile with slip-resistant ratings** can look stunning without the institutional feel. Look for tiles rated R10 or higher for slip resistance, or choose textured stone-look porcelain. Large format tiles (24"x48" or larger) minimize grout lines for easier cleaning and a more upscale appearance. Rectified edges create tight joints that look seamless and modern.

In Calgary's climate, consider that our dry winters create static electricity issues with some flooring. LVP and engineered hardwood perform better than laminate in this regard. Also factor in radiant floor heating compatibility if you're planning that upgrade – both LVP and porcelain tile work excellently with radiant systems, which can be a game-changer for aging in place during our cold winters.

**Professional installation is crucial** for safety flooring. Proper subfloor preparation, moisture barriers, and transition strips prevent future problems that could create trip hazards. Most quality flooring installations in the Calgary area run \$8-15 per square foot installed, depending on the product and complexity.

**Next steps:** Visit flooring showrooms to feel different textures underfoot, and request slip-resistance ratings for any products you're considering. Many Calgary flooring retailers can provide samples to test at home before committing to a full installation.

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## Find a Flooring Contractor

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- Bracha Concrete & Coatings Inc. ?
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Q5

### We're replacing the siding on a 1980s two-storey home in Renfrew. Is vinyl still the best bang for your buck, or should we go with fiber cement?

**For a 1980s two-storey in Renfrew, fiber cement siding offers significantly better long-term value than vinyl, despite the higher upfront cost.** While vinyl costs less initially (\$8-12 per sq ft installed vs \$12-18 for fiber cement), Calgary's extreme weather conditions make fiber cement the smarter investment.

#### Calgary's Climate Challenge for Siding

Calgary's notorious chinook winds and temperature swings are brutal on exterior materials. When temperatures jump from -25°C to +10°C in a single day (classic Calgary chinook), vinyl siding expands and contracts dramatically, leading to warping, cracking, and loose panels. The city's intense UV exposure at 1,048 meters elevation also fades and degrades vinyl faster than in lower-altitude locations. Add frequent hailstorms, and vinyl siding often needs repairs or replacement within 15-20 years.

Fiber cement handles these conditions far better. It's dimensionally stable through temperature swings, won't warp or crack from chinooks, and stands up to hail damage that would destroy vinyl. Quality fiber cement siding like James Hardie or LP SmartSide typically lasts 30-50 years in Calgary's climate with minimal maintenance.

#### Cost Analysis for Your Renfrew Home

For a typical 1980s two-storey (roughly 2,000 sq ft of siding area), expect these costs:

- **Vinyl siding:** \$16,000-24,000 installed
- **Fiber cement:** \$24,000-36,000 installed

However, factor in Calgary's hail risk and extreme weather. Vinyl may need repairs or full replacement in 15-20 years (\$8,000-16,000), while fiber cement could last 40+ years. Over 30 years, fiber cement often costs less per

year of service.

### **Renfrew Neighborhood Considerations**

Renfrew is an established inner-city community with a mix of original character homes and newer infills. Fiber cement's clean lines and variety of textures (smooth, wood grain, cedar shake) complement both heritage and contemporary styles. Many Renfrew renovations are choosing fiber cement to match the neighborhood's evolving aesthetic while handling Calgary's weather.

### **Professional Installation Critical**

Both materials require proper installation, but fiber cement is less forgiving. Incorrect fastening, inadequate flashing, or poor caulking leads to water infiltration and expensive repairs. Your contractor must understand Calgary's wind-driven rain patterns and install appropriate weather barriers. Verify they're experienced with fiber cement and carry WCB Alberta coverage.

### **Next Steps**

Get quotes from siding contractors experienced with Calgary's climate conditions. Ask to see recent fiber cement installations and check references from the past 2-3 years. Ensure quotes include proper house wrap, flashing details, and trim work. Consider the long-term investment — fiber cement's durability and lower maintenance make it the better choice for Calgary's challenging conditions.

Find verified siding contractors experienced with Calgary installations in our directory at Calgary Construction Network.

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### **Find a General Contractors Contractor**

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**Q6**

# Our west-facing windows get destroyed by chinooks and sun. What is the best material that won't warp every winter?

**Fiberglass windows are your best bet for Calgary's brutal west-facing chinook and UV exposure.** Unlike vinyl that becomes brittle in extreme cold or wood that expands and contracts with moisture changes, fiberglass maintains dimensional stability through Calgary's notorious temperature swings and won't warp from the intense afternoon sun.

## Why Fiberglass Excels in Calgary's Climate

Fiberglass window frames have the lowest thermal expansion rate of any window material — nearly identical to glass itself. This means when your west wall goes from -30°C to +15°C during a chinook (a 45-degree swing in 24 hours), the frame and glass expand and contract together rather than fighting each other. This prevents the warping, binding, and seal failures that plague other materials in our climate.

The intense UV exposure on west-facing windows is particularly brutal in Calgary due to our high altitude and reflective snow cover. Fiberglass won't fade, chalk, or degrade like vinyl can after years of UV bombardment. Quality fiberglass frames like Integrity (Marvin) or Infinity (Marvin) use pultrusion manufacturing that creates incredibly strong, stable frames that laugh at chinooks.

## Performance Features for Calgary

Look for triple-pane glass with low-E coatings and argon fill — standard for quality installations in Calgary. The middle pane should have a solar control coating to reduce heat gain on those blazing summer afternoons when west windows turn rooms into ovens. Expect U-values around 0.20-0.25 and Solar Heat Gain Coefficients (SHGC) of 0.25-0.35 for west exposures.

## Cost and Installation Considerations

Quality fiberglass windows run \$800-\$1,500 per window installed, depending on size and features. While pricier than vinyl (\$400-\$800), they'll outlast vinyl by decades in Calgary's climate. The installation is critical — improper flashing and air sealing will cause problems regardless of frame material. Your installer should understand Calgary's extreme weather and use appropriate sealants rated for our temperature range.

## Professional Installation Required

Window replacement requires building permits in Calgary and proper installation by experienced professionals. The City of Calgary requires permits for window replacements to ensure proper egress, energy code compliance, and structural integrity. Poor installation voids warranties and creates air leaks that waste energy and cause condensation problems.

Find certified window installers in our Calgary Construction Network directory who understand fiberglass installation and Calgary's climate challenges.

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## **Find a Windows Doors Contractor**

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## Our townhouse in Shawnessy has zero insulation in the party wall. Can we add it without tearing down the drywall?

**Adding insulation to your party wall without removing drywall is extremely difficult and generally not recommended.** While blown-in insulation can sometimes be added through small holes, party walls in townhouses have unique structural and fire code requirements that make this approach problematic.

### Why Party Wall Insulation is Tricky

Party walls (shared walls between townhouse units) in Calgary must meet specific **fire separation requirements** under the Alberta Building Code. These walls typically contain fire-rated assemblies, electrical and plumbing runs, and structural elements that make accessing the cavity challenging. Most Shawnessy townhouses built in the 1980s-1990s have 2x4 or 2x6 framing with fire-rated drywall on both sides, creating a narrow cavity that's difficult to fill completely without removal.

The main challenge is ensuring **complete coverage**. Blown-in insulation (cellulose or fiberglass) requires multiple access points and can settle unevenly, leaving gaps that reduce effectiveness. In party walls, you're also dealing with fire blocking, electrical boxes, and potential plumbing that create obstacles. Incomplete insulation can actually worsen moisture problems by creating temperature differentials within the wall cavity.

### Calgary Building Code Considerations

Any work on party walls must maintain the **fire rating** required by the Alberta Building Code - typically 1-hour fire separation for townhouse units. Drilling holes for blown-in insulation can compromise this rating if not properly sealed afterward. Additionally, if your townhouse is part of a condominium corporation, you'll need **written approval** from your condo board before modifying any shared structural elements, even if the work is entirely within your unit.

### Professional Assessment Recommended

The most effective approach is having the drywall removed, proper insulation installed (likely R-12 to R-20 batts), and new fire-rated drywall installed. This allows for proper air sealing, ensures fire code compliance, and gives you the opportunity to upgrade electrical or add soundproofing. A qualified insulation contractor can assess whether blown-in is feasible in your specific wall assembly, but expect costs of \$8-15 per square foot for removal and proper reinstallation versus \$3-6 per square foot for blown-in attempts that may not be fully effective.

### Next Steps

Contact a licensed insulation contractor familiar with townhouse construction to assess your specific wall assembly. They can determine if blown-in insulation is viable or if drywall removal is necessary. If you're in a condo corporation, check with your board first about approval requirements for party wall modifications.

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## Find a Insulation Contractor

Calgary Construction Network connects you with experienced contractors in the directory:

- Dealtwith. ?
- Red Seal Inspections ?
- Concrack Inc ?

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Q8

## Should we go with quartz or granite for kitchen counters? I've heard that quartz doesn't hold up great to heat from pots?

**Both quartz and granite are excellent choices for Calgary kitchens, but they have different strengths.** Your concern about quartz and heat is valid but often overstated - while quartz can be damaged by extreme heat (300°F+), it's rare in normal cooking unless you place a scorching hot pot directly from the stove onto the surface.

**Quartz advantages** include being non-porous (no sealing required), extremely consistent in pattern and color, and highly resistant to stains and bacteria. It's engineered from 90-95% natural quartz crystals bound with resins, making it incredibly durable for daily use. The main heat limitation comes from the resin binders, which can discolor or crack under extreme temperatures. However, this is easily avoided with trivets or hot pads - a good practice regardless of countertop material.

**Granite offers superior heat resistance** since it's pure natural stone that can handle hot pots and pans without damage. Each slab has unique patterns and natural beauty that many homeowners prefer. However, granite is porous and requires sealing every 1-2 years to prevent stains and bacteria absorption. It can also chip more easily than quartz, especially around edges and corners.

**For Calgary kitchens specifically**, both materials perform well in our climate. The extreme temperature swings from chinooks don't affect interior countertops, and both materials handle the dry winter air without issues. Calgary's hard water won't stain either surface when properly maintained.

**Cost considerations in the Greater Calgary market** typically see quartz ranging from \$80-150 per square foot installed, while granite runs \$70-130 per square foot installed. Premium slabs of either material can exceed these ranges. Quartz tends to have more predictable pricing since it's manufactured, while granite pricing varies significantly based on the specific slab's rarity and origin.

**Professional installation is crucial** for both materials. The fabrication requires specialized tools and experience, and improper installation voids warranties. Most reputable countertop fabricators in Calgary offer both materials and can show you samples in their showrooms.

**Bottom line:** If you frequently place hot items directly on counters and prefer natural stone's unique character, granite might be your choice. If you want lower maintenance, consistent appearance, and don't mind using trivets for hot items, quartz is excellent. Both will serve Calgary families well for decades with proper care.

Find experienced countertop fabricators and kitchen renovation contractors in our Calgary directory to see samples and get detailed quotes for your specific project.

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## Find a Kitchen Renovations Contractor

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Q9

## My deck boards are cupping after 3 years in Walden. Is this a material defect or did they install them upside down?

**Deck board cupping after 3 years is typically caused by improper installation rather than a material defect.**

The boards were likely installed with the bark side (rounded grain pattern) facing up instead of the heart side (cathedral grain pattern) facing up, which is the opposite of proper installation technique.

**Proper deck board installation** requires placing boards with the heart side up — you'll see the grain pattern looks like upside-down "U" shapes or cathedrals. When installed this way, any cupping that occurs will create a crown in

the center of the board, allowing water to run off the edges. When boards are installed bark-side up (grain looks like right-side-up "U" shapes), they cup into a dish shape that holds water, accelerating rot and creating safety hazards.

**Calgary's extreme climate makes proper installation critical.** Our chinook weather patterns create rapid freeze-thaw cycles and dramatic moisture changes that stress lumber significantly. In Walden's newer development, many homes were built during Calgary's construction boom when some contractors may have rushed installation details. The combination of our clay soils (which affect drainage around deck footings) and temperature swings from -30°C to +15°C in winter put extra stress on improperly installed decking.

**Check your installation method** by looking at the end grain of your boards. If you see the curved grain lines forming cups facing upward (like bowls), they're installed incorrectly. Properly installed boards should have the curved grain forming upside-down cups. Also examine the fastening pattern — boards should be secured with two screws or nails per joist, and screws should be stainless steel or galvanized to prevent staining.

**Professional assessment recommended** since this affects both safety and longevity. A qualified deck contractor can determine if the cupping is severe enough to warrant replacement or if the boards can be flipped and reinstalled. Given that your deck is only 3 years old, this may be covered under your contractor's workmanship warranty if the installation was improper. Document the cupping with photos and contact your original contractor first.

**Next steps:** Have a licensed contractor inspect the installation and fastening methods. If the original contractor won't address the issue, consider having the boards removed, flipped, and reinstalled properly — this is often more cost-effective than full replacement and will extend your deck's lifespan significantly in Calgary's harsh climate.

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## Find a Fencing Decks Contractor

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