Structural Thermal Breaks for Balconies.
Prevent condensation and mold, reduce heat loss by up to 90%

As structural extensions of interior floor slabs, uninsulated balconies create thermal bridges that decrease building envelope performance. In today’s air-tight, higher-humidity buildings, this quickly leads to condensation and potential mold growth that can compromise interior air quality and cause serious health issues for occupants. Failing to address thermal bridging at balcony connections unnecessarily exposes developers to significant remediation costs and personal injury liability.

Schöck Isokorb® structural thermal breaks can eliminate this problem by insulating the concrete interior floor slab from the concrete or steel exterior balcony extension, while maintaining the structural integrity of the balcony.

The high-strength assembly cuts heat transfer by up to 90% at the penetration. It also prevents condensation and mold formation, while increasing occupant comfort. In cold climates, interior floors adjacent to balconies can be up to 34°F/19°C warmer than those built without thermal breaks.

Whether your balconies are cantilevered or supported, recessed or rounded, concrete or steel, Schöck offers a comprehensive range of structural thermal break products to prevent thermal bridging at your balcony connections.

Isokorb® concrete-to-concrete connections are ICC-ES approved.
Insulate your balconies with Isokorb® Structural Thermal Breaks.

Concrete-to-concrete balcony connections

Isokorb® thermal breaks for concrete-to-concrete balcony connections contain engineered components such as stainless steel rebar and compression modules efficiently sized to maximize the thermal performance of the assembly, while providing the strength required to support the balcony.

The images above show a thermal modeling analysis of typical concrete balcony details through a steel stud wall assembly with and without an isokorb thermal break at the balcony penetration. When no thermal break is used (image on left) there is a gradual loss of heat in the slab as it crosses through the exterior wall. When there is a thermal break (image on right) its effect is visible as an abrupt change in temperature in the slab at the exterior wall. This assembly comparison resulted in a 88% improvement in heat retention through the slab with the thermal break.

1 2019 BC Hydro Power Smart, Building Envelope Thermal Bridging Guide (details 8.1.12 to 8.1.15)

Concrete-to-steel balcony connections

Isokorb® thermal breaks for concrete-to-steel balcony connections contain engineered stainless steel rebar for casting into concrete floor slabs on the interior side, and bolts for fastening to steel balcony structures on the exterior side.

The images above show a thermal modeling analysis of a wall detail with an interior concrete slab connected to an exterior steel balcony support. The comparison assesses the balcony support beam connected with standard uninsulated structural embeds (image on left) and a balcony support beam connected by the Isokorb concrete-to-steel thermal break (image on right). This analysis results in a 94% improvement in heat retention in the beam penetration with the thermal break compared to the beam connection with no thermal break.

2 2019 BC Hydro Power Smart, Building Envelope Thermal Bridging Guide (detail 5.7.7)

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 in 38 countries.