

Behind Metal Wall Systems

A BRIEF EXAMINATION OF THEIR GROWING PREFERENCE IN BUILDING DESIGN

Introduction

Today the demands on building envelopes are more challenging than ever. Building codes, fire rating, aesthetic considerations, owner expectations, competing properties, budget, and sustainability ask architects and contractors to think more critically about wall system specification.

This white paper examines a wall system that is being specified with increasing frequency for a large number of commercial, industrial, institutional, and cold storage applications: the insulated metal panel (IMP) wall system.

Integrated Assembly

IMPs were pioneered in the late 1960s by Metl-Span®, a Texas-based company that developed and continues to innovate metal wall system technology.

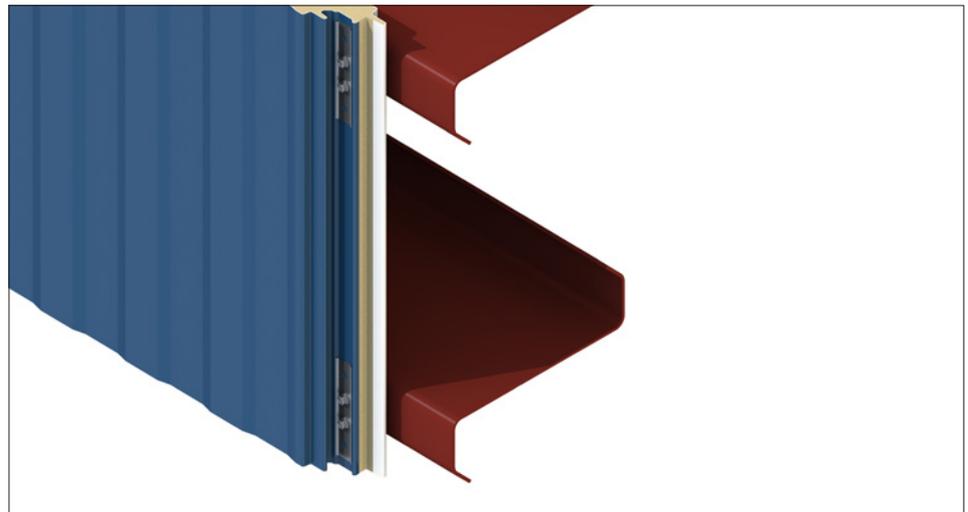
The panels are factory manufactured using a foamed-in-place process using urethane or mineral wool, sandwiched between sheets of metal, typically galvanized steel or aluminum-zinc coated steel. The unitized assembly sustains high hydrothermal loads and resists insect and rodent infiltration.

40-Year Life Cycle

An IMP panel is expected to perform at a high level for up to 40 years. Decades of IMP applications across tens of thousands of structures worldwide have demonstrated several important attributes of IMP systems. Chief among them:

Design Flexibility. IMP cladding presents a crisp, refined exterior wall appearance favored by designers of arenas, performing arts centers, retail centers, distribution/warehouse facilities, office buildings and cold storage facilities. A wide selection of colors, textures, panel widths, joint size options, joint orientations, curved, and formed panels are available.

Installation Speed. All-in-one panel construction allows installers to wrap a building with “one and done” speed, economy, and safety. For example, IMPs can be erected at a rate of up to 5,000 square feet per 8-hour shift by a 4-man crew on an industrial project; up to 1,000 square feet on



architectural projects. IMPs can also be installed in all weather conditions.

Code Compliance. IMPs are engineered to comply with the performance and test requirements of the International Building Code and Uniform Building Code, and meet NFPA 285 ratings. For example, Metl-Span ThermalSafe® IMPs are fire-rated up to 3 hours using mineral wool as the panel core. Testing documentation is available.

Hydrothermal Resistance. An IMP's layered construction offers high insulation values and built-in thermal breaks for reduced heating and cooling costs. Since there is no metal conductance from the exterior to interior skin, thermal performance is enhanced. The concealed fastener system usually includes a vapor, air, and water barrier, another way rapid installation speed is achieved through field-assembled components. A 3-inch thick IMP can carry an R-value of up to 20. A glass fiber system with a similar R-value rating would have to be about 7.5 inches thick to achieve the same R-value, diminishing interior floor space.

Architect Support. Designers can expect a wide range of service from leading IMP manufacturers. Engineering consultation, CAD detail, detail writing,

AIA- and GBCI-approved courses, data sheets, technical bulletins, and environmental product declarations are available on request.

Sustainability. IMPs help contribute to accumulation of LEED® points for project certification in areas such as Sustainable Sites, Energy & Atmosphere, Materials & Resources, and Indoor Air Quality.

Summary

Architects, owners/developers, and contractors should give IMP wall systems serious consideration on any project where building performance, aesthetics, delivery speed, and budget are valued. ■

To Learn More

Website metlspan.com

Phone [877.585.9969](tel:877.585.9969)

Email Us info@metlspan.com