

## CASE STUDY

# 100% Silicone, Liquid-Applied Air Barrier Enables Winter Construction Project to Keep Moving Forward

## Scheels All Sports Super Store, Overland Park, Kansas, United States



### City and country

Overland Park, KS, United States

### Products\*

DOWSIL™ DefendAir 200

DOWSIL™ 791 Silicone Weatherproofing Sealant

DOWSIL™ 758 Silicone Weather Barrier Sealant

DOWSIL™ AllGuard Silicone Elastomeric Coating

### Key participants

- Dow Distributor – MGS Distributing, Omaha, Nebraska
  - Bob Prchal, Building Materials Division Manager
- Architect – R.L. Engebretson, The RLE Group, Fargo, North Dakota
  - Jeff Engebretson, Quality Control
- General contractor – Sampson Construction Company, Inc., Lincoln, Nebraska
  - Scott Brunken, Project Manager
- Air barrier subcontractor – ARID Resources, Omaha, Nebraska
  - Brian Gibson, Operations Manager

\*Prior to February 2018, products listed were branded as Dow Corning

### The project

When it opens in the summer of 2015, the new Scheels All Sports Super Store in Overland Park, Kansas, promises to deliver a shopping experience “unlike anything the Overland Park retail customer has ever experienced.”

The 220,000-square-foot facility will house the state’s largest selection of sports-related merchandise. The store also will feature a collection of entertainment venues and special attractions, including a 16,000-gallon aquarium; a wildlife mountain; and a 65-foot, 16-car operating Ferris wheel.

It is the 26th in a chain of Scheels stores stretching across 11 Western and Midwestern states, where climatic conditions are challenging and the need for high-performing air and water barriers is imperative.

### The Challenge

To protect the new Scheels store from the cold winters and hot, often humid, summers of eastern Kansas, the building architect, R.L. Engebretson, specified a liquid-applied air barrier. Liquid-applied air barriers are flexible, breathable, seamless and trouble-free to apply. This generally makes them an excellent choice for building owners and applicators alike.

Unfortunately, most liquid-applied air barriers cannot be applied at low temperatures – a limitation that can bring winter construction projects to a halt.

This was the situation air barrier subcontractor ARID Resources faced when temperatures at the Overland Park construction site threatened to dip below the specified air barrier’s application temperature limit.

### The Solution

Brian Gibson of ARID Resources learned from Bob Prchal at MGS Distributing about a unique 100% silicone, liquid-applied air and water barrier – DOWSIL™ DefendAir 200 – that could be applied at temperatures as low as 20°F (-7°C).

Impressed by the product’s capabilities, Gibson worked with Prchal and Scott Brunken, Project Manager for general contractor Sampson Construction Company, to propose a change to the original air barrier specification.

Jeff Engebretson, who is responsible for quality control at R.L. Engebretson, immediately recognized the benefits of DOWSIL™ DefendAir 200 for Scheels projects across the country and was happy to revise the specification.

## About DOWSIL™ DefendAir 200 and the DOWSIL™ Silicone Air Barrier System

DOWSIL™ DefendAir 200 is a one-part, liquid-applied elastomeric coating that cures to form a flexible, vapor-permeable membrane.

**It is the only water-based silicone air barrier complemented by a fully compatible system.**

Advantages include:

- Airtight performance exceeding industry standards
- Long-term UV resistance
- Passes NFPA 285 assembly testing
- A complete offering of compatible accessory materials
- Vapor-permeable and breathable
- One-coat spray application; also may be roller-applied
- Water-based, low-VOC formulation
- Can be applied at temperatures as low as 20°F (-6°C)
- Primerless adhesion



**DOWSIL™ DefendAir 200 was applied to the building's GlasRoc Sheathing and concrete block substrates using an airless sprayer. Thanks to the product's excellent unprimed adhesion to most common construction materials, no primer was required.**

## High Vapor-Permeability Plus Low-Temperature Application

"I've spent more than 60 hours researching air barriers," Engebretson said. "DOWSIL™ DefendAir 200 has one of the highest perm rates out there, combined with the lowest application temperature. That makes it an excellent choice for our cold-weather construction projects."

According to Prchal, everyone from the general contractor and the air barrier subcontractor to the building owner's representative was excited about the benefits DOWSIL™ DefendAir 200 had to offer.

## Ease Of Installation

The contractors especially appreciated how easy the air barrier was to apply and how simple it was to detail.

"The simplicity of the details is phenomenal," Prchal said. "Nearly all of the detail work, including sealing the joints in the GlasRoc Sheathing and around the building openings, was accomplished using just two sealants – DOWSIL™ 791 Silicone Weatherproofing Sealant and DOWSIL™ 758 Silicone Weather Barrier Sealant."

According to Gibson, DOWSIL™ DefendAir 200 "is easier to apply in Midwest winters than any other product we've seen. And the Dow

distributor was on-site on a regular basis to help us with field adhesion testing and wet-film testing and to answer any questions we had about the product."

## The Result

A total of 65,000 square feet of DOWSIL™ DefendAir 200 was applied to the GlasRoc Sheathing and concrete block substrates on the Overland Park Scheels store.

Construction continued to move forward during the winter months.

And DOWSIL™ DefendAir 200 is now approved for use on all future Scheels stores.

## For more information

Learn more about Dow's full range of High Performance Building solutions by visiting us online at [dow.com/buildingscience](https://www.dow.com/buildingscience).

Dow has sales offices, manufacturing sites and science and technology laboratories around the globe. Find local contact information at [dow.com/contactus](https://www.dow.com/contactus).



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