Uninsulated steel canopies and steel beams penetrating the insulated building envelope create thermal bridges that lead to heat loss, condensation and mold.

Interior steel and concrete structures that are not properly insulated quickly form condensation that can lead to mold formation within adjacent cavities. Mold spores can become airborne months or years before it becomes visible on interior surfaces, compromising air quality and exposing the developer to remediation and personal injury costs.

Schöck Isokorb® structural thermal breaks eliminate these problems by insulating steel canopies and beams from interior steel or concrete support structures precisely where they penetrate the insulated building envelope, while simultaneously preserving the structural integrity of the steel structure. The high-strength assembly reduces heat loss by up to 74% at the penetration, while preventing condensation and mold on adjacent interior surfaces.

Whether your building is steel or concrete, Schöck offers the most comprehensive range of structural thermal break products to prevent thermal bridging at canopy and steel beam penetrations while allowing freedom of design.
Insulate canopy & beam penetrations with Isokorb® Structural Thermal Breaks.

Steel-to-steel canopy and beam connections

Uninsulated steel beam penetration

When an uninsulated steel beam penetrates the building envelope cold transfers through the beam. The colder beam within a warmer interior environment with comfortable humidity levels supports condensation that can lead to mold.

Insulated with Isokorb® thermal breaks

Steel beam penetrations insulated with a structural thermal break minimize heat transfer, reducing the U value by 27% and the Xi value by up to 74%, virtually eliminating thermal bridging at the connection point.

Concrete-to-steel canopy and beam connections

Uninsulated concrete-to-steel penetration

When an uninsulated steel canopy or beam connects to an interior concrete slab, heat escapes and cold seeps into the interior slab. This allows an environment where condensation can form, leading to staining, damage and dangerous mold issues.

Insulated with Isokorb® thermal breaks

Steel beam-to-concrete slab connections insulated with a structural thermal break significantly minimize heat transfer and condensation. The U value of the assembly is reduced by 40% and the Xi value, is reduced by 94% compared to the uninsulated assembly, eliminating thermal bridging.

All assembly model thermal images referenced from the 2019 BC Hydro Power Smart, Building Envelope Thermal Bridging Guide

Why work with Schöck North America?

- **TAILORED SOLUTIONS** Schöck’s dedicated engineering team creates solutions specific to your project, every time.
- **TECHNICAL EXPERTISE** Our RSMs are architects or engineers, so they understand your world and your challenges.
- **DESIGN AIDS** Schöck provides easy-to-access CAD files and product specs ready to drop into your design.
- **PEACE OF MIND** All final drawings signed & sealed by a professional engineer licensed in project’s jurisdiction.
- **PROVEN RELIABILITY** Schöck has completed over 10 million installations worldwide since 1983.

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