DATA CENTER
SOLUTIONS

NORBEC™

DATA CENTER **SOLUTIONS**

ENVIRONMENTAL STABILITY FOR UPTIME

High-density computing environments operate within narrow temperature and humidity tolerances where even minor deviations can impact reliability. Envelope-related air leakage, pressure imbalance, or moisture infiltration introduces instability that cooling systems must constantly correct. This continuous compensation increases operational stress and reduces tolerance for unexpected events. A continuous insulated metal panel (IMP) envelope limits uncontrolled air and moisture movement across the enclosure. Factory-engineered joints and continuous insulation reduce execution variability and help maintain stable interior conditions over time.

Value delivered: reduced environmental risk and greater confidence in long-term uptime protection.

THERMAL PERFORMANCE

Cooling systems in data centers are sized based on assumptions about envelope thermal performance. When as-built conditions deviate from those assumptions, cooling loads increase and mechanical systems are often oversized. This disconnect drives higher capital costs and long-term energy consumption. A continuous IMP envelope provides consistent insulation and controlled detailing across the enclosure. By reducing variability between modeled and installed performance, IMPs help maintain alignment between envelope behavior and system design.

Value delivered: optimized system sizing and lower long-term cooling demand.

EFFICIENT ENCLOSURE AND INSTALLATION

Data center projects often involve aggressive schedules, large surface areas, and multiple trades working in parallel. Traditional multi-layer wall assemblies increase sequencing complexity and introduce schedule risk. IMPs integrate structure, insulation, and finish into a single installed component. This reduces installation steps, limits on-site variability, and allows interior trades to mobilize sooner once the building is enclosed.

Value delivered: improved schedule predictability and reduced exposure to weather-related delays.

Data centers place exceptional demands on the building envelope. Thermal stability, airtightness, constructability, and long-term adaptability are not optional performance features. They are baseline requirements that directly influence uptime, energy performance, construction schedules, and future scalability. Norbec insulated metal panel systems are engineered to deliver predictable enclosure performance while simplifying coordination, installation, and long-term operation in mission-critical facilities.

A RELIABLE ENVELOPE STRATEGY FOR DATA CENTER PROJECTS

Insulated metal panel systems offer a practical approach to data center enclosure design by combining thermal performance, constructability, and long-term adaptability in a single solution.

Norbec works collaboratively to support envelope detailing, coordination, and execution, helping ensure that design intent translates into predictable, real-world performance.

BUILT TO ADAPT

Data center campuses are rarely static. Power density, cooling strategies, and capacity requirements evolve over time, often requiring building expansion or modification.

Panelized construction allows selective removal and reinstallation while preserving continuity of the thermal, air, and vapor barriers. This supports future expansion without requiring complete envelope replacement or compromising existing operations.

EMBRACING ECO-SMART SOLUTIONS

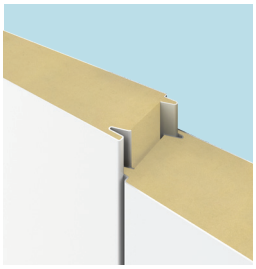
Sustainability in data center design is closely tied to energy performance, operational efficiency, and long-term asset durability. Insulated metal panels contribute to these objectives by providing continuous thermal insulation and airtight construction that help reduce cooling demand and energy losses over time.

Manufactured under controlled conditions and designed for long service life, Norbec insulated metal panels support lower lifecycle impacts by minimizing maintenance, material replacement, and operational energy consumption throughout the facility's lifespan.

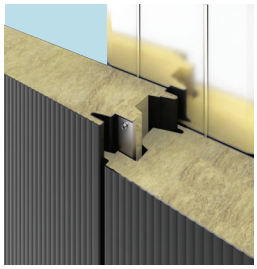
NORBEC INSULATED METAL PANELS

Norbec insulated metal panels combine continuous insulation, engineered joints, and factory-controlled manufacturing into a single enclosure system. This integrated approach limits on-site variability and simplifies coordination during installation, supporting consistent performance across large building envelopes.

By delivering a continuous thermal, air, and vapor barrier within a prefabricated panel system, Norbec IMPs help maintain stable interior conditions and support cooling system efficiency. Their modular design also allows for phased construction and future expansion while preserving envelope continuity and performance.



NOREX®



NOROC®

Norex

Norex is a polyisocyanurate (PIR) core panel designed for highly efficient buildings. This panel offers unparalleled thermal value, as well as providing fire protection barriers.

Panel thickness available: 2, 3, 4, 5, 6 and 8 in
R-Value : R8/in @ 75 °F mean temperature
R9/in @ 35 °Fmean temperature
Maximum length : 60 ft
Tests* : ASTM E84 (UL 723), CAN/ULC S114, ASTM C518 (C177) FM4880 and FM4881

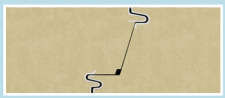
Noroc

Noroc is a high performance, fire-rated insulated architectural panel. It has a mineral core made of a rigid stone-fibre insulation board composed of natural basalt rock and recycled slag.

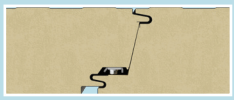
Panel thickness available: 5, 6 and 8 in
R-Value : R4/in @ 75 °F mean temperature
Maximum length : 52 ft 6 in
Tests* : ASTM C518, ASTM E96 / E96M and ASTM D2126, FM4880, FM4881 and FM4882.

*To view all tests consult the technical sheets.

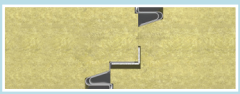
JOINTS AVAILABLE



Norex- IN Joint



Norex - M Joint



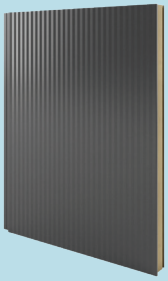
Noroc - L Joint

COLORS AND FINISHES

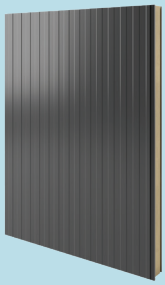
Data center envelopes benefit from exterior colours that limit heat gain and support long-term durability. Light, high-reflectance colours reduce solar absorption, helping lower surface temperatures and support cooling efficiency on large, exposed façades.

Neutral light to mid-tone colours, combined with high-performance SMP or PVDF coatings, offer better colour stability over time, resisting fading and chalking. For these reasons, data center projects typically favour light or neutral exterior colours to balance thermal performance and long-term envelope consistency.

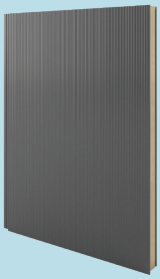
Profiles



Silkline (Striated)
A Norbec Exclusivity

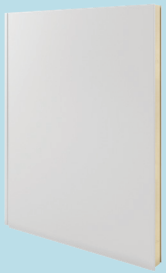


Grooved



Micro-ribbed

Finishes



Smooth
(Available under certain circumstances)

Embossed

Exterior colors

Regal White (PVDF)
available in 24 Gauge

Bright White (SMP or PVDF)
available in 24 Gauge

White White (SMP)
available in 26 Gauge

Element Grey (PVDF)
available in 24 and 26 Gauge

Stone Grey (SMP)
available in 26 Gauge

Interior colors

Consult the Color Guide Brochure for more information on interior colors on **norbec.com.**

PROVEN APPLICATION

QSCALE Q01 DATA CENTER CAMPUS

READ THE CASE STUDY

The QScale Q01 Campus in Lévis, Québec required an enclosure solution capable of meeting strict thermal performance requirements while supporting a demanding construction schedule and a non-industrial architectural expression.

Norbec supplied NOREX-L and NOREX-H insulated metal panels, along with custom-designed architectural fins. The panel system allowed the building to be enclosed efficiently, supporting early weather tightness and enabling interior work to proceed without delay. The project demonstrates how insulated metal panel systems can resolve competing priorities of performance, constructability, and architectural intent in high-density data center environments.

Architectural Fins as a Functional Envelope Element

At the QScale Q01 Data Center Campus, architectural fins were integrated to add depth and articulation to large façades without compromising envelope performance. Designed and installed independently from the insulated metal panels, the fins allowed the building to be fully enclosed and weather-tight without affecting construction sequencing or schedule.

This approach preserved the continuity of the thermal, air, and vapor barriers, a critical requirement in high-density data center environments where envelope integrity directly supports cooling efficiency and environmental stability. Properly engineered, architectural fins can therefore enhance architectural expression while maintaining performance, constructability, and operational reliability.

CUSTOM DOORS

Hinged

- Flush hinged door
- Heavy duty hinged door (with aluminium frame)

Sliding

- Heavy-duty sliding door (with aluminium frame)
- Electric sliding door equipped with the **E-Circuit** System

Other Door Options

- Personnel door
- Double personnel door
- Traffic doors (single or double)

CERTIFICATIONS

Quality

Norbec ensures quality and durability throughout its product lines to fit each client's specific needs. Only high-grade components are used in the conception of our products and frequent quality controls are performed throughout the manufacturing process. With more than 40 years of expertise in product development, Norbec has earned the trust of its customers through the quality and service offered.

Customer-Centred Approach

Norbec prioritizes customer feedback and, along with the latest trends, guarantees to always meet present and future regulations, thus securing durability & performance of our products. Beyond their daily tasks, our teams provide continuous improvements to our processes, our products and the services provided by our organization.

Technical Support & Customer Service

Finding accurate solutions quickly and providing exceptional after-sales service and support is the main goal of our technical support & customer service teams. We rely on the integrity of our team to deliver consistent excellence servicing. Working together to provide on-time delivery, personal assistance and expert application engineering. Norbec takes pride in delivering top quality products, service, solutions and support promptly, always and anywhere.

NEED EXPERTISE AND ADVICE?

Norbec is a partner in any project by offering expertise and advice on specific products for all types of specifications no matter the complexity. Our dedicated team provides all the technical support required to help you complete your projects.

Norbec

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To order your samples online, visit **https://norbec.com/insulated-metal-panels-samples/.**