

NEW BRUNSWICK DECKS

Railings & Stairs

Questions about deck railing systems, stair construction, balusters, handrails, and code requirements in New Brunswick.

14 Expert Answers from Deck IQ

newbrunswickdecks.com/construction-brain

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Are aluminum deck railings better than wood for New Brunswick weather?

Aluminum deck railings are significantly better than wood for withstanding New Brunswick's weather, offering superior resistance to moisture damage, freeze-thaw cycling, and the salt-laden air that affects coastal communities from Saint John to Bathurst. While wood railings cost less upfront, the maintenance burden and shorter lifespan in NB conditions make aluminum the stronger long-term value for most homeowners.

New Brunswick's climate is uniquely demanding on exterior materials. The province experiences roughly 100 to 140 freeze-thaw cycles per winter, annual precipitation of 1,000 to 1,400 millimetres depending on location, high humidity from the Bay of Fundy and Gulf of St. Lawrence, and significant winter salt exposure from road treatment and coastal air. Each of these factors degrades wood railings in ways that aluminum resists.

Pressure-treated wood railings absorb moisture throughout the wet seasons. When that moisture freezes, it expands within the wood fibres, causing checking, splitting, and surface degradation. Over several winters, the smooth surface of a wood baluster becomes rough and splintered. Pressure-treated lumber also warps as it dries unevenly, causing balusters to twist and top rails to bow. Within three to five years in NB conditions, most wood railings need tightening, straightening, or component replacement. The annual maintenance cycle includes inspection, sanding rough spots, tightening fasteners, and applying stain or sealant every two to three years. This maintenance costs \$3 to \$6 per linear foot per year in materials and significant labour time.

Aluminum railings are extruded from alloy that does not absorb moisture, cannot rot, does not warp, and does not split. The powder-coated finish that comes standard on brands like Peak, Regal, and Deckorators resists UV fading and does not require staining or sealing. In New Brunswick's salt-heavy environment, aluminum's natural oxide layer provides inherent corrosion resistance that steel and iron cannot match without galvanizing or expensive coating systems. A quality powder-coated aluminum railing installed in Moncton or Fredericton will look essentially the same after 15 years as it did on installation day, requiring only occasional washing with soap and water.

Structurally, aluminum railing systems are pre-engineered to meet building code requirements including the 0.5 kN/m horizontal load standard required by the NB Building Code. The panels arrive with balusters already spaced to prevent passage of a 100mm sphere, eliminating the measuring and spacing work required when building wood railings from individual components. Installation is typically faster than wood, with most aluminum systems using brackets and screws rather than the notching, toe-nailing, and blocking that wood railings demand.

Cost Comparison Over Time

Upfront, wood railings cost approximately \$15 to \$30 per linear foot for materials (pressure-treated balusters, top and bottom rails, posts). Aluminum panels run \$30 to \$70 per linear foot depending on style and brand. The gap is

real but narrows quickly. Over a 20-year deck lifespan in New Brunswick, a 40-linear-foot wood railing will require approximately \$2,400 to \$4,800 in stain, sealant, replacement components, and labour, bringing its total cost to \$3,000 to \$6,000. The same run in aluminum costs \$1,200 to \$2,800 upfront with virtually zero maintenance cost, totalling \$1,200 to \$2,800 over the same period.

The one area where wood holds an advantage is aesthetics for traditional or rustic designs. Cedar railings on a cottage-style deck in the Kingston Peninsula or along the Saint John River have a warmth and character that aluminum does not replicate. If the visual style matters more than maintenance convenience, cedar is a reasonable choice for protected or covered deck sections where moisture exposure is reduced. For fully exposed railings facing NB weather without shelter, aluminum is the practical choice by a wide margin.

Peak, Regal, and Deckorators are the most widely available aluminum railing brands through New Brunswick building supply retailers, with stock colours in black, white, and bronze that complement most deck and home exterior palettes.

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Q2

What is the best non-slip surface for deck stairs in Bathurst NB winters?

Aluminum stair nosings with embedded abrasive grit provide the most durable and effective non-slip surface for deck stairs in Bathurst, NB, where heavy snowfall and persistent freeze-thaw cycling demand a solution that withstands harsh conditions season after season. While several anti-slip options exist, the combination of aluminum nosings with textured composite treads delivers the best overall performance for Bathurst's northern New Brunswick climate.

Bathurst experiences some of the coldest and snowiest winters in the province, with average snowfall exceeding 300 centimetres and temperatures regularly dropping below minus 20 degrees Celsius from December through March. These conditions are punishing on surface treatments and adhesives, which is why mechanical solutions outperform applied coatings in this area.

Aluminum stair nosings with grit inserts mount to the leading edge of each tread, exactly where your foot contacts the step and where slips originate. The grit is typically aluminum oxide or silicon carbide bonded into a channel in the nosing. Because the grit is embedded in metal rather than glued to a surface, it resists the expansion and contraction cycles that peel adhesive-backed products off treads. Quality aluminum nosings last 10 to 15 years in Bathurst conditions before the grit wears enough to reduce their effectiveness. They cost approximately \$15 to \$25 per tread and attach with stainless steel screws. Avoid galvanized fasteners, which corrode more quickly in the salt-heavy winter environment.

Adhesive anti-slip tape is the most accessible option and provides excellent traction when fresh. Industrial-grade exterior anti-slip tape uses an aggressive adhesive and a grit surface similar to coarse sandpaper. For Bathurst's climate, choose a tape rated for temperatures down to minus 35 degrees Celsius. The limitation is longevity. Even the best exterior tape begins lifting at the edges after one or two Bathurst winters as the adhesive cycles through freezing and thawing. Snow shovels and ice scrapers catch lifted edges and peel the tape further. Plan on replacing the tape annually each fall for consistent performance. At \$3 to \$5 per tread per application, it is affordable but requires ongoing attention.

Textured composite treads offer built-in slip resistance without any additional surface treatment. The texture is molded into the composite during manufacturing and does not wear away or require reapplication. Composite is also impervious to moisture absorption, so it does not develop the surface ice layer that forms on pressure-treated lumber when absorbed moisture freezes on cold mornings. For new stair construction in Bathurst, specifying composite treads from the outset eliminates the need for aftermarket non-slip products in all but the worst ice conditions.

For existing pressure-treated stairs, an anti-slip deck coating with grit aggregate provides full-surface traction rather than just edge treatment. Elastomeric deck coatings with aluminum oxide or rubber granules mixed in create a sandpaper-like finish across the entire tread. Apply with a thick-nap roller for maximum grit distribution. These coatings last two to three seasons in Bathurst before they need recoating, making them a middle ground between annual tape replacement and the longer life of aluminum nosings.

Regardless of which surface treatment you choose, de-icing practice is the other half of winter stair safety. Calcium chloride is the recommended ice melt for deck stairs in Bathurst. It works effectively down to minus 25 degrees Celsius, covering the vast majority of Bathurst winter temperatures, and it does not damage wood, composite, or metal components. Rock salt should never be used on deck stairs. It is corrosive to fasteners and hardware, less

effective below minus 10 degrees Celsius, and leaves residue that damages composite surfaces and can void manufacturer warranties.

The optimal system for a Bathurst deck staircase combines textured composite treads, aluminum grit nosings at each leading edge, and a supply of calcium chloride kept in a covered container near the stair base. This layered approach addresses light frost, heavy ice, and everything between, keeping your stairs safe through the full length of a northern New Brunswick winter.

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Q3

How do I build code-compliant deck stairs with a landing in Riverview NB?

To build code-compliant deck stairs with a landing in Riverview, NB, you need a landing that is at least 36 inches (900mm) deep, a minimum stair width of 860mm, risers no taller than 200mm, treads no shallower than 235mm, and all risers within 6mm of each other across every flight. The landing effectively splits your staircase into two or more flights, each of which must independently meet the NB Building Code stair requirements.

Start with your total rise measurement. Measure from the finished deck surface straight down to the finished grade where the stairs will terminate. If your deck in Riverview is, say, 2,800mm above grade, a single straight run would require approximately 15 risers at 187mm each. That creates a long, steep staircase. Inserting a landing at the midpoint lets you split this into two 7-riser flights at 200mm each, or two 8-riser flights at 175mm each, with the landing providing a rest point and allowing a direction change if your yard layout demands it.

The landing itself must be at least 900mm deep measured in the direction of travel. If the stairs change direction at the landing, the landing must be at least as wide as the stair width in both directions. For a standard 36-inch-wide stair that turns 90 degrees, your landing becomes a 36-by-36-inch platform at minimum. For a 180-degree

switchback, the landing must be wide enough to accommodate both flights side by side, plus the 36-inch depth.

Structurally, the landing is a small deck platform and needs its own support. In Riverview's soil conditions, which range from clay to sandy loam depending on your proximity to the Petitcodiac River, you need footings that extend below the frost line. The NB frost depth is approximately 48 inches (1,200mm) in the Riverview area, though your local building inspector can confirm the specific requirement for your property. Concrete sonotubes with post bases are the standard approach. The landing frame connects to the posts using beam-to-post hardware and should be built with the same lumber dimensions as your deck frame, typically 2x8 or 2x10 joists.

The NB Building Code requires a landing at both the top and bottom of every staircase. The deck surface itself serves as the top landing, provided the door threshold area meets landing dimension requirements. At the bottom, you need a concrete pad or equivalent solid surface at least 900mm deep. Many Riverview builds use a 4-inch concrete pad on compacted gravel for the bottom landing, which also prevents the stair stringers from sitting in standing water and soil contact.

Each flight of stairs between landings must have uniform risers within that flight. The 6mm tolerance applies within each individual flight, but different flights can have slightly different riser heights if the total rise to each landing divides differently. However, for comfort and safety, keeping risers consistent across all flights is strongly recommended. The human body expects each step to be the same height, and a noticeable change at the landing level can cause stumbles.

Guards are required on the open sides of both the landing and the stair flights if the height above grade exceeds 600mm. The guards must be 900mm high on the landing platform and between 865mm and 965mm along the stair flights, measured vertically from the nosing. A graspable handrail between 32mm and 38mm in diameter is required on at least one side of each flight, extending 300mm beyond the top and bottom risers.

For your Riverview permit application, submit a detailed drawing showing the total rise, number of risers per flight, riser and tread dimensions, landing dimensions, footing locations, and railing heights. The Town of Riverview building department reviews deck stair plans as part of the standard building permit process, and having clear dimensions on your drawing speeds up approval significantly.

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Do I need a handrail on both sides of my deck stairs in Moncton NB?

No, the NB Building Code requires a handrail on only one side of residential deck stairs in Moncton, provided the stair width is 1,100mm or less. If your stairs exceed 1,100mm (approximately 44 inches) in clear width, then a handrail on both sides is required. For the typical deck staircase built at 36 inches wide, a single graspable handrail on one side satisfies the code.

It is important to distinguish between a handrail and a guard, because the NB Building Code treats them as separate elements with different requirements. A guard is the barrier that prevents you from falling off the open side of a staircase or elevated deck surface. Guards are required on any staircase where the adjacent grade is 600mm or more below the stair. A handrail is the graspable element you hold onto while ascending or descending. A guard can incorporate a handrail at its top, or a handrail can be mounted independently. The code requires at least one handrail on stairs with more than two risers, and that handrail must run the full length of the stair flight.

The handrail must be graspable, which the code defines through specific dimensional requirements. A circular cross-section must have an outside diameter between 32mm and 38mm. For non-circular profiles, the graspable portion must have a perimeter between 100mm and 125mm and a cross-section dimension not exceeding 45mm. A standard 2x4 laid flat on top of a guard does not qualify as a graspable handrail because it is too wide for a hand to wrap around. Many deck builders in Moncton add a separate round or profiled handrail on top of or alongside the guard railing to meet this requirement.

The handrail must also be continuous for the full length of the stair flight and must extend horizontally at least 300mm beyond the top riser and the bottom riser. This extension gives you something to hold as you transition from the flat deck surface to the angled staircase and vice versa. The extensions are frequently overlooked in residential deck construction but are part of the code requirement and can be flagged during inspection.

Mounting height for the handrail is measured vertically from the stair nosing to the top of the handrail. The NB code specifies a height between 865mm and 965mm. This range gives you some flexibility, but the handrail height must be consistent along the entire run. A handrail that starts at 900mm and ends at 940mm because the stringer was slightly off will likely pass, but significant variation will not.

While a second handrail is not required on stairs under 1,100mm wide, adding one is a worthwhile consideration in Moncton's winter climate. Icy stairs are significantly safer when you can grip a rail with either hand, regardless of which direction you are facing or which hand is carrying groceries. For elderly residents or homes with frequent visitors, the second handrail provides meaningful safety value beyond what code demands.

If you are building a wider staircase for aesthetic reasons or because your deck serves as a primary entrance, crossing the 1,100mm threshold triggers the dual-handrail requirement. At that point, both handrails must meet the same graspability, height, and extension standards. This is worth planning for in advance because retrofitting a second handrail after construction is more expensive and disruptive than including it in the original build. The cost for a code-compliant exterior handrail in the Moncton area typically runs \$15 to \$30 per linear foot for materials, with professional installation adding another \$15 to \$25 per linear foot.

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Q5

What material is best for deck stair treads in New Brunswick's icy winters?

Composite decking with a textured, non-slip surface is the best material for deck stair treads in New Brunswick's icy winters, offering superior traction, minimal maintenance, and excellent freeze-thaw durability compared to wood alternatives. While pressure-treated lumber remains the most affordable option, it requires ongoing treatment to remain safe in winter conditions, making composite the better long-term investment for NB homeowners.

Composite stair treads from brands like Trex, TimberTech, and Fiberon are manufactured with textured surface patterns that provide grip even when wet or lightly frosted. The texture is molded into the material during production, so it does not wear away over time the way applied coatings on wood can. This matters enormously in New Brunswick, where stairs may experience 130 or more freeze-thaw cycles between November and April. Each cycle can degrade surface coatings on wood, leaving you with a slippery tread by mid-February when conditions are worst. Composite maintains its traction characteristics throughout its lifespan, which typically runs 25 to 30 years with minimal maintenance.

Pressure-treated lumber is the traditional choice and costs roughly half as much as composite per tread. For NB winters, pressure-treated treads need an anti-slip coating applied at installation and reapplied every one to two years. Elastomeric anti-slip deck coatings with grit additives work well when fresh but break down under snow shovels, ice scrapers, and UV exposure. If you choose pressure-treated treads, the best supplemental traction comes from aluminum stair nosings with embedded grit. These metal strips fasten to the leading edge of each tread and provide a durable non-slip surface exactly where your foot lands. They cost approximately \$15 to \$25 per tread and last 10 to 15 years before the grit wears enough to warrant replacement.

Another effective option for either wood or composite treads is adhesive anti-slip tape. Industrial-grade anti-slip tape rated for exterior use provides excellent traction and installs in minutes. Apply it in strips across each tread. The limitation is that it needs replacement annually or biannually in New Brunswick's climate, as the adhesive degrades through repeated freezing and thawing. Budget about \$3 to \$5 per tread per year for quality exterior-rated tape.

De-Icing Compatibility

The de-icing products you use on your stair treads matter as much as the tread material itself. In New Brunswick, calcium chloride is the recommended ice melt for deck stairs. It is effective down to approximately minus 25 degrees Celsius, which covers the vast majority of NB winter nights, and it does not damage wood, composite, or metal hardware. Rock salt, which is sodium chloride, should be avoided on deck stairs. It is corrosive to metal fasteners and connectors, can accelerate deterioration of pressure-treated lumber, and leaves a white residue on composite surfaces. Some composite manufacturers will void their warranty if rock salt damage is evident.

For the ultimate winter-safe stair tread system, combine composite treads with aluminum grit nosings and keep a supply of calcium chloride on hand for ice events. This triple approach addresses the three mechanisms of winter slipping: the textured composite handles light frost and dew, the aluminum nosing catches your foot at the tread edge where slips most commonly begin, and the calcium chloride manages heavy ice and packed snow.

Cost comparison for a standard 36-inch-wide, 4-step staircase in New Brunswick: pressure-treated treads run about \$80 to \$120 in materials; composite treads run \$160 to \$280 depending on brand and profile. Adding aluminum grit nosings adds approximately \$60 to \$100 for four steps. Over a 15-year span, the composite option typically costs less when you factor in the staining, sealing, and anti-slip treatments that pressure-treated lumber demands every year or two.

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Q6

Can I use horizontal railing on my deck in Dieppe NB?

Horizontal railing is generally allowed on decks in Dieppe, New Brunswick, under the NB Building Code, but you should verify with the Town of Dieppe's building inspection department before proceeding, as some municipalities apply additional restrictions related to child safety. The provincial code does not explicitly ban horizontal railing designs, but it does impose performance and safety standards that horizontal configurations must satisfy.

The NB Building Code requires that guards on any deck 600mm or more above grade reach a minimum height of 900mm and that no opening in the guard allow a 100mm sphere to pass through. Horizontal railings meet the sphere test by spacing the horizontal members close enough together, typically 75mm to 90mm apart depending on the profile of the material. Where horizontal railing becomes contentious is the climbability provision. The code states that guards must not have elements in the lower 600mm that facilitate climbing. Horizontal rails, by their nature, create a ladder-like pattern that children can use as footholds. Whether this constitutes a code violation depends on interpretation, and interpretation varies between municipalities and individual inspectors.

In Dieppe specifically, the building department follows the NB Building Code as adopted by the province, but inspectors have discretion in how they evaluate climbability. Some inspectors accept horizontal railing if the spacing between horizontals is narrow enough that a child's foot cannot gain purchase, generally under 50mm apart. Others take a stricter view and flag any horizontal element below 600mm as a climbable feature. The safest approach is to contact Dieppe's building inspection office before you purchase materials and confirm their stance on horizontal railing for your specific project.

If horizontal railing is approved for your project, design choices can reduce climbability concerns. One effective approach is to install a solid panel or vertical balusters in the lower 600mm of the guard, then transition to horizontal members above that height. This hybrid design eliminates the climbing hazard in the zone where it matters while preserving the horizontal aesthetic in the upper section where it is most visible. Another option is to use flat horizontal boards instead of round rails, oriented so the narrow edge faces outward, making it difficult for small feet to stand on.

The structural requirement for horizontal railing is the same as any guard: it must resist a 0.5 kN/m horizontal load applied at the top. Horizontal railing systems transfer this load differently than vertical balusters. Each horizontal member acts as a beam spanning between posts, and the posts themselves must resist the accumulated load. Post spacing becomes more critical with horizontal designs because longer spans allow the horizontals to flex, which can open gaps beyond the 100mm limit under load. Most horizontal railing systems specify a maximum post spacing of 6 feet, with 4-foot spacing recommended for added rigidity.

Material selection for horizontal railing in the Dieppe area should account for the region's freeze-thaw cycles and moisture levels. Pressure-treated lumber horizontals will check and warp over time as they cycle through wet winters and dry summers, which can change the spacing between members. Composite or aluminum horizontal systems maintain more consistent dimensions. Aluminum horizontal railing from manufacturers like Peak or Regal comes in pre-engineered panel kits that are designed to meet building code requirements out of the box, which simplifies the permitting conversation with the Dieppe building department.

Expect to pay approximately \$40 to \$70 per linear foot for aluminum horizontal railing panels installed, or \$25 to \$45 per linear foot for a wood horizontal railing built on site.

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How wide do deck stairs need to be according to NB building code?

Deck stairs in New Brunswick must be a minimum of 860mm (approximately 33-7/8 inches) wide, measured between the inner faces of the stair stringers or guards. This is the clear walking width, not the overall dimension including the stringer thickness or railing posts, and it applies to all residential exterior deck stairs governed by the NB Building Code.

The 860mm minimum is the measurement your building inspector will verify. They place a tape between the inside edges of whatever borders the stair, whether that is the stringer faces, the inside of guard posts, or the inner surface of a railing system. If posts or railing components project inward from the stringers, the clear width between those projections is what counts. This distinction matters because a stair built with 2x12 stringers at 900mm apart on center might only yield 860mm of clear width once you account for the stringer thickness, and adding railing posts that project inward could reduce it further below the minimum.

For practical deck construction in New Brunswick, most builders cut stairs at 36 inches (914mm) clear width as a standard, which comfortably exceeds the 860mm code minimum and accounts for minor construction tolerances. This width also works well with standard composite decking boards, which are commonly available in 5.5-inch widths. Two boards laid across a 36-inch opening, with appropriate spacing and overhang, create a natural tread configuration.

There are situations where you might want wider stairs. Decks that serve as primary home entrances often benefit from 48-inch or wider stairs, which allow two people to pass comfortably and accommodate carrying groceries or furniture. If your Moncton, Fredericton, or Saint John home has a high deck with a long staircase, wider stairs feel less confining and improve the overall appearance of the structure. Code only specifies minimums, not maximums, so there is no upper limit on stair width.

When stairs exceed 1,100mm (approximately 44 inches) in clear width, the NB Building Code requires a handrail on both sides rather than just one. This threshold is important to consider during planning because adding a second handrail affects both the cost and the design. For stairs between 860mm and 1,100mm wide, a single handrail on one side satisfies the code requirement.

The width measurement interacts with your stringer count. Standard practice is to space stringers no more than 16 inches apart for 2x lumber treads, or per the composite manufacturer's specifications for composite treads. A 36-inch-wide stair typically uses three stringers: one on each outside edge and one in the center. A 48-inch stair may require four stringers. The stringers must be properly supported at both the top connection to the deck frame and the bottom bearing on a concrete pad or footing.

New Brunswick winters add a practical argument for building wider than the minimum. Snow accumulation on stair edges effectively narrows the usable walking surface. A stair built at exactly 860mm can feel quite tight when 3 or 4 inches of packed snow accumulates on each side. Building at 36 to 42 inches gives you a buffer so the stairs remain comfortably passable even before you shovel. The wider surface also makes shovelling and applying calcium chloride ice melt easier and more effective, since you have room to work without stepping off the edge of the treads.

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Q8

What is the maximum stair riser height for a deck in New Brunswick?

The maximum stair riser height for a deck in New Brunswick is 200mm (approximately 7-7/8 inches), as specified by the NB Building Code. This limit applies to all exterior deck stairs serving residential properties, regardless of whether the deck is attached or freestanding, and regardless of the total height of the staircase.

The 200mm maximum riser height works in conjunction with the minimum tread run of 235mm (approximately 9-1/4 inches). These two dimensions are directly related and exist as a pair because stair safety depends on the ratio between how high you step and how deep the tread is. A riser at the full 200mm with a tread at the minimum 235mm creates a fairly steep staircase, which is technically compliant but not always comfortable, particularly for taller deck heights where you are climbing many steps. Many experienced builders in New Brunswick target a riser height between 175mm and 190mm with treads of 250mm to 270mm, which produces a more natural walking rhythm.

Equally important is the uniformity requirement. The NB Building Code mandates that all risers within a single flight of stairs must be within 6mm of each other. This is a tight tolerance and one of the most common reasons deck

stairs fail inspection. If your top riser is 185mm and your bottom riser is 195mm, you are technically within the 6mm range. But if one riser drifts to 178mm while another sits at 198mm, that 20mm difference exceeds the 6mm tolerance and will not pass.

The practical implication of the 6mm uniformity rule is that you must calculate your stair layout carefully before cutting any stringers. Measure the total rise from the finished deck surface to the finished ground level at the stair landing. Divide that total by your target riser height to determine the number of steps. Adjust until you get a riser height that divides evenly into the total rise while staying at or below 200mm.

For example, if your deck surface is 1,400mm above grade, dividing by 200mm gives you exactly 7 risers. That works perfectly. But if your deck is 1,450mm above grade, dividing by 200mm gives 7.25 risers, which is not a whole number. You would need 8 risers at 181.25mm each, which is well within the 200mm maximum and gives you uniform risers. The mistake many DIY builders make is forcing 7 risers into that 1,450mm height, which would require risers of approximately 207mm, exceeding the code maximum.

New Brunswick's climate adds a practical layer to riser height decisions. Lower risers with deeper treads provide better footing on icy mornings because your foot has more surface contact on each step. During winter months, snow accumulation effectively raises treads and shortens the apparent riser height, which can make steep stairs feel even steeper. Building at the lower end of the permissible riser range, around 175mm to 185mm, gives a more comfortable and safer staircase year-round.

The minimum tread run of 235mm is measured horizontally from the face of one riser to the face of the next, not including any nosing overhang. If you add a nosing, it projects beyond the tread face and does not count toward the 235mm minimum. Nosings are not required by NB code on exterior deck stairs, but they improve footing and are generally recommended.

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Are glass deck railings code compliant in New Brunswick?

Yes, glass deck railings are code compliant in New Brunswick provided the glass is tempered safety glass and the installation meets all guard height, load, and spacing requirements of the NB Building Code. There is no blanket prohibition on glass as a railing material, but the code imposes performance standards that only specific glass types and mounting methods satisfy.

The fundamental requirement is that all glass used in guard assemblies must be tempered safety glass. When tempered glass breaks, it shatters into small granular pieces rather than dangerous shards, which is the safety characteristic the code demands. Laminated glass, which holds together when broken because of an interlayer film, is also acceptable and offers an added margin of safety. Some homeowners in New Brunswick opt for laminated tempered glass, combining both properties, which is the premium choice but adds roughly 40 to 60 percent to the glass cost.

Your glass railing must meet the same dimensional and structural standards as any other guard material. The NB Building Code requires a minimum guard height of 900mm measured from the deck surface to the top of the railing. The glass panels must resist a horizontal load of 0.5 kN per metre applied at the top, which is the same load requirement for wood or metal railings. For frameless glass systems, this load resistance comes entirely from the glass thickness and the base mounting hardware. Most residential frameless systems use 12mm tempered glass to meet this threshold, though some manufacturers specify 15mm for taller panels or wider spans.

Spacing is another critical factor. The NB code requires that no opening in a guard allow passage of a 100mm sphere. For glass panel systems with posts, the gap between the glass edge and the post must stay under 100mm. Frameless systems with butt-jointed panels typically maintain gaps of 25 to 50mm between panels, well within compliance.

There are two main mounting approaches. Top-mounted base shoe systems use an aluminum channel fastened to the deck surface, with the glass panel sitting in the channel and secured by compression fittings. This is the most common residential approach and provides a clean, minimal look. Side-mounted standoff systems use point fixings through drilled holes in the glass, attaching to posts or the deck structure. Both are code compliant when properly engineered, but base shoe systems are generally easier to install and inspect.

Winter Considerations for New Brunswick

Glass railings perform well in New Brunswick's freeze-thaw climate because glass itself is unaffected by moisture, ice, or temperature swings. The hardware is the vulnerable point. All mounting hardware, screws, and channels should be stainless steel or marine-grade aluminum to prevent corrosion from road salt exposure and coastal

humidity. Rubber gaskets inside base shoes can degrade over several years of UV and cold cycling, so inspect them annually and replace as needed.

Cleaning in winter requires care. Avoid using rock salt or sodium chloride near glass railing hardware, as it accelerates corrosion on metal fittings. Calcium chloride is the safer de-icing option for deck surfaces adjacent to glass railings. The glass panels themselves clean easily with standard glass cleaner and rarely show the weathering or greying that affects wood railings over time.

Cost for glass railing in New Brunswick typically ranges from \$150 to \$300 per linear foot installed, depending on glass thickness, hardware quality, and whether you choose framed or frameless. This is significantly more than wood or aluminum alternatives, but the durability and low maintenance often justify the investment over a 20-year deck lifespan.

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How do I install cable railing on a deck in Saint John NB?

Cable railing installation on a Saint John deck requires proper tensioning hardware, code-compliant post spacing, and materials rated for New Brunswick's coastal climate. The process is achievable for experienced DIYers, but the marine-influenced air in Saint John adds corrosion considerations that inland installations do not face.

Before you begin, confirm your railing system meets the New Brunswick Building Code. Guards are required on any deck surface 600mm or more above finished grade. The railing must reach a minimum height of 900mm, and the cable spacing must not allow a 100mm sphere to pass through at any point along the run. This 100mm rule is the same one that governs baluster spacing, and it applies equally to horizontal cables. Most cable railing systems achieve compliance with cables spaced approximately 75mm apart, which accounts for the slight deflection that occurs between posts.

Start by installing your posts. For cable railing, intermediate posts should be spaced no more than 4 feet apart. Wider spacing causes cables to bow outward under the required 0.5 kN/m horizontal load that NB code mandates guards must resist, which can push the gap beyond the 100mm limit. Corner posts and terminal posts need to be especially robust because they absorb the cumulative tension of all cables. Most installers use 4x4 or steel posts bolted through the rim joist with backing plates rather than surface-mounted brackets, which provides the structural rigidity cable systems demand.

The cables themselves should be marine-grade 316 stainless steel, particularly important in Saint John where the Bay of Fundy salt air accelerates corrosion on lesser grades. Standard 304 stainless will develop surface rust within a few seasons in that environment. Use 1/8-inch diameter cable for residential applications. Each cable run needs a tensioning mechanism on one end, typically a turnbuckle or a swage-and-toggle fitting. Turnbuckles are more forgiving for DIY installation because they allow adjustment after initial setup. The opposite end uses a fixed terminal, either a swaged fitting or a hand-crimped stop sleeve.

Drill your post holes using a drill guide to keep them aligned. Misaligned holes create uneven tension and a visually crooked result. Thread cables through all intermediate posts before attaching end fittings. Once cables are run, tighten each turnbuckle until the cable is taut with minimal deflection when you press on it. You will need to revisit and re-tension cables after the first season as posts settle and wood shrinks.

The NB code also prohibits climbable elements in the lower 600mm of any guard assembly. Because horizontal cables can function as a ladder for small children, ensure the bottom cable starts above that 600mm threshold, or install a solid kick panel at the base. Some Saint John building inspectors scrutinize this detail closely.

Budget approximately \$50 to \$80 per linear foot for materials when using quality 316 stainless components. Factor in the cost of a proper swaging tool if you are crimping your own fittings, which runs around \$100 to \$150 for a hand swager. Professional installation in the Saint John area typically runs \$80 to \$130 per linear foot installed, which includes the engineering certainty that your system will pass inspection without callbacks.

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Q11

Do I need a railing on a deck that is 24 inches off the ground in Fredericton?

Yes, a deck that is 24 inches (600mm) off the ground in Fredericton is right at the threshold where the New Brunswick Building Code requires a guard (railing) to be installed. The code states that guards are required on any deck, balcony, or raised walking surface where the height above adjacent grade is 600mm or more. Since 24 inches equals exactly 600mm, your deck meets this threshold and must have guards installed along any open edge where a person could fall.

This is a point of confusion for many Fredericton homeowners because the threshold is often informally described as "more than 24 inches" or "over 2 feet," but the actual code language triggers the requirement at 600mm — which is 24 inches, not 25. The measurement is taken from the top of the finished deck surface (the walking surface of the decking boards) straight down to the finished grade (the ground level) directly below. If any portion of your deck perimeter reaches that 600mm height — even if most of the deck is lower due to sloping ground — a guard is required along the section that meets the threshold.

The guard must meet several specific requirements under the NB code. It must be a minimum of 900mm (36 inches) high, measured from the deck surface to the top of the guard rail. The balusters or infill panels must prevent a 100mm (4-inch) sphere from passing through at any point, which means clear gaps between balusters cannot

exceed approximately 4 inches. The guard system must be structurally capable of resisting a horizontal force of 0.5 kN per metre applied at the top of the rail, which means posts must be securely bolted — not just screwed — to the deck structure. There must be no climbable features in the lower 600mm of the guard, ruling out horizontal elements that could serve as footholds for children.

If your Fredericton deck also has stairs — which it almost certainly does at 24 inches above grade — the staircase has its own code requirements. Each step must have a maximum rise of 200mm (about 7.9 inches) and a minimum run of 235mm (about 9.25 inches). All risers in the same staircase must be within 6mm of each other in height — uneven steps are a tripping hazard and a code violation. The staircase must be at least 860mm (approximately 34 inches) wide. A graspable handrail is required on at least one side of the stairs, and it must have a circular or near-circular cross-section between 32mm and 38mm in diameter so a person can wrap their hand fully around it.

There is a practical aspect worth considering for decks right at the 24-inch mark in Fredericton. Ground level is not static — it changes with grading, landscaping, erosion, and even seasonal frost heave. A deck that measures 22 inches above grade in summer might measure 24 or more inches in spring after frost has shifted the soil or after you have regraded a garden bed. Building inspectors in Fredericton measure the height at the time of inspection, and if conditions change later, you could find yourself out of compliance. For decks anywhere close to the 600mm threshold, installing guards proactively is the wise choice regardless of whether you are technically one inch above or below the trigger point.

From a safety standpoint, even a fall from 24 inches can cause serious injury, particularly for elderly residents, young children, or anyone stepping off an edge unexpectedly in winter when the deck surface may be icy. Fredericton's winter conditions — ice, snow accumulation on deck surfaces, and reduced visibility during early darkness — make railing protection especially valuable at this height. The cost of adding a basic aluminum railing system to a 300-square-foot deck is typically \$2,500 to \$5,000, which is a modest investment relative to the overall deck cost and provides both code compliance and genuine safety protection for years to come.

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What are the best railing options for a deck in Moncton NB?

Aluminum railings are the best overall choice for decks in Moncton, offering zero maintenance, complete rust resistance, and excellent durability through New Brunswick's punishing winters — typically costing \$50 to \$100 per linear foot installed. That said, the right railing material depends on your budget, aesthetic preferences, and how much ongoing maintenance you are willing to commit to over the life of the deck.

Aluminum railings have become the dominant choice in Moncton and across the Maritimes for good reason. Moncton's climate combines heavy snowfall, ice accumulation, salt-laden winter air from its proximity to the coast, and frequent freeze-thaw cycling. Aluminum is impervious to all of these stresses. It will not rust, rot, warp, crack, or require painting or staining — ever. Powder-coated aluminum railings come in a wide range of colours, from classic black and white to bronze, grey, and wood-grain finishes, and the powder coating is baked on at high temperatures, making it far more durable than paint. A quality aluminum railing system installed in Moncton will look essentially the same in 20 years as it does on day one, with nothing more than an occasional wash with soap and water. The balusters are available in standard vertical patterns that meet the NB code requirement of no more than 100mm spacing, and most manufacturers offer pre-assembled panels that simplify installation.

Glass railings provide the most dramatic aesthetic, offering unobstructed views — a significant advantage if your Moncton deck overlooks a landscaped yard, the Petitcodiac River, or Magnetic Hill. Tempered glass panels are extremely strong and meet all building code requirements for guard resistance. However, glass railings are the most expensive option at \$100 to \$200 per linear foot installed, and they come with a practical downside specific to New Brunswick winters: ice and frost accumulate on glass surfaces, creating an opaque wall during the coldest months and eliminating the very transparency that justified the premium cost. Snow also piles against glass panels rather than passing through, increasing the load on the railing system. Glass requires regular cleaning to maintain its appearance, and in Moncton's pollen-heavy spring and dusty summer months, that means cleaning every few weeks.

Composite railings, priced at \$40 to \$80 per linear foot, offer the advantage of visually matching composite decking materials. Brands like Trex, TimberTech, and Fiberon offer coordinated railing systems that create a unified look. Composite does not rot or absorb moisture, which is important in Moncton's wet climate, but it can fade over time with UV exposure and may show scratches more readily than aluminum. It also expands and contracts with temperature changes, so proper installation with expansion gaps is critical.

Wood railings remain the most affordable option at \$30 to \$60 per linear foot and offer a traditional look that many Moncton homeowners prefer, especially on cedar or natural wood decks. Pressure-treated spruce is the most economical wood railing material, while cedar provides better natural rot resistance and a warmer appearance. The

significant drawback is maintenance — wood railings in Moncton need staining or painting every 2-3 years, and the intricate surfaces of balusters, posts, and rails make this a time-consuming job. Wood is also susceptible to splitting and warping during freeze-thaw cycles, particularly at connection points where moisture infiltrates end grain.

Cable railings offer a contemporary, minimalist appearance at \$80 to \$150 per linear foot. Stainless steel cables strung horizontally between posts provide a clean sightline with minimal visual obstruction. However, there is an important consideration for New Brunswick: horizontal cables can create a climbing hazard, particularly for young children, and some municipalities within the province restrict their use on residential decks. The NB building code requires that guard systems have no climbable elements in the lower 600mm, and horizontal cables can potentially violate this provision depending on the interpretation of your local building department. Check with Moncton's building inspection office before committing to this style.

For most Moncton homeowners balancing cost, appearance, longevity, and zero maintenance, aluminum railings remain the clear recommendation.

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How far apart can deck railing balusters be spaced in New Brunswick?

Deck railing balusters in New Brunswick must be spaced so that the gap between them does not allow a 100mm (4-inch) sphere to pass through at any point. This means the clear space — the open gap measured from the inside face of one baluster to the inside face of the adjacent baluster — must be less than 100mm. This requirement comes from the National Building Code of Canada, which New Brunswick adopts as the basis for its provincial building code, and it applies uniformly to all residential guard systems regardless of deck height, railing material, or design style.

The 100mm rule exists specifically to prevent small children from getting their heads trapped between balusters. A child's body can squeeze through a gap that their head cannot easily pass back through, creating an entrapment and strangulation hazard. The 100mm dimension was established based on anthropometric data about the smallest head size of children in the age range most at risk — roughly 9 months to 3 years old. This is not an arbitrary aesthetic guideline; it is a life-safety provision that inspectors in New Brunswick enforce strictly.

In practical terms, if you are using standard 1.5-inch (38mm) square wood balusters — which are the most common type used on residential decks in New Brunswick — the maximum on-centre spacing works out to approximately 138mm, or just under 5.5 inches. That gives you 38mm of baluster width plus a 100mm gap. However, most builders in New Brunswick space balusters at roughly 4-inch (100mm) on-centre intervals, which provides a clear gap of approximately 62mm (about 2.5 inches) between balusters. This tighter spacing exceeds code requirements but provides a more visually balanced appearance and a greater margin of safety.

The 100mm rule applies not just to the spaces between balusters but to every opening in the guard system. This includes the gap between the bottom rail and the deck surface, the gap between the top rail and the uppermost point of the balusters, the space between the last baluster and a post, and any decorative cutouts or openings in panel-style railings. Every single opening, measured in any direction, must be small enough to prevent a 100mm sphere from passing through. Homeowners sometimes overlook the bottom gap — if your bottom rail sits 5 inches above the deck surface, that is a code violation even if the balusters themselves are properly spaced.

Another critical requirement that intersects with baluster spacing is the anti-climbing provision. The guard system must not have climbable elements within the lower 600mm (24 inches). This requirement directly influences design choices. Horizontal baluster patterns — where the infill members run side to side instead of vertically — create a ladder-like configuration that children can climb. While the NB code does not outright ban horizontal balusters, the anti-climbing provision effectively requires that if you use them, the spacing must be tight enough that they cannot serve as footholds. Some municipal building departments in New Brunswick interpret this conservatively and discourage horizontal patterns entirely for residential applications.

Cable railing systems face similar scrutiny. Horizontal cables spaced 3 inches apart technically meet the 100mm sphere test if the cables are close enough together, but the horizontal orientation creates a potential climbing hazard. Some New Brunswick municipalities restrict cable railings on decks at certain heights, or require additional measures to address the climbing risk. If you are considering cable railings, check with your local building department before purchasing materials.

When installing balusters, consistency is important both for appearance and for code compliance. Measure and mark your spacing carefully, using a jig or spacer block cut to slightly under 100mm to ensure every gap is uniform. An inspector will check multiple gaps across the railing run, and even one gap that exceeds 100mm can result in a failed inspection.

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Q14

What is the NB building code requirement for deck railing height in New Brunswick?

The New Brunswick Building Code requires a minimum railing (guard) height of 900mm (approximately 36 inches) measured from the deck surface to the top of the railing for residential decks. This requirement applies to any deck, balcony, or raised platform where the walking surface is 600mm (24 inches) or more above the adjacent grade or finished floor level below. The code is based on the National Building Code of Canada (NBCC), which New Brunswick adopts with provincial amendments, and this guard height requirement is one of the most fundamental safety provisions in the entire residential construction section.

The 900mm measurement is taken vertically from the top of the finished deck surface — meaning the top of the decking boards, not the top of the joists — to the highest point of the guard rail. If your deck has a composite cap

rail or a wide flat rail on top, the measurement goes to the top of that cap. This distinction matters because some homeowners install a decorative flat board on top of their railing posts and assume the height is measured to the post top, not the cap — the code measures to whatever the highest continuous graspable or protective surface is.

It is important to understand the distinction between guards and handrails in the code, as these are two separate requirements that often overlap but serve different purposes. A guard is the protective barrier along the open edge of a deck to prevent people from falling off. A handrail is the graspable rail along a staircase that provides support while ascending or descending. On a deck staircase, you need both — the guard function prevents falls off the open side of the stairs, and the handrail provides something to grip.

For deck stairs specifically, the NB code requires a handrail on at least one side of any staircase. The handrail must be graspable, meaning it must have a circular or nearly circular cross-section between 32mm and 38mm in diameter so that a person can wrap their hand around it securely. A flat 2x6 board on top of stair posts does not meet the graspable handrail requirement — this is one of the most common code violations found during residential inspections in New Brunswick. You can mount a graspable handrail on top of or inside a broader railing system, but the graspable portion must fall within that 32-38mm diameter range.

The guard system must also meet structural requirements. Under the NB code, guards must be designed to resist a horizontal force of 0.5 kN per metre (roughly 34 pounds per linear foot) applied at the top of the guard. This means your railing posts must be securely fastened — typically with through-bolts or structural screws into the rim joist or deck frame, not simply nailed or toe-screwed. Post spacing generally should not exceed 6 feet on centre to maintain adequate rigidity.

Baluster and Infill Requirements

The openings in any guard system — whether between balusters, glass panels, or any other infill — must not permit the passage of a sphere 100mm (4 inches) in diameter at any point. This means the clear space between individual balusters cannot exceed 100mm. This provision is specifically designed to prevent small children from getting their heads caught between railing members. Additionally, the guard must not have any features in the lower 600mm that would facilitate climbing — meaning horizontal rails, decorative elements, or any configuration that could serve as a foothold or ladder for a child. This climbing restriction is why vertical balusters are the standard infill pattern for residential deck railings, and why some municipalities in New Brunswick look closely at horizontal cable railing systems, which can potentially be climbed by children.

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