

Insulation
US & CA



Case Study: Specialty Supermarket

Kingspan Kooltherm K8 Helps Organic Specialty
Supermarket Achieve High Thermal Performance



THE PROJECT

Located north of Chicago in the suburb of Vernon Hills, Illinois, Melody Farm Shopping Center is a rapidly growing open-air retail and dining destination that is the home to 50 diverse tenants. The 270,000 square foot shopping center features a unique selection of retail stores, numerous outdoor gathering areas, public art displays and is the home to a 260-unit apartment complex.

One of Melody Farm’s anchor stores is a natural and organic specialty supermarket spanning 48,000 square feet. The specialty supermarket opened in October 2018 and has a vast selection of organic groceries, locally grown and produced items and grab-and-go foods. It also has many unique offerings including a full-service coffee bar, a taproom, sushi, hand-scooped gelato, made-to-order sandwiches, hand-stretched pizza and a large selection of specialty beer and wine from the Midwest region.

Given the wide variety of foods and products on display in the store and its location in a climate where extreme cold weather conditions are common, insulation was an especially important consideration for this project. Kingspan Kooltherm® K8 Cavity Board was installed in the cavity of the 48,000 square-foot metal framed, brick veneer retail structure. The project’s general contractor, Graycor, used 70mm (2.76”) Kooltherm® K8 Cavity Board to build high thermal and moisture resistant barrier along the structure’s exterior.

Kooltherm® K8 is a premium performance insulation product, with a fiber-free rigid thermoset phenolic core,

Project Overview

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| Project Name: | Specialty Supermarket |
| Location: | Vernon Hills, Illinois, USA |
| General Contractor: | Graycor |
| Masonry Contractor: | Midwest Masonry |
| Distributor: | Northfield Block |
| Products: | Kingspan Kooltherm® K8 Cavity Board |



faced on both sides with a low emissivity composite foil facing which is used for insulation in partially filled cavity walls. K8 has a higher R-value per inch than any commonly used insulation and the lowest reported flame/smoke rating for any foam plastic rigid board. Thanks to its lightweight design, handling the board is easy and reduces overall installation time.

Kingspan Kooltherm® K8 Cavity Board's low emissivity composite foil is adhesively bonded to the insulation core

during manufacture. Its reflective surface improves the thermal resistance of any unventilated cavity adjacent to the board. The core of Kooltherm® K8 is manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

"Because of the cold Chicago climate during the winter months, Kooltherm® K8 was the only solution that could meet requirements with limited air space in the cavity," said the Regional Market Manager, Kingspan Insulation, LLC. The



“ This project called for an R-value of R-20 in the wall. ”

wall construction detail originally incorporated spray foam. However, the construction timeline resulted in the insulation installation taking place in January and there were concerns regarding the use of spray foam in a cold climate.

Challenges when installing spray foam insulation when temperatures are very low may include shrinkage and poor adhesion to the substrate. Suggested substrate temperatures for the application of spray foam often lie at 40°F or above for proper adhesion. Freezing temperatures and ice or moisture on the substrate can cause a lack of adhesion.

Due to the original specification, the wall construction only allowed for an insulation thickness of 3 inches that still had to achieve an R-value of 20. Kingspan Kooltherm® K8 Cavity Board was the only alternative insulation that provided a solution.

The organic specialty supermarket is a welcome addition to Mellody Farm Shopping Center that will stand up to the cold winter temperatures with the help of Kingspan Kooltherm® K8 Cavity Board.



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