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Contents

MARCH 2026, VOL. 68, NO. 2

On the Cover

Ornamental metal is doing more than shaping visual identity—it is defining how interior spaces perform, feel, and function. At Toronto's Yorkdale Shopping Centre, the renovated food court uses metal ceilings, column covers, and decorative panels to balance durability, acoustical comfort, and visual impact while concealing essential building systems. Expanded options in finishes, perforations, and patterns allow designers to create distinctive environments suited to high-traffic retail settings. Together, these functional and visual qualities make ornamental metal a defining element of contemporary interior renovations.

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SEE THE ARTICLE ON PAGE 22.

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Features

Departments

MARCH 2026, VOL. 68, NO. 2

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Mass Timber Meets Modern Medicine

By Chris McQuillan

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For decades, hospital design has prioritized efficiency and low capital cost. This approach has implications for the health-care sector's sustainable performance and overlooks the built environment's critical role in healing.

The building industry is the world's largest source of carbon emissions, and hospitals are among its highest emitters. In Canada, the nation's health-care system accounts for 4.6 per cent of its greenhouse gas (GHG) emissions.[1,2] While measures such as electrification and heat pumps are reducing the operational carbon footprint of hospitals, a corresponding effort towards reducing the embodied carbon is needed to reduce the typology's overall environmental impact.

Mass timber offers a viable solution for cost-effectively aligning environmental and patient priorities at a time when health-care infrastructure faces increasing pressure due to an aging national population, rising development costs, and the climate crisis. Compared to concrete or steel, mass timber can expedite construction and improve patient outcomes. Further, it is produced with minimized fossil fuel consumption and even sequesters carbon. According to the U.S. Department of Agriculture's (USDA's) Forest Products Laboratory, mass timber can reduce a building's embodied carbon by 22 to 50 per cent for typical projects.[3] Due to health-care's outsized carbon footprint, a more significant reduction is expected.

Entrance rendering of mass timber in-patient facility.

Despite these advantages, mass timber has yet to be widely adopted by health care, with Canadian building codes still precluding its use in most hospital settings. Revising codes requires advocacy and Canadian health-care owners and operators have yet to see the material as a viable method of construction.

To address this, KPMB Architects and British Columbia's Provincial Health Services Authority (PHSA)—along with an integrated team of consultants, including Fast + Epp, Smith + Andersen, CHM Code Consultants, Hanscomb, Resource Planning Group, EllisDon, and AMB Medical Equipment Planning—recently designed a speculative mass timber study for an in-patient unit using Canadian programming and planning norms, codes, and standards. The undertaking was a practical and cost-effective response to the existing barriers.

Reconsidering capital costs due to improved outcomes and efficacy

The current cost of mass timber construction is a major reason for the sector's ongoing reluctance. Currently, mass timber adds approximately four to five per cent to the overall construction cost of a building.[4] An additional complication, budgets for health-care facility design typically do not consider investments in operational efficacy—in this case, improved health outcomes—to justify innovation or improvement.

However, assessing only initial capital outlays offers an incomplete understanding of a building's total cost. According to the Canadian Institute for Health Information (CIHI), the average annual cost of operating a hospital bed in Canada was $933,500 in 2024.[5] The average cost of construction is $4 million.[6] Over a 50-year period, the operational costs of a hospital bed will exceed the initial capital by a factor of 12. Offsetting the initial five per cent cost premium requires only modest operational improvements.

Decades of research in biophilic design have demonstrated that exposure to natural materials can positively impact health and wellbeing. According to a research study by Dr. David Robert Fell at the University of British Columbia in 2010, patients reported more positive healing experiences when wood was integrated into

Nurse station rendering of mass timber in-patient facility.

clinics and hospitals.[7] For workers, studies suggest that wood surfaces improve concentration, mood, and productivity, perhaps by as much as five to seven per cent.[8] It is reasonable then to expect that shortened inpatient stays and improvements to staff efficiency and wellbeing will cover the initial investment manifold.

Further, the current cost of mass timber construction is partly driven by a lack of industry familiarity. This will likely decrease over time, allowing owners and operators to better benefit from one of mass timber's primary advantages: accelerated construction. By enabling the prefabrication of components and requiring reduced foundations due to timber's lighter weight, mass timber can reduce on-site labour and accelerate the completion of a building's structure and enclosure—thereby reducing costs.

Addressing the structural limitations of mass timber

Despite common misconceptions, mass timber is a strong, durable, and safe building material. Historically, concerns regarding its use have focused on fire safety. However, third-party engineering tests have shown that mass timber is inherently fire-resistant when designed correctly.

The primary structural barriers to mass timber's use in hospitals are its structural span and vibration control requirements. The nominal span of a typical acute care planning grid is 9 m (30 ft), which is optimized for concrete and steel systems and is larger than what mass timber favours. While deeper timber beam depths can achieve similar spans, this increases overall building height and, by occupying more space, complicates MEP distribution in service-heavy buildings. Similarly, while additional columns can improve stiffness to help meet the vibration requirements for surgery and diagnostics, they also complicate medical planning grids and can impede the large, flexible floorplates favoured by hospitals.

Intended as a proof-of-concept, the mass timber in-patient unit study addresses both vibration control and grid requirements without increasing envelope costs or introducing dropped beams. The design features a composite frame of interior

and exterior glulam mass timber (GLT) columns, exterior cross-laminated timber (CLT) girders, and composite steel-and-concrete interior girders. This hybrid system is a cost-effective solution to the material's structural limitations, while still maximizing the physiological benefits of exposed timber. Even when accounting for its hybrid nature, an early life-cycle assessment of the proposed inpatient design revealed a 63 per cent reduction in embodied carbon when benchmarked against an equivalent reinforced concrete design.

Most effectively employed in hospitals when integrated with other building systems, mass timber should be applied to areas where patients and staff spend considerable time, and its biophilic benefits offer the greatest return. Conversely, high-criteria areas that have transient occupants and specific needs are less suited to its use. These include operating rooms with size requirements, sterile processing areas with strict moisture control needs, or imaging facilities with stringent stiffness and vibration limits.

Infection prevention and control

Health-care standards continue to recommend against the use of cellulose-based materials, such as wood, in clinical areas. A porous material that cracks and checks with age and can abrade and splinter with wear, wood has been widely considered a sanitation risk in health-care environments.

Despite this perception, microbial and virologic studies are beginning to present a more nuanced picture of wood's capabilities, with some research suggesting that wood surfaces in health-care settings may outperform materials that are accepted for widespread use, such as stainless steel and plastics.[9, 10]

As assistant professor Dr. Mark Fretz, co-director of the University of Oregon's Institute for Health in the Built Environment, summarized in 2025: "People generally think of wood as unhygienic in a medical setting. But wood actually transfers microbes at a lower rate than other less porous materials such as stainless steel."[11]

Elevator lobby rendering of mass timber in-patient facility.

Patient room rendering of mass timber in-patient facility.

Also notable is wood's ability to absorb moisture from the air, suggesting it may effectively help limit the transfer of respiratory diseases in hospital settings.

From a construction and durability perspective, industry concerns regarding mass timber include its susceptibility to rot and mould. Hospitals have many wet areas and buildings are exposed to the elements while under construction. While legitimate concerns, these can be successfully managed with comprehensive planning during construction, environmental controls, the installation of leak detection sensors, the careful detailing of plumbing penetrations, and the use of local membranes.

Construction speed and modularity: An ancillary benefit

Canada's health-care industry is showing a renewed interest and focus on modular design and construction. The principal interest in such is reducing design and approval times and construction costs. While not a specific focus of the KPMB-PHSA-led study, mass timber also excels in this area. It better capitalizes on computer-modelling driven (BIM) design and fabrication than either steel or concrete and can quicken construction scheduling by 20 to 30 per cent.[12]

Main lobby rendering of mass timber in-patient facility.

Going forward: Addressing building code restrictions

Across Canada, building code limitations on mass timber buildings are being rewritten, largely due to market pressure from the residential and commercial sectors. Consequently, residential mass timber towers can now be built up to 18-storeys and with a footprint far beyond all but the largest hospitals.

From a technical perspective, and with modest alternate compliance measures, the groundwork to obtain approval for a B2 mass timber high-rise structure appears to exist. Despite structural limitations, modest construction premiums, and concerns related to performance and durability, mass timber can be an effective alternative to conventional hospital structures when applied to select patient areas and used in conjunction with other building systems. It can improve patient outcomes and staff productivity and reduce embodied carbon—factors that also contribute to the material's increasingly compelling business case.

Canada's health-care facilities must evolve to meet the needs of modern medicine, climate responsibility, and human-centred care. Of all the materials at our disposal, mass timber offers the best opportunity to meet these needs head-on. What is required now is for the marketplace to drive regulatory change.

Notes

[1] See Eckelman, Matthew J., Jodi A. Sherman, Alexander J. G. MacNeill, "Life cycle environmental emissions and health damages from the Canadian healthcare system: An economic-environmental-epidemiological analysis," *PLOS Medicine*, vol. 15, no. 7 (2018), e1002623, journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002623

[2] Read Vogel, Lauren, "Canada's health system is among the least green," *CMAJ*, vol. 191, no. 48 (2019), E1342, cmaj.ca/content/191/48/E1342

[3] Refer to Puettmann, Maureen, Francesca Pierobon, Indroneil Ganguly, Hao Gu, Chen Chen, Shanshan Liang, Russell Jones, Gregory Maples, and Jeff Wishnie, "Comparative LCAs of Conventional and Mass Timber Buildings in Regions with Potential for Mass Timber Penetration," *Treesearch* (2021), research.fs.usda.gov/treesearch/63804

[4] Based on a cost study prepared by Hanscomb as part of a speculative mass timber in-patient unit design developed by KPMB Architects and British Columbia's Provincial Health Services Authority (PHSA), with contributions from an integrated

Balcony rendering of mass timber in-patient facility.

consultant team including Fast + Epp, Smith + Andersen, CHM Code Consultants, Resource Planning Group, EllisDon, and AMB Medical Equipment Planning.

[5] Derived from analysis of data published by the Canadian Institute for Health Information (CIHI), based on annual acute care hospital operating costs divided by the number of acute care beds; CIHI does not present this figure in this aggregated form.

[6] Calculated from an average Canadian current market construction value of $20,000 CAD per m^2 and a nominal allocation of 200 m^2 per bed.

[7] See Fell, David Robert, "Wood in the Human Environment: Restorative Properties of Wood in the Built Indoor Environment," University of British Columbia (2010).

[8] Refer to Knox and Parry-Husbands, "Workplaces: Wellness + Wood = Productivity" (2018), assets.ctfassets.net/fqjwh0badmlx/1sm3iELG79J0j7xOP6kPW7/a1dc483345d724fcc2dc9de177f2e883/Make_It_Wood_-_Wellness___Wood_report.pdf

[9] Read Mhuireach, Gráinne, Erin Fretz, Elliott Gall, Kevin Van Den Wymelenberg, Lindsey Stenson, Ryan Nortchutt, Anne Laguerre, Peter Horve, Leigh Dietz, and Susan Collins, "Effects of wetting events on mass timber surface microbial communities and VOC emissions: Implications for building operation and occupant well-being," *Frontiers in Microbiomes* (2025), frontiersin.org/journals/microbiomes/articles/10.3389/frmbi.2025.1395519/full

[10] Visit Munir, M., Pailhories, H., Eveillard, M., Irle, M., Aviat, F., Dubreil, L., Federighi, M., and Belloncle, C., "Testing the Antimicrobial Characteristics of Wood Materials: A Review of Methods," *Antibiotics* (2022), pmc.ncbi.nlm.nih.gov/articles/PMC7277147/

[11] Read "UO study advances use of mass timber in hospital construction," *Oregon News* (2025), news.uoregon.edu/content/using-mass-timber-could-elevate-wood-hospital-construction

[12] According to "Changes in modern building codes are creating even more opportunities to make mass timber structures a bigger part of the urban skyline," American Wood Council.

Chris McQuillan is a principal at KPMB Architects. He is leading the mass timber hospital tower study with Juan Martinez of British Columbia's Provincial Health Services Authority (PHSA) and Lisa Miller-Way of CHM Fire.

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Shaping Light and Form

The Architecture of Daylight

By Neall Digert, Ph.D., MIES

PHOTOS COURTESY KINGSPAN LIGHT AND AIR

Throughout the construction industry, architects are increasingly prioritizing daylighting as a critical design factor for delivering high-performance buildings. Distributing natural daylight indoors has become a cornerstone of energy-efficient, health-centric design, as evidence-driven research proves how daylight quantifiably augments occupants' wellbeing and reduces energy consumption.

With this growing momentum for daylighting strategies, many architects and specifiers benefit from exploring a versatile daylighting solution: light-transmitting wall systems. Budget-friendly and durable, these assemblies can be applied to a broad range of structures, spanning health care, education, retail, recreation, athletics, and more.

Beyond infusing daylight indoors, these assemblies can also dramatically transform a structure's esthetic by using both translucent and transparent glazing—a mixed glazed system. With many options available, specifiers can enhance a standard curtainwall system into a sleek and even colourful visual element, without adding significant expense.

Benefits of mixed glazed wall systems

Choosing the most optimal daylighting solution for a building entails a host of considerations.

- How much time will occupants be spending in the space?

- Will the structure's orientation receive too much sun penetration that could result in excess solar heat gain?
- Will the daylight distribution cause glare issues that impact computer screens and visual comfort?
- If involving transparent, image-preserving material, will a daylighting solution raise privacy concerns?

Each individual space involves specific design limitations and challenges, translating to different answers to all of these questions.

For any combination of answers, mixed-glazed wall systems can offer seamless solutions and significant benefits that support occupants and their indoor activities. These include:

- Providing natural daylight that promotes a comfortable, relaxing environment
- Diffusing daylight in a manner that reduces infrared heat and visual glare
- Altering the level of transparency to block a direct line-of-sight indoors
- Reducing reliance on electric lighting during daytime hours, with consistent delivery of daylight indoors
- Available unitized designs offer simplified installation

These advantages help create a system that offers unique flexibility compared to other daylighting solutions. Using only transparent, image-preserving vision windows or curtainwall allows an influx of uncontrolled, transient natural light indoors, for example. This flood of daylight can cause eye fatigue, glare on screens, and can result in significant solar heat gain that strains HVAC systems to combat. This necessitates the use of blinds and curtains to mitigate these impacts, as well as to conceal private interior areas from public view.

Beyond the light control considerations, large glass wall systems can also prove more challenging to install due to their weight and handling restrictions. Integrating glass with translucent polycarbonate or fibreglass reinforced plastic (FRP) glazing can reduce these issues while also allowing architects to create fully illuminated, comfortable

Mixed glazed systems diffuse natural daylight indoors while reducing infrared heat and glare, delivering illumination without added heat or visual discomfort.

spaces with controlled solar heat gain and reduced glare.

Creating a balance

A specific combination of glazing materials can optimize a wall system's usability and versatility.

Popular translucent glazing materials include a translucent FRP panel (made with fibreglass reinforced face sheets and an aluminum grid core) and a polycarbonate multiwall. Both materials distribute diffuse natural daylight into interior spaces and offer flexibility with a variety of configurations and colours to support a structure's architectural character.

These materials' translucency can raise potential challenges. Some structures and their functions may necessitate that lines of sight remain open between indoor and outdoor spaces, such as entryways to public buildings, retail stores, and athletic facilities.

A combination of glazing materials can address these needs by providing just the right mix of light control and careful curation of views.

Versatile options and configurations

Many options and configurations are available with glazing materials that offer targeted functional and esthetic benefits.

The most commonly applied mixed-glazed configuration features translucent glazing above and glass below. This strategic assembly offers notable advantages. The top section of translucent glazing acts to diffuse the sun's rays, controlling direct daylight during peak sunny hours of the day. Meanwhile, the transparent area at the bottom of the system allows for a view of the outdoors. If operable windows are incorporated, it also delivers ventilation control opportunities.

This combination of translucent and transparent materials effectively minimizes the need for exterior shading devices. It provides an ideal daylighting solution for many types of buildings, including schools, residential units, retail stores, recreation facilities, art studios, and more.

The reverse of this configuration—translucent glazing below and glass above—can also be effective if direct sunlight is not an issue (such as on a north-facing wall). In this assembly, the transparent vision glazing allows for views of exterior features and the sky, while the lower translucent section distributes diffuse natural daylight throughout the space. This configuration can be effective for interiors where privacy is key, such as bedrooms, washrooms, and locker rooms.

Thermal resistance often represents a critical design priority, especially in Canada's cold climates. Translucent polycarbonate panels, designed for high-performance daylighting, can deliver ample daylight indoors while maintaining high R-values to reduce heat loss. Some manufacturers further apply translucent insulation infill to configurations for superior insulation, while still allowing effective daylight transmission and maintaining a powerful thermal barrier to prevent heat loss.

These popular configurations offer distinct advantages that support occupant comfort and wellness by diffusing high-quality daylight, while still allowing for optimal privacy and views of the outdoors.

Many colour options and configurations are available with glazing materials that offer targeted functional and esthetic benefits.

Get creative with customizing

Architects can also explore more inventive options for mixed glazed configurations.

Translucent and transparent glazing can be mixed in multiple ways. Creating a patchwork of vision glass in a wall of translucent panels, for example, delivers a distinctive design element while still capitalizing on the benefits of exterior views.

This configuration serves as an optimal solution for illuminating hallways, transitional spaces, lobbies, and entryways.

A more deliberate placement of fixed or operable glass in a wall of translucent glazing also serves as an effective approach to frame a striking landscape feature, such as a pond, a stand of trees, or a monument. This positioning could also frame interior design elements, such as a sculpture, for viewing from exterior walkways or roads.

Unique mixes of translucent and transparent materials additionally allow for creative lighting applications, especially during evening hours. Mixed glazed configurations present a wide range of possibilities, such as back-lighting behind company signage, coloured lighting to provide an eye-catching architectural focal point, or a column of illuminated glazing to emphasize a building's entrance.

Custom daylighting products can be highly engineered for a building's specific geographical location and physical characteristics. Daylighting manufacturers can offer expert insight into how their products can benefit a singular space, often providing ideal solutions to match a project's requirements and budget.

Integrating mixed glazed configurations effectively delivers rich daylight to interior areas while elevating a structure's design with a distinctive, customized esthetic.

Mixed glazing systems distribute abundant daylight indoors, proven to improve academic performance.

Cost considerations

Architects can explore a wide range of cost options with mixed-glazed systems. Assessing these involves balancing material costs against life-cycle savings and structural offsets. Lightweight wall systems can reduce the overall cost of a building's structural framing, for example, and diffusing daylight into interior spaces reduces costly energy consumption.

When combining traditional vision glass with high-performance translucent walls, take these considerations into account:

- Standard, premium, or customized materials—Does a standard system best fit the project's budget, or is there room for a highly engineered system or custom configuration?
- Net cost calculation—Will the wall material cost reduce the total building cost?
- Initial cost versus life cycle—Will the initial material premium drive down long-term operational costs?

Speaking directly with manufacturers can also help to pinpoint the best option for a project's budget and design focus.

Health benefits of daylighting

Whichever mixed-glazed configuration architects use, diffusing vibrant daylight indoors plays an instrumental role in creating healthy, productive environments.

A bevy of research shows that daylight directly improves humans' mood and wellbeing. Daylight exposure heightens the body's cortisol level,[1] a powerful steroid hormone that maintains blood pressure and alleviates stress and anxiety. Daylight additionally triggers the body's release of serotonin,[2] a neurotransmitter responsible for elevating happiness and sharpening cognitive function.

Reflecting these biological effects, a 2022 study discovered that daylighting design in homes bears a significant impact on emotional wellbeing, with the most positive results produced by maximizing the amount of daylight entering the home.[3]

Natural daylight also regulates and maintains consistent circadian rhythms,[4] the body's internal mechanism for crucial sleep-wake patterns throughout a 24-hour cycle. This promotes higher quality of natural sleep, strengthening the body's immune system while also bolstering focus and productivity when awake.

These studies underscore that strategically distributing bright, abundant daylight where people live and play can effectively support their mood, comfort, and overall wellbeing.

Enhancing occupants' success

Daylight can also help occupants thrive at work and school—and it can even enhance their shopping experiences.

Exposure to natural daylight activates regions of the brain[5] that increase alertness and memory, promoting superior job performance. In addition, a study published in the Journal of Clinical Sleep Medicine found that workers with greater exposure to daylight reported heightened vitality and better sleep quality than those in windowless spaces.[6]

Consistent access to daylight also improves academic success. In a study of 21,000 elementary school students, those exposed to more sunlight daily demonstrated 26 per cent higher reading results and 20 per cent higher math results than students exposed to less sunlight.[7]

Even retailers report a measurable gain from daylight. Scientific evidence shows that a 40 per cent increase in retail sales can be achieved with precisely positioned daylighting solutions.[8]

This stems from natural light accurately rendering all wavelengths of light within the visible colour spectrum. When merchandise is illuminated with the broad spectrum of sunlight, true colours are reflected with increased intensity, making it more appealing to the human eye. Bright retail environments also cultivate a welcoming and relaxing environment, improving customers' overall experience.

Custom daylighting products can be highly engineered for a building's specific geographical location and physical characteristics, often providing ideal solutions to match a project's requirements and budget.

This evidence reveals that for almost any indoors task, daylighting directly impacts occupants' comfort, focus, and performance.

Helping meet sustainability goals

Daylighting designs also dramatically reduce energy consumption and help architects meet sustainability goals.

Electric lighting can represent 35 to 50 per cent of a commercial building's annual energy use, according to a study by Bialystok University of Technology.[9] Delivering daylight to interior spaces reduces this reliance on electric lighting, translating to lower carbon emissions and long-term operational savings. Using less electric lighting use also decreases cooling demand by roughly 15 per cent, the study reports, further boosting energy efficiency.

Some members of Canada's building industry voice concerns that glazed assemblies offer reduced R value compared to solid walls.

Integrating mixed glazed configurations effectively delivers rich daylight to interior areas while elevating a structure's design with a distinctive, customized esthetic.

This serves as an important consideration, as Canada's *National Energy Code for Buildings* (*NECB*) and the *BC Step Code* increasingly focus on effective R-values.[10] Glazed assemblies can still achieve exceptional insulation, however. High-performance systems allow glazing to approach wall-like performance, such as translucent insulation-infilled polycarbonate that achieves a thermal break so powerful it maintains interior surface temperatures even in Canadian winters.

Leading construction authorities embrace these benefits. The International Code Council (ICC) officially approved new daylighting requirements for schools and residential buildings in 2025 to infuse these structures with more natural daylight to deliver healthier, more energy-efficient environments.

Across the construction field, industry leaders are increasingly advocating the importance of daylighting for creating more energy-efficient structures and occupant wellbeing.

Endless versatility for modern buildings

With daylighting serving as a driving factor in human-centric design, mixed glazed systems offer versatility and flexibility that modern, high-performance structures require, helping deliver robust natural daylight indoors while also providing an eye-catching design element. This directly addresses today's demand for energy-efficient, high-performance construction materials, without compromising design intent or incurring steep costs.

Notes

[1] Refer to hubermanlab.com/newsletter/using-light-for-health#:~:text=As%20regular%20listeners%20of%20Huberman,to%20focus%20during%20the%20day

[2] Read "Sunshine, Serotonin, and Skin: A Partial Explanation for Seasonal Patterns in Psychopathology?" at pmc.ncbi.nlm.nih.gov/articles/PMC3779905/

[3] See "Enlightening wellbeing in the home: The impact of natural light design on perceived happiness and sadness in residential spaces" at doi.org/10.1016/j.buildenv.2022.109317

[4] Refer to pmc.ncbi.nlm.nih.gov/articles/PMC6751071/

[5] Learn more at pubmed.ncbi.nlm.nih.gov/16920622/

[6] See pmc.ncbi.nlm.nih.gov/articles/PMC4031400/#sec6

[7] Refer to cplteam.com/uploads/images/Bringing-in-the-Sun-The-Impact-of-Daylighting-in-Schools-Whitepaper.pdf

[8] Read eneref.org/reports/eneref_daylight_retail_bigbox.pdf

[9] Visit e3s-conferences.org/articles/e3sconf/pdf/2017/02/e3sconf_ef2017_01029.pdf

[10] Refer to efficiencycanada.org/building-codes/building-codes-for-new-buildings/

Neall Digert, Ph.D., MIES, vice-president, innovation and market development for Kingspan Light + Air North America, has more than 30 years of consulting and education experience working in the energy/lighting/daylighting design and research fields, specializing in the design and application of advanced lighting and daylighting systems for commercial building applications.

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Functional Beauty

Sculpting Space with Ornamental Metal

By Andrew Lake

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The name "ornamental metal" is self-explanatory, but not all-encompassing. Certainly, the use of sheet metal for interior and exterior ornamental purposes aligns with the term, offering architects and designers decorative options for creating unique visuals or integrating new elements with established surroundings. Plus, given the versatility of metals typically selected for use, there is virtually no limit to the esthetic statement that can be achieved.

However, better appreciating and more fully realizing the potential of interior ornamental metal requires looking beyond what the eye can see. Beneath their pleasing esthetics exist functional capabilities that are not only considered nice options to have but, in many instances, are essential for helping a new construction or renovation project meet non-negotiable requirements, such as privacy, acoustical comfort, and sustainability.

Recognizing the growing expectations placed on ornamental metal, manufacturers have expanded their product lines and continue to introduce new offerings. This translates into an extensive array of finishes, colours, perforations, and patterns that can be further distinguished through options for laser cutting and stamping. It also means going far beyond what the typical consumer might consider ornamental accents, such as handrails, lighting fixtures, or doorknobs.

Today, ornamental metal applications can occupy a significant portion of an interior space through their use as ceiling and wall panels, column covers, and room dividers. Lastly, manufacturer

portfolios offer solutions well-suited to various purposes, including corporate, health-care, retail, hospitality, education, and transportation sectors.

As a result of this increased manufacturer awareness and response—coupled with the growing demand for ornamental metal to be more than esthetically pleasing—the industry faces more requirements and a wider range of product choices than ever before. Fostering a basic understanding of ornamental metals and manufacturing options supports a clear path to integrating ornamental metal into a functional, highly distinctive space. This article outlines key considerations for architects and designers to optimize the numerous opportunities offered by ornamental metal, with a primary focus on interior applications, including ceilings, walls, column covers, and room dividers.

Visual design trends

The industry is witnessing several trends that offer strong indications they are here to stay. Many of these ornamental metal trends stem from a desire to bring the outside inside—that is, biophilic design and overall experiences that connect occupants with nature. With nature-inspired designs becoming increasingly prevalent, manufacturers are seeing increased demand for ornamental metal designs that foster a more relaxing, calming, and grounded atmosphere. For example:

- Colours include options such as matte black, champagne gold, moss green, and earth tones
- Finishes feature textures such as hammered, brushed, and wood looks
- Pairings allow designers to co-ordinate a colour choice and a grain pattern for distinctive looks.
- Digital printing fuses metal grain, colour, and art in a multilayered effect that creates unique imagery ranging from bold graphic designs to natural patterns
- Backlighting offers soft LED options
- Laser-cutting produces organic patterns that convey movement and avoid repetitiveness

However, serenity and nature are not always the right fit for a space. Retail, event spaces, and certain corporate areas, for example, require a higher level of energy. Ornamental metal trends in these types of applications include punching in brighter colours, integration into bold, branded signature spaces, and the playful use of LED backlighting that changes colours to suit the time of day, set a desired mood, or enhance occupant activity.

Although trends should never fully dictate ornamental metal selection and use, they can offer a strong starting direction that can then be shaped to meet a highly unique design vision. Manufacturer sales representatives are a great source for insights into what is trending, why, and where.

Occupant expectations

While visual design trends certainly contribute to an occupant's overall experience, ornamental metal can also help ensure a space meets the expectations of those who use it. For example, in office, health-care, legal, and educational environments, individualized spaces and

Metal ceiling panels can create the feel of a natural environment with pre-coated wood-look finishes.

PHOTOS COURTESY ARMSTRONG WORLD INDUSTRIES

This locker room demonstrates the design impact that can be achieved by integrating metal ceiling perforation patterns with diffused LED lighting.

A guide to metal ceiling design

Metal ceiling panels begin with a base material—the most popular being steel and aluminum—that enters the manufacturing process as either coil stock or sheet stock. Typically, this stock is not perforated. Perforations can be added during the process to provide acoustical benefits.

During this step, the metal stock is fed into a machine that stamps perforations of a given size, shape, and pattern into the metal, then trims the panel to length. As the perforation process imparts "memory" (dents) into the metal, it is important to level the panels. This flattening process also mitigates the tendency of metal to bend or curl when it is perforated or cut.

After panels are perforated, formed, and sized, a finish is applied. The most common application options are:

- Baked polyester—This is applied directly to the base metal without a primer and provides a hard, corrosion-resistant finish that is typically glossy and offers strong colour retention
- Powder coating—Providing a very even finish without runs, brush strokes, or spray patterns, powder coating is highly durable, offers a wide range of colour options, and provides long-lasting corrosion resistance
- Dye sublimation—Used to create high-quality, long-lasting prints on various metal substrates. Heat and pressure are used to transfer images onto metal ceiling panels

A coating provides the base metal with a protective barrier against corrosive elements, such as moisture. A thorough coating prevents steel from rusting and aluminum from pitting, then rusting. If the perforations expose the base metal, it means the stock was pre-painted, making it susceptible to corrosion.

The last step in manufacturing is packaging panels with required accessories, such as gasketing material and acoustical fleece.

With advances in customization, virtually any design vision can be accommodated. It is important to consider how design choices impact cost and schedule. Handwork and colour

The ceiling design of this centre includes custom 203 mm (8 in.) and 305 mm (12 in.) aluminum discs with a metallic finish, which were showcased against sleek, black metal ceiling panels backed with acoustical fleece.

specialization, for example, typically have higher costs and longer lead times.

Attributes of metal ceilings

Be sure to consider the attributes of metal ceilings when making design decisions.

The average lifespan of a metal ceiling is 20 to 30 years. A metal ceiling's durability is determined by the type of metal, thickness, perforations, edge detail, and panel construction. In addition to aluminum and steel, metal ceiling panels can be manufactured from galvanized steel, wire mesh, expanded metal, tin, composite materials, and more—all with their own set of advantages and disadvantages.

Finish options

- Brushed or natural finishes leave some base metal exposed or etched, making it more vulnerable to corrosion
- Faux wood looks are usually printed on vinyl laminate applied to the base metal. Higher quality laminate will last longer without degrading into layers
- Powder-coat wood looks are images applied directly to the base metal
- Mirror finishes provide a highly reflective effect

Specifying a metal ceiling design may seem daunting, but getting started comes down to three basic steps. First, consider the importance of design intent, budget, and timeline. Second, define and prioritize performance needs, such as acoustics and accessibility. Lastly, involve manufacturing representatives early and work closely with them throughout the process. These experts provide important insights into costs and lead times and help explore all the options needed to find the right balance between aesthetics and performance.

acoustics are key. Ornamental metal dividers can create spaces for small-group discussions or support individual productivity while offering design versatility to carry a brand, culture, or statement.

Used in walls, ceilings, and column covers, ornamental metal can also support better acoustics. Dividers can prevent sound from travelling between spaces, perforation patterns can be punched into the metal to allow sound to pass through, and acoustic backing or substrate can be applied to support sound absorption.

Other important considerations to support occupant expectations are sustainability and safety. Today, employees, customers, clients, and facility owners expect—if not require—spaces to support strategies that protect the environment. Aluminum is one of the most sustainable materials in the world, is infinitely recyclable, and can be easily reused. It is also a highly versatile, durable material for ornamental metal applications, and may contribute toward LEED credits. In terms of safety, aluminum and other common ornamental metal materials, such as steel, typically qualify for a Class A fire rating and meet other building codes and standards.

Manufacturers continue to introduce new collections in response to industry trends. This ornamental metal divider features a cellular pattern, providing a biophilic visual esthetic while also serving as a functional solution for high-traffic settings.

PHOTO COURTESY MÓZ DESIGNS

Functionality

When selecting an ornamental metal, it is important to consider several functional attributes. Key considerations include:

- Synergy—In what ways should the ornamental metal align with other design and architectural elements within and outside of the space? Many options allow new ornamental metal components to integrate seamlessly with everything from centuries-old window and door frames to cutting-edge wall treatments.
- Statement—Does the space need to "wow" clients, draw in new customers, assert a strong corporate brand, or convey quiet and compassionate care? Ornamental metal choices can, and should, support whatever the statement requires.
- Durability—What type of wear, tear, and exposure will the ornamental metal components be subjected to? The choice of materials, design, and installation should account for factors such as the amount of traffic that flows through the space and how often and rigorously it needs to be cleaned. Ornamental metal materials, such as aluminum and steel, offer exceptional durability and can be protected with topcoats that help resist scratches, chipping, fading, scuffing, and other environmental damage.
- The "cover up"—Ornamental metal offers a visually pleasing way to conceal unsightly necessities such as wiring, structural columns, and ductwork.
- Accessibility—Torsion springs, snap-in, hook-on, and demountable edge ceiling systems are common accessibility options in metal ceiling systems, allowing easy plenum access, often without the need for tools.
- Installation—Many ornamental metal solutions are prefabricated and have pre-applied finishes to reduce complexity on the job. Lightweight options such as aluminum can save time and labour, as can manufacturer applications that, for example, provide easy-to-peel protective film. Also consider integrated suspension assemblies that are tested for MEP components, such as lighting, sprinklers, and HVAC systems.

Custom or standard

Traditionally, standard options for a project's design have been associated with meeting budgets and timelines, while custom options prioritize highly elevated design visions over cost and timing. Currently, manufacturers are paying attention to trends and working to create standard options that meet demand. This results in a vast array of standard ornamental metal choices, allowing architects and designers to

A unique custom finish option available for some metal ceiling panels featuring a hide-the-grid installation offering 100 per cent swing-down plenum accessibility brings metal to life. By allowing designers to select both colour and grain, the pairing of colour with intricate patterns achieves a one-of-a-kind look.

PHOTO COURTESY ARMSTRONG WORLD INDUSTRIES

meet their design intent and the project's functional requirements while achieving a degree of distinction that makes it unique.

When designing a highly elevated space, it is best practice for architects to communicate with manufacturers to source materials that align most closely with their vision. This can lead to standard ornamental metal options that not only complement the design intent but also elevate it or add an element not previously considered. Taking this step could unexpectedly save time and money. Likewise, it is essential to recognize that a tight budget or timeline does not always necessitate limiting design options. Designers can meet cost and time criteria with ornamental metal options that look customized but are, in fact, available as standard options.

Conclusion

Ornamental metal used for interior projects carries a significant responsibility. The results must be visually appealing, distinguish the space, meet required codes and standards, and make a statement. Choices must also support sustainability goals, stand the test of time, be resilient and resistant to impacts, seamlessly align with surrounding architecture, and meet indoor environmental requirements for occupant comfort, wellbeing, and productivity. Increasingly, each of these needs is met in various types of buildings. Moreover, even though ornamental metal options largely reflect current trends, the visuals they create remain timeless. For the foreseeable future, the use of ornamental metal designs—with diverse patterns, finishes, shapes, and sizes—will remain both relevant and crucial to a space's function, esthetics, and overall experience.

Andrew Lake, senior product manager of interior metals at Armstrong World Industries, has been an integral part of the Armstrong team for more than two decades. His success in early roles, including plant fabrication supervisor and manufacturing team manager at the Armstrong Marietta plant and Macon facility, respectively, demonstrated strong leadership, relationship-building, strategic-thinking, and problem-solving skills. He has fulfilled responsibilities ranging from architectural and contracting sales manager to recycling infrastructure process specialist and integration marketing sales manager. Most recently, Lake served as director of new product development before taking on his current responsibility for growing the Armstrong interior metals business. He also spearheads collaborations with Armstrong's subsidiary, Móz Designs, to integrate capabilities and innovate solutions responsive to industry trends. Lake received his bachelor's degree from West Virginia University.

Blindside Waterproofing and At-grade Transitions

By Scott Schendel
PHOTOS COURTESY EPRO

Waterproofing is a critical component of the building envelope, a comprehensive system protecting structures from environmental elements. Site-specific conditions, including subsurface drainage, groundwater levels, and building use, dictate the type and extent of waterproofing required. Sheet membranes, bentonite-based systems, and multilayered composite systems each offer appropriate solutions for different project conditions and performance requirements.

Selecting the appropriate waterproofing system for any given site presents inherent challenges, but these complexities intensify with zero lot line construction, where structures extend directly to property boundaries. In these constrained environments, both installation methodology and product selection become critical success factors, particularly at foundation levels and at-grade locations where proper terminations and transitions determine long-term system performance.

This article examines the unique challenges of blindside waterproofing in zero lot line construction, explores solutions for various shoring systems, and emphasizes the critical importance of proper transition design and execution—areas where most waterproofing failures typically originate.

Understanding zero lot line construction and blindside waterproofing

In densely populated metropolitan areas, zero lot line construction is often necessary to maximize available space. These projects bring buildings directly to the property line, sometimes on multiple sides. While building codes for zero lot line construction differ by municipality, one constant remains: installing a waterproofing system properly in these conditions is inherently challenging.

Zero lot line projects require blindside waterproofing, a technique in which the waterproofing system is installed before foundation wall concrete placement. Blindside waterproofing systems can be challenging to design and install, primarily due to their placement sequence and the fact that the drainage and waterproofing systems are installed against the site's support of excavation (SOE) or against a neighbouring building's below-grade structure.

Blindside waterproofing is also common in infrastructure applications, such as cut-and-cover tunnel design, or any construction site where it is necessary to minimize excavation or dictated by site constraints. Blindside waterproofing also allows the building owner to maximize the building footprint by reducing setbacks.

Varying SOE types, including soldier pile lagging, sheet piling, or shotcrete soil nail walls, can create challenging substrate conditions for waterproofing systems. Combined with various SOE conditions and the need to transition or terminate at grade, there are numerous critical design and installation considerations surrounding zero-lot-line construction.

Hidden waterproofing

Successful blindside waterproofing presents more challenges than the more straightforward, post-applied application of waterproofing directly to the positive side of an existing concrete foundation wall. With blindside scenarios, structural concrete is applied to the waterproofing membrane, meaning damage or improper installation becomes hidden and inaccessible once concrete is placed.

The SOE type used in blindside construction significantly affects waterproofing detailing and at-grade termination methods. Each approach presents different substrate conditions for the membrane and varying obstacles for waterproofing system continuity.

The two most common shoring construction approaches are soldier pile lagging (wood lagging with steel H-piles) and shotcrete shoring.

Soldier pile and wood lagging

For soldier pile and wood lagging shoring construction, wood lagging boards are installed between steel pile flanges, resulting in a relatively planar surface. Different waterproofing systems

First course of blindside waterproofing applied against soldier pile lagging.

Example of wide gap between successive lagging boards.

Waterproofing installed in backlag support of excavation (SOE) configuration. Note the interruption of waterproofing between piles.

Blindside waterproofing installed at a Vancouver high-rise residential project. The waterproofing extended four storeys below grade for parking facilities.

have a range of requirements, but most require substrates to be relatively smooth, continuous, and free from voids and protrusions. The substrate should be prepared to prevent potential membrane punctures or ruptures, especially in shotcrete applications where concrete is literally shot directly against the in-place waterproofing membrane. Here, a drainage composite is often used to help create a smooth, uniform surface for the waterproofing system's application, regardless of water table conditions. Extruded polystyrene insulation (XPS) foam board insulation and plywood are also commonly used.

It is best to provide specific language within the specification that addresses substrate requirements for these conditions. The following language is excerpted from a blindside waterproofing manufacturer's guide specification:

Blindside substrate preparation: Wood lagging shoring should extend to the lowest level of the waterproofing installation with any voids or cavities exterior of the lagging timbers filled with compacted soil or cementitious grout. The interior surface of lagging boards should be planar, with no greater than 1-inch (25 mm) variance in a 12-inch (300 mm) plane, and fit tightly together with gaps less than 1-inch (25 mm). Gaps greater than 1-inch (25 mm) should be completely filled with cementitious grout, compacted soil, wood, extruded polystyrene (20 psi min.), or manufacturer approved polyurethane spray foam. Ensuring the void is filled, plywood or other surface treatment may be used over large lagging gaps up to 6-inches (150 mm). Extruded polystyrene protection board (20 psi min.) or manufacturer approved drainage composite may be installed over gaps up to 2-inches (50 mm). Gaps greater than 2-inches (50 mm) should be completely filled with cementitious grout, compacted soil, wood, extruded polystyrene (20 psi min.), or manufacturer approved polyurethane spray foam. All lagging board nails and other mechanical projections shall be removed or flattened. Install a protection material over all soldier piles with raised lagging hanger bolts, form tie rods, or other irregular surfaces; protection material should extend a minimum of 6-inches (150 mm) to both sides of the steel piling. A base drain system should be connected to an operative water discharge system.[1]

Back-lagged configuration challenges

The most common soldier pile lagging configuration is a "front-lagged" condition. However, to maximize property footprint or to accommodate for misdriven piles or buried obstructions, lagging is sometimes installed on the back flange of piles, closest to the soil, creating a "back-lagged" configuration.[2] Here, the steel pile flanges protrude, interrupting the plane of the blindside membrane. In back-lagged conditions, designers have two options:

(a) Contour the waterproofing system around each soldier pile by infilling gaps around flanges with manufacturer-approved filler such as tapered XPS foam material

(b) Terminate the membrane at each pile flange and restart on the opposite side of the pile

Option (a) maintains continuous barrier protection across the pile but requires close co-ordination with the structural design team to ensure added filler does not conflict with rebar placement. This option is often impractical due to structural conflicts.

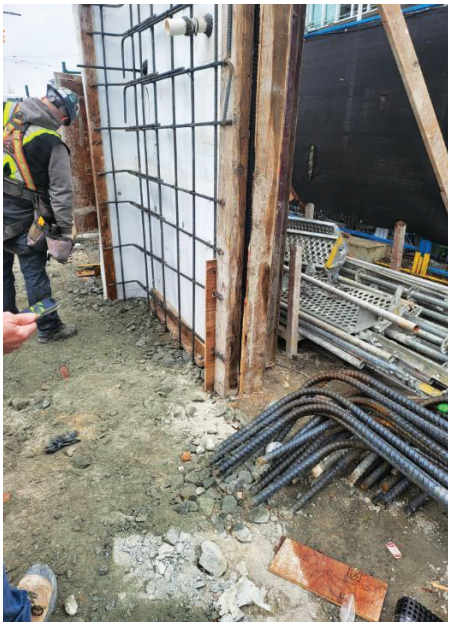
Option (b) essentially treats each bay between piles as its own waterproofed panel. This approach relies more heavily on careful detailing since it creates membrane terminations at every pile. The membrane must be carefully sealed and terminated to each steel beam face with tape, sealant, mastic, or some combination thereof, which can then introduce additional risks dependent on installation quality and proper adhesion of the waterproofing system to the steel flange. Enhanced waterproofing detailing and onsite inspection of the in-place waterproofing system are recommended to ensure proper installation when this SOE configuration is used.

Shotcrete shoring systems

More commonly used on Canadian projects, shotcrete shoring involves spraying concrete directly onto native excavated soil with reinforcement mesh to create a continuous concrete retaining wall. Soil nails are often used in conjunction to reinforce the retaining wall. The advantage of shotcrete shoring lies in installation speed. However, shotcrete surfaces can be uneven or non-planar, and rebound aggregate can create voids or rough areas. It is often necessary to scrape or broom the shotcrete surface to remove high spots or apply a skim coat to fill depressions, thereby achieving a suitable substrate for membrane installation. Further, membranes must conform to the shotcrete shoring substrate to prevent voids that could potentially compromise the system when the structural foundation wall concrete is placed.

Adjacent structure complications

Blindside waterproofing in zero lot line conditions, constructed directly against adjacent structures, can present multiple challenges. Special care is required during the waterproofing system application. It is typically not acceptable to use an adjacent structure's foundation wall as a substrate for the blindside waterproofing system. Rigid XPS foam board, mineral wool insulation, or other suitable filler materials can provide appropriate substrate conditions. The blindside waterproofing system then uses this buffer material as the application substrate. The substrate must be structurally sound to support the installed waterproofing system's weight. In these instances, the use of mechanical fasteners on adjacent structures may be limited or prohibited entirely.



Rebar cage and shotcrete mockup for testing the pre-applied high-density polyethylene (HDPE) sheet waterproofing membrane prior to installation.

Detensioning and tie-back system

Post concrete wall placement, tie-back, or soil nail detensioning requires blockouts to be constructed around the anchor heads. These blockouts create access "windows" for post-tensioning operations. After waterproofing detailing is complete, the walls are filled with concrete to complete the structural wall. Typically, blockouts are limited in size to avoid interfering with reinforcement placement, which complicates the application of waterproofing patches. It is imperative to protect the installed blindside waterproofing membrane within any blockouts from overspray or concrete contamination.

Tie-back waterproofing detailing requires installing a suitable cover that cleanly transitions and integrates with the in-place blindside

Inconsistencies in shotcrete shoring.

Note the addition of 2x4s as additional means of support for the blindside substrate against the adjacent structure.

Multiple tie-back blockouts.

waterproofing membrane. Some waterproofing manufacturers provide pre-fabricated tie-back covers for this purpose, potentially eliminating the need for field-fabricated sheet metal or plywood covers. Due to the complexity and inherent challenges of tie-back detailing, some manufacturers require the installation of injection tube waterstops as secondary protection.

SOE bracing challenges

Horizontal struts spanning across excavations, walers distributing loads along the shoring wall, and inclined rakers transferring loads to foundation elements all create additional detailing requirements and potential water ingress points.

Struts, which resist lateral earth pressures through compression across the excavation width, must be carefully detailed where they penetrate or interface with the waterproofing membrane. Walers, running parallel to the excavation wall to distribute tie-back or soil nail loads, create linear obstructions that require continuous membrane transitions. Rakers, extending at angles from the shoring wall to stable foundation elements, present complex geometric challenges for membrane detailing where it interfaces with the shoring.

Some bracing elements may be removed during various construction phases. Struts are typically removed during the concrete placement process, while rakers are often removed after the concrete has been placed. This phased removal sequence introduces the potential for damage to installed waterproofing and requires waterproofing details that accommodate both the presence of these elements and their subsequent removal without compromising membrane integrity. As a result, careful detailing and coordination are required at these structurally complex locations.

A detensioned tie-back ready for application of blindside waterproofing patch.

Example of installed pre-fabricated tie-back cover.

Rebar placement and concrete forming

Ideally, the number of penetrations through blindside waterproofing systems should be limited, especially in below-water-table conditions. Reducing the number of nelson studs, dowels, rebar support elements, and form ties decreases complexity and labour-intensive detailing where proper execution is critical.

In all instances, penetrations must be securely positioned and immobile during concrete placement, particularly for shotcrete wall applications, to prevent damage to the installed blindside waterproofing system. Rebar supports should not create point load on the installed blindside waterproofing system; when necessary, concrete spacers or dobies with flat surfaces should be used against the membrane.

Following the installation of concrete reinforcement, a close inspection of the installed waterproofing membrane should be performed to ensure there are no punctures, tears, or damage. Any damage should be noted and repaired according to manufacturer guidelines prior to concrete placement.

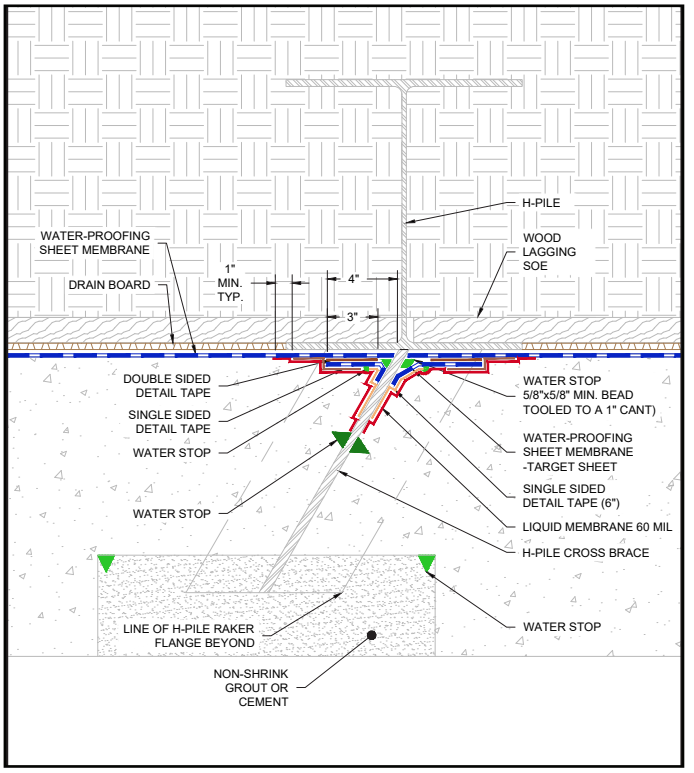
Back-lagged soldier pile lagging support of excavation with multiple bracing elements.

Drainage system integration

When sites require a drainage composite, it is applied first to the SOE substrate, with the blindside waterproofing membrane applied over the drainage composite. A subslab drainage system must be designed to collect water once it is installed. Drain outlets must be connected to the drainage composite and cast through the base of the foundation wall or through the footing to the interior subgrade, where sumps or other water management systems discharge collected water from the wall drainage composite. Traditional base-of-footing drain tile systems cannot be implemented since the footing aligns with the SOE.

Concrete placement challenges

Shotcrete foundation wall applications are increasingly prevalent in Canada and the United States as an alternative to traditional cast-in-place concrete foundation walls. Shotcrete eliminates the need for form board erection



Example waterproofing detail at strut intersect to blindside waterproofing.

Shotcrete application against installed blindside waterproofing membrane.

and can typically be accomplished quickly and efficiently. However, this concrete placement method creates unique challenges for blindside waterproofing systems, particularly considering that aggregate impacts the installed membrane at velocities exceeding 27 meters per second (96 kmph [60 mph]).[3]

In cases like this, the performance of waterproofing membrane seams becomes essential, as does having adequate puncture resistance ratings that can accommodate the forces of shotcrete application. Proper substrate preparation is crucial to prevent voids behind the membrane, which can lead to system rupture during concrete placement, and to eliminate sharp protrusions that can cause punctures during the placement of concrete.

Shotcrete placement techniques must prevent shadowing behind reinforcement since blindside waterproofing membranes are designed to function with structural concrete fully consolidated against the installed membrane. Voids in shotcrete from improper placement can cause the installed system to rupture under positive-side hydrostatic pressure. Further, if waterproofing system breaches occur, areas with poor shotcrete adhesion allow water migration within the wall assembly, which may ultimately reach cracks, joints, or penetrations and result in water ingress.

Concrete overspray presents a significant challenge during shotcrete installations, particularly at lift terminations. To prevent contamination of adjacent waterproofing, contractors must implement adequate protection measures and ensure proper installation methods throughout all construction phases. When overspray does occur, it can compromise the bond of the waterproofing membrane. If contamination occurs, consult the membrane manufacturer for proper repair procedures, which typically involve cleaning (if possible) or patching the affected areas.

Numerous waterproofing failures have resulted from improper shotcrete application practices. To address this issue, projects should establish minimum qualifications for shotcrete nozzlemen and implement enhanced quality control/quality assurance procedures. Many waterproofing manufacturers now require shotcrete applicators to hold ACI or ASA certification and demonstrate at least 500 hours of shotcrete experience before offering performance warranties.

The critical importance of at-grade transitions

Waterproofing system performance depends critically on two factors: appropriate detail design and proper installation that follows these details at transitions and terminations. Analysis of waterproofing failures indicates that many occur at system edges where installations begin, terminate, or transition between different materials or substrates. These areas present nuanced design challenges and may require specialized details depending on the connecting systems at grade or

special conditions such as back-lagged shoring or shotcrete shoring SOE. Transition strategies for blindside waterproofing must also be adapted to different shoring methods. This section outlines concerns in these critical areas and presents solutions and best practices.

Wood lagging transitions

For sites where the top of the lagging is accessible, most pre-applied vertical foundation wall waterproofing membranes terminate below the at-grade slab construction joint. The uppermost lagging boards are removed, and piles are cut off to expose the top edge of the pre-applied membrane and the positive side of the concrete foundation wall.

Protecting the membrane from burns and damage caused by the removal of soldier piles and wood lagging is critical. Cement board backing typically provides effective protection. If the pre-applied below-grade membrane is damaged, the damaged area must be repaired prior to detailing the at-grade transition. The key to success for at-grade transitions is achieving a well-adhered, continuous positive lap over the in-place blindside foundation wall waterproofing system. For this to be accomplished successfully, a clean, fully adhered, non-damaged membrane must be available to perform an adequately detailed transition.

Limited access conditions

For project sites where access is limited and soldier pile lagging cannot be removed, extending a "tail" or transition strip of the below-grade shoring waterproofing membrane above the construction joint and at the top of wall maintains system continuity in shoring wall to suspended slab applications.

Two approaches are available:

- Folded transition—Fold this transition strip over and sandwich the extended membrane tail into the deck waterproofing to provide a seamless transition.
- Vertical termination—Terminate on the vertical shoring and transition the horizontal deck waterproofing up the vertical face.

Care must be taken to ensure the membrane "tail" remains undamaged and clean for a successful transition to the above-grade waterproofing system. It will be exposed until the grade-level slab is poured and the above-grade waterproofing system is applied. Inspection and quality control are critical, requiring commitment from the general contractor and follow-on trades.

Shotcrete overspray on installed blindside waterproofing membrane.

Material compatibility considerations

Depending on project design, above-grade waterproofing systems, such as hot-applied rubberized asphalt, may transition to below-grade blindside waterproofing systems. In this case, confirming material compatibility between different membrane systems is essential. Hot rubberized asphalt, commonly used as a deck waterproofing membrane, can damage below-grade waterproofing systems at transitions due to high installation temperatures. A transition membrane, such as a modified-bitumen self-adhesive sheet, may need to be applied to the blindside waterproofing to accomplish an effective tie-in.

Detailing sealants, fluids, or adhesive backing for tie-ins with above-grade air barrier systems may not have effective adhesion or be compatible long term with the below-grade waterproofing system. Consulting with the air barrier manufacturer and written documentation to determine compatibility is recommended.

Shotcrete shoring transitions

Shotcrete shoring often causes more complications than soldier pile shoring. Due to space constraints, repairing damage to the below-grade waterproofing membrane caused by the removal of concrete shoring at grade can be exceptionally challenging for zero-lot-line

projects. Coordinating the concrete removal and membrane repair process early in pre-construction meetings is essential.

Similar to soldier pile shoring construction, the vertical foundation wall waterproofing membrane is installed up to the grade elevation here. Cement board or plywood is placed between the vertical foundation wall waterproofing system and shotcrete shoring to protect the membrane during the concrete removal process. This provides membrane protection at grade level and ensures a planar substrate for membrane application, enhancing membrane adhesion to the foundation wall in such a high-risk area. Once the shotcrete shoring and protection board are removed, above-grade wall or deck waterproofing can transition into the below-grade waterproofing system.

Best practices and project management

It is not uncommon for one manufacturer's product to be used for below-grade shoring waterproofing and another manufacturer's system for above-grade waterproofing. Ensuring compatibility and proper transitioning is the responsibility of the designer, in consultation with system manufacturers. To help resolve this challenge, many waterproofing manufacturers offer systems that cater to both below-grade shoring and above-grade waterproofing. Specifying manufacturers that have clear and concise details for these critical transitions is recommended.

Blindside waterproofing presents notable challenges, but careful planning and early collaboration between stakeholders ensure successful outcomes. Waterproofing consultants, product manufacturers, and applicators can offer valuable expertise regarding complex tie-in details, system compatibility, and strategic sequencing, and can identify conflicts early in the design process. The complete set of SOE plans should be provided to the applicator prior to construction so suitable, site-specific shop drawings can be developed for the project. Engaging directly with waterproofing membrane manufacturers to review specific project conditions often yields valuable recommendations for project-specific details and proper application procedures. Preconstruction meetings that address waterproofing inspection requirements, including substrate requirements, exposure limitations of installed waterproofing, and repair procedures, are an essential component of the construction process.

The unfortunate price of failed blindside waterproofing

Conventional waterproofing failures typically manifest as basement seepage that can be addressed through exterior excavation and repair. However, foundation wall excavation is not feasible for projects that use blindside waterproofing. Failures often require extensive remedial measures, such as costly chemical injection from inside the structure. Potential expenses include structural damage, business interruption, legal liability, and reputation damage. Therefore, careful design, proper application, and enhanced quality control measures are essential. Attempting to remediate a failed blindside waterproofing system can cost 10 to 20 times the original installation, while never achieving the reliability of a properly executed initial system. Ultimately, it can prove a costly mistake to turn a blind eye to blindside waterproofing.

Notes

[1] Refer to eproinc.com/products/waterproofing/sheet-membranes/pretak/pre-applied-vertical#system-breadcrumbs

[2] See "Mastering blindside waterproofing: A proactive, integrated approach" on constructionspecifier.com/mastering-blindside-waterproofing-a-proactive-integrated-approach

[3] Read "Material Velocity at the Nozzle" Shotcrete (Fall 2013), page 22.

As director of product development for EPRO, Scott Schendel manages an innovative portfolio of products that help protect structures in any site conditions, at any location. He has more than 15 years of relevant building envelope experience with specific expertise in below-grade waterproofing for new construction and restoration applications. From large-scale civil infrastructure to elevator pits and planters, Schendel has a wide range of project experience. He is a member of the SWR Institute and regularly collaborates on waterproofing projects across North America.

Winter-proofing Canada's Construction Fleets

By Emily Newton

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Canada's winter has not played by the usual rules this year. A volatile jet stream has brought sudden warm spells followed by deep freezes, creating conditions that can change overnight on job sites across the country.

For construction teams running mixed fleets—collections of heavy equipment that can include everything from new excavators to older dozers from various manufacturers—these unpredictable freeze-ups make it harder to keep every asset productive and protected from cold-weather wear. Navigating that reality now depends on making faster, more informed decisions about machinery deployment and maintenance amid constant temperature swings, and it starts with leveraging advanced fleet management technology.

When winter conditions can shift from thaw to deep freeze in a matter of days, maintenance must be a priority. For mixed fleets operating across Canada, proactive maintenance is the first and most effective line of defense against cold-related failures and costly delays.

Shift the maintenance mindset

Many fleets are moving away from the traditional "fix it when it breaks" approach and toward a preventive data-driven maintenance strategy. This transition is due to the growing cost of unplanned repairs and the operational risk they introduce during peak winter conditions. A minor issue in milder weather might be weak batteries or inconsistent fluid performance, while some parts can fail as temperatures swing.

One example is Sterling Crane Canada, which uses equipment data to shift its maintenance mix to 80 per cent planned versus 20 per cent unplanned, and has reported a 14 per cent improvement that reduced its unplanned maintenance from 34 to 20 per cent.[1] That kind of swing results in fewer surprise mid-job failures and emergency callouts, and far more control over assets, reducing costs by $1.5 million for roadable fleets and $2.9 million for off-road ones.

Maintenance routines differ in cold weather compared to warmer weather. Winter-ready fleets focus on components vulnerable to low

Specialized driving and equipment-handling skills help operators understand how machines behave in subzero temperatures, from braking distances to hydraulic response times.

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temperatures, including batteries, fuel systems, hydraulic lines, and electrical connections. Monitoring battery voltage trends, confirming proper cold-weather fluids are in use and ensuring block heaters are functioning properly can prevent many of the most common winter failures.

The role of data in predictive maintenance

Data and analytics are what turn proactive maintenance into a simple, scalable strategy. Telematics and fleet management platforms provide visibility into engine hours, fault codes, idle time, and environmental conditions, allowing users to predict maintenance needs instead of reacting to failures.

Rather than relying on manual inspections, this approach enables fleets to continuously monitor equipment health by analyzing how machines are used in real-world winter conditions.

In most cases, this data is collected through ruggedized telematics hardware—often called a gateway—that connects to a vehicle's internal diagnostics network. For heavy equipment, this typically means reading data from the Controller Area Network (CAN) bus using the Society of Automotive Engineers J1939 communication standard.

Through this connection, fleet systems can track engine hours, idle time, fault codes (also known as diagnostic trouble codes), and environmental conditions. These signals surface early warnings, such as low battery voltage or abnormal hydraulic pressure, long before a failure causes downtime on a jobsite.

One of the long-standing challenges has been obtaining consistent data from equipment from different manufacturers. The Association of Equipment Manufacturers developed the AEMP 2.0 telematics standard—International Organization for Standardization 15143–3—to address this issue by creating a common data format across brands.[2,3]

When paired with an integrated fleet maintenance system, this data can also connect directly to parts inventory and work order management. For example, a fault code tied to a failing ignition module can automatically trigger a work order and update parts inventory as the component is replaced. This creates a seamless link between the machine, the maintenance team, and the stockroom.

By using these insights to schedule service proactively, fleets can minimize downtime during critical winter months and extend the lifespan of their equipment.[4] In unpredictable conditions, the ability to act on data can be the difference between staying productive and falling behind.

While winter conditions are unpredictable, peak performance depends on visibility. Fleet management technology gives operators the real-time insights needed to keep equipment running efficiently, even as temperatures and workloads fluctuate.

Embrace real-time data with telematics

Modern telematics systems are highly advanced, providing insights beyond location tracking. They provide specifics on engine hours, fuel consumption, idle time, fault codes, and operator behaviour. This information offers a clear picture of how each asset is truly performing in real time.

For mixed fleets that include rentals, telematics built for rental fleet management help unify owned and rented equipment under one view, reducing blind spots that often lead to overuse or underutilization. This visibility is crucial because it offers a chance to fix any inefficiencies before they turn into downtime. According to one survey, approximately 98 per cent of respondents are currently implementing telematics for all or part of their fleet and have seen measurable savings in fuel, administrative time and overall costs as a result.[5]

Get ahead of breakdowns with remote diagnostics

In a Canadian winter, a surprise breakdown can shut down an entire site and create real safety risks. Remote diagnostics can give fleet managers real-time visibility into fault codes, engine performance, and system alerts, enabling them to address small issues before they turn into cold-weather-related failures.

Using predictive analytics is essential because it allows remote monitoring. As a result, equipment downtime is reduced while overall maintenance costs are lower. Instead of reacting to failures in subzero conditions, one can schedule service on their own terms. By pairing remote diagnostics with predictive analytics, fleets can spot patterns across assets and keep equipment operational even as temperatures swing.

Enhance operator safety with ADAS

Winter driving conditions can level the playing field fast. Ice, snow, and low visibility reduce reaction time, which is where advanced driver-assistance systems (ADAS) add more protection. These systems are increasingly standard in newer commercial vehicles and some modern heavy equipment, particularly for on-road or mixed-use fleets. Features such as collision avoidance and blind-spot monitoring are like an extra set of eyes when conditions are at their worst, helping reduce the risk of incidents in high-risk environments.

Beyond real-time alerts, ADAS also generates insights into driving behaviour. In many vehicles, this information is captured by onboard systems and can be accessed through telematics hardware, allowing safety events to be transmitted to a central fleet management platform. Fleet managers can use these insights to identify recurring risk patterns and turn them into targeted coaching opportunities. That feedback loop may improve safety, but it also builds more confident operators.

Winter-ready fleets focus on components vulnerable to low temperatures, including batteries, fuel systems, hydraulic lines, and electrical connections.

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Control costs with smart fuel and route management

Winter has a way of driving up fuel costs. Whether it is increased idling, slower travel, or tough road conditions, each chip away at efficiency, especially across large fleets. Fuel management tools help bring those expenses back under control by tracking consumption at the unit level, making it easier to spot waste or inefficient driving patterns. These systems are often integrated with fuel cards, allowing fleets to link gas purchases directly to specific vehicles and compare consumption data against actual usage.

Route management plays just as important a role. By integrating real-time weather and traffic data into route planning, fleets can adjust schedules on the fly to avoid storm-related delays and road closures. Many fleet management platforms also pull in localized weather data, giving operators and dispatchers better visibility into changing conditions that may affect fuel use or travel time. That flexibility also reduces equipment wear, cuts idle time, and helps crews stay productive when conditions are working against them.

Together, fuel and route optimization turn winter from a budget wildcard into something far more predictable. Some fleet systems can also surface manufacturer service bulletins alongside vehicle

Telematics and fleet management platforms provide visibility into engine hours, fault codes, idle time, and environmental conditions, allowing users to predict maintenance needs instead of reacting to failures.

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data, helping teams factor in recommended maintenance actions into routing and fueling decisions. When every litre counts, visibility and adaptability make a measurable difference.

Using technology as a tool

Even the most advanced fleet technology cannot replace experience—it supports it. Operators are still the ones navigating icy access roads, low visibility, and unpredictable site conditions. When technology is positioned as a tool, not a replacement, it empowers operators to make better choices.

Winter training remains a critical piece of that equation. Specialized driving and equipment-handling skills help operators understand how machines behave in subzero temperatures, from braking distances to hydraulic response times. When paired with insights, ADAS and remote diagnostics, that training becomes even more effective. Operators understand why the system is flagging an issue and how to adjust their driving or operating behaviour accordingly.

This human-first approach is especially important as the construction industry continues to face a labour shortage. As of October 2024, the sector was dealing with approximately 249,000 unfilled positions, putting added pressure on existing crews to do more with less.[6]

Technology cannot fill that gap on its own, but it can help the industry work more efficiently and safely through winter conditions, reducing burnout while keeping productivity steady.

Canada's winter may be unpredictable, but fleet performance does not have to be. Pairing experienced operators with the right fleet management technology allows construction teams to stay ahead of freeze-ups and keep equipment running.

For teams beginning to manage mixed fleets, the first step is often establishing visibility. This includes working with internal operations, equipment providers, or fleet technology partners to centralize data and understand how assets are being used across winter conditions. In an increasingly unpredictable winter environment, clarity and co-ordination across mixed fleets are what turn uncertainty into manageable, day-to-day decisions.

Notes

[1] See samsara.com/ca/blog/why-canadian-fleets-are-rethinking-maintenance-in-2025

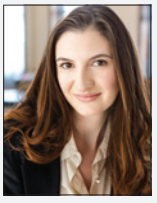
[2] Learn more at aemp.org/news/684169/Harnessing-the-Power-of-AEMP-API-The-Proemion-Case-Study.htm

[3] Visit iso.org/standard/76394.html

[4] Refer to hopenn.com/blog/telematics-in-rental-fleet-management/

[5] Learn more at teletracnavman.com/downloads/ts24-telematics-survey

[6] Refer to revolutionized.com/trends-in-the-construction-industry/



Emily Newton has more than 10 years of experience creating compelling content for the construction, manufacturing, and supply chain industries. Her work has been published in a range of industry magazines and online platforms. As the editor-in-chief at *Revolutionized*, she enjoys researching the latest scientific breakthroughs.

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Kelly Sawatzky, CSP, RSW

The Role of Product Information in Specification

As a specification writer, one of the things I appreciate most is when my team informs me early enough about the product they would like to see incorporated into their project, so I can review the available information and provide advice if needed.

The design team is responsible for making informed decisions that benefit the project and its clients. To do so, we must consider many aspects: conformance to the building code, dependability, sustainable qualities, esthetics, cost, availability, warranties, and more.

When I see technical information that is helpful for a complete specification, I am pleased. It helps the entire design team decide whether the product is suitable. We may need to know a material's dimensions, weight, durability under load, etc. If a material fails because a team did not understand its qualities or limitations, it is not only the team that is held accountable; the product and its manufacturer can also suffer.

Having the manufacturer's technical information readily available is essential for us. While it is great to have a "contact us" button to identify who is accessing the information and to direct information to a design team, it can cause delays that may deter them if they do not have the time to spare.

The information needs to be comprehensive and clear. When the product is actually a system, this is even more critical. We need to know which products work together and the potential pitfalls to avoid.

Once a team has made a choice and I am writing a section, it is very helpful when a manufacturer provides a three-part specification that I can draw on for the project manual. It is especially good when I see recognition of Canadian standards and measurements. There have definitely been projects where I had to go back to the design team for a different direction because the product did not meet the requirements set out in the code. I probably will not use the section exactly. I may add project requirements or include comparable products from other manufacturers, but if you have that section, you have my attention. The addition of specifiers' notes to help make choices or avoid potential problems is invaluable.

I hope this reinforces the importance of providing clear, complete, and easily accessible technical information to designers and specifiers.

Le rôle des informations sur les produits en spécification

En tant que rédacteur de spécifications, l'une des choses que j'apprécie le plus est lorsque mon équipe m'informe suffisamment tôt sur le produit qu'elle aimerait voir intégré dans son projet, afin que je puisse examiner les informations disponibles et fournir des conseils si nécessaire.

L'équipe de conception est responsable de prendre des décisions éclairées qui profitent au projet et à ses clients. Pour ce faire, nous devons considérer de nombreux aspects : conformité au code du bâtiment, fiabilité, qualités durables, esthétique, coût, disponibilité, garanties, et plus encore.

Quand je vois des informations techniques qui sont utiles pour une spécification complète, je suis content. Il aide toute l'équipe de conception à décider si le produit est adapté. Nous pouvons avoir besoin de connaître les dimensions d'un matériau, son poids, sa durabilité sous charge, etc. Si un matériau échoue parce qu'une équipe n'a pas compris ses qualités ou ses limites, ce n'est pas seulement l'équipe qui est tenue responsable; le produit et son fabricant peuvent également en souffrir.

Disposer des informations techniques du fabricant est essentiel pour nous. Bien qu'il soit formidable d'avoir un bouton « Nous contacter » pour identifier qui accède à l'information et diriger celle-ci vers une équipe de conception, cela peut causer des retards qui peuvent les dissuader s'ils n'ont pas de temps à perdre.

L'information doit être complète et claire. Lorsque le produit est en fait un système, cela est encore plus critique. Nous devons savoir quels produits fonctionnent ensemble et les pièges potentiels à éviter.

Une fois qu'une équipe a fait un choix et que j'écris une section, il est très utile lorsqu'un fabricant fournit une spécification en trois parties sur laquelle je peux m'appuyer pour le manuel du projet. C'est particulièrement bien quand je vois la reconnaissance des normes et mesures canadiennes. Il y a certainement eu des projets où j'ai dû retourner à l'équipe de conception pour une direction différente parce que le produit ne répondait pas aux exigences énoncées dans le code. Je n'utiliserai probablement pas exactement la section. Je peux ajouter des exigences de projet ou inclure des produits comparables d'autres fabricants, mais si vous avez cette section, vous avez mon attention. L'ajout de notes spécifiques pour aider à faire des choix ou éviter des problèmes potentiels est inestimable.

J'espère que cela renforce l'importance de fournir des informations techniques claires, complètes et facilement accessibles aux concepteurs et prescripteurs.

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