



Isokorb® type S offers freedom of design for steel canopy connections and protects from corrosion.  
Source: Marlon Blackwell Architect



Schöck Isokorb® type S

## Reference

### Sustainable Solutions at Museum of Art

#### Schöck Isokorb® type S Installation in the Indianapolis Museum of Art

The Indianapolis Museum of Art (IMA) is one of the oldest and largest general art museums in the United States, founded in 1883. The IMA values not only the conservation of its artistic assets, but also of its environmental assets.

The IMA views the natural environment as both a source of artistic inspiration and a medium through which art may be presented and interpreted, a stance best illustrated in the IMA's 100 Acres: The Virginia B. Fairbanks Art & Nature Park. Located on 100 acres of untamed woodlands, wetlands, a lake, and meadows set adjacent to the Museum.

At the heart of the museum is the visitor pavilion and a 3,000 square-foot pavilion for educational activities. Designed to be seamlessly woven into the natural environment, both centers are constructed with recycled materials in order to achieve LEED certification from the U.S. Green Building Council.

### Striving for High Performance by Reducing Thermal Bridges

Recognizing the inherent connections between art, design and nature, the IMA strived to meet the criteria of LEED and sustainable design. Architect Marlon Blackwell took steps to reduce thermal bridges in the IMA buildings. For example, the roof construction details included large steel beams as the load-bearing element which spanned from the structures interior to the exterior, a typical thermal bridge situation. The area around thermal bridges allows heat to flow through the path, and interior surface temperatures drop. This results in increased heating energy and costs, poor indoor air quality, and damage to the building.

### A Solution to Reduce Energy Loss with Design Options

To reduce the thermal flow and minimize the thermal bridge problem, Blackwell recommended Schöck Isokorb® S for the IMA structures. Isokorb®, invented by Schöck in Germany, is an effective solution for thermal breaks, and a structural design component. The Isokorb® type S is specifically designed for use in steel construction. It offers complete freedom of design, withstanding extremely high loads, effective against bending moment and shear force, and stainless steel components protecting from corrosion.



Detail of load bearing thermal break connection: Up to five modules per beam were necessary to bear the forces of the roof construction.  
Source: Marlon Blackwell Architect

With 3 inch rigid polystyrene foam insulation working in tandem with stainless steel connective bars, the module ensures that no condensation can occur and thermal bridges are reduced to an absolute minimum.

#### Modular Layout for High Internal Static Forces

Structurally, the Isokorb® type S transfers internal static forces across the insulation joint – with a choice of module variations, offering options for the profile and cross-section size. This allows for conventional front plate connection techniques typical in steel construction.

Several individual modules can be combined to transmit the respective internal static forces. With the IMA structure, up to five modules per beam were utilized. This modular concept provided flexibility in application, ease of installation and simple handling logistics.

#### Design Support Included

With the aid of a calculation program and technical support engineers, the project designer from Guy Nordensen was able to dimension the required types. The Schöck design department then created CAD drawings with US standards and US profiles.

#### Simple Thermal Break Installation

Isokorb® was installed onsite right in the layer of the insulation between the two head plates of the steel beams.

The elements were joint together by simple screw connection. The steel construction company produced the steel members and front plates with complete positions and dimensions as specified. The Schöck Isokorb® type S is a load bearing thermal insulation element for steel structures, accommodating compression and tensile forces, as well as shear forces. Moments can be transferred by using a minimum number of 2 modules one upon the other.

#### Details:

<b>Project:</b>	Indianapolis Museum of Art
<b>Architect:</b>	Marlon Blackwell
<b>Structural Engineer:</b>	Guy Nordenson and Associates
<b>Construction company:</b>	The Hagerman Group
<b>Products:</b>	Schöck Isokorb® type S*
<b>Start of construction:</b>	2009
<b>End of construction:</b>	May 2010

\* Isokorb type S previously referred to as type KST.

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