Application

1,975,000 board feet of Foam-Control® PLUS+®150 Flat Roof Insulation and 576,800 board feet of Foam-Control® PLUS+® 250 and 400 Perimeter and Underslab Insulation were used in the construction of the new Badger State Fruit Processing cold-storage facility in Pittsville, Wisconsin.

Badger State Fruit Processing
- Pittsville, WI
- Summer 2012
- Foam-Control® PLUS+®150 Flat Roof Insulation
  - 1,975,000 Board Feet
- Foam-Control® PLUS+® 250 and 400 Perimeter and Underslab Insulation
  - 576,800 Board Feet

Project Details

In summer of 2012, Owner Wayne Gardner of Badger State Fruit Processing gave his Plant Manager, Mark Konrardy, a challenge: build a new cold-storage facility adjacent to their existing facility that would meet their demanding temperature control requirements while minimizing the impact on their daily operating expenses.

Mark began by researching insulation options for the 186,250 square foot building by developing a list of quantifiable parameters which he grouped into three categories: performance, environmental stewardship, and cost.

1. Performance Criteria
   - Warranted, Long-Term In-Service R-Value
   - Compressive Strength
   - Water Absorption and its Impact on R-Value
   - Water Permeability

2. Environmental Criteria
   - Recycled Content
   - Recyclability

3. Cost and Constructability
   - Cost of Product
   - Availability of Sizes

Contractor
Wayne Gardner
Mark Konrardy
Badger State Fruit Processing

Engineer
Dennis Immerfall
Don Nikolai Construction

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Badger State Fruit Processing
(continued)

Project Details (continued)

After a thorough analysis, Mark chose Foam-Control® PLUS+® roof insulation along with Foam-Control® PLUS+® perimeter and underslab insulation for his building.

When researching the long-term warranted R-value of a variety of rigid foam insulations he found that Foam-Control® PLUS+® provides an R-value warranty for 50 years. Other rigid foam insulations claim higher R-values per inch but only warrant a reduced percentage of that value. This is due to off-gassing which causes the insulation to lose R-value after being manufactured.

Compressive strength concerns were addressed by choosing Foam-Control® PLUS+® 400 (40 psi) for the freezer area and Foam-Control® PLUS+® 250 (25 psi) for the remainder of the perimeter and underslab areas. Mark also researched the performance of rigid insulations when exposed to moisture and found that EPS has a higher permeability, which allows it to release trapped moisture more easily resulting in its ability to maintain its R-value.

Environmental considerations were also important to Mark. He preferred a material that could contain recycled content. Foam-Control® PLUS+® uses up to 15% recycled content in the code-approved labeled EPS, the highest recycled content of all the rigid foam insulations. EPS is also easily recyclable.

Lastly, the insulation not only needed to provide performance and environmental benefits but it had to be economical. This is when Mark’s decision became evident. Foam-Control® PLUS+® EPS provided cost savings between 10-20% over other rigid foam insulations and improved performance without added cost. It was an easy decision to make.