



STRIVING FOR SUSTAINABLE OUTCOMES THROUGH THE 5 C'S

We drive continuous improvement by focusing on 5 key areas of environmental stewardship:

CONSERVE

Healthy Ecosystems

CONTRIBUTE

Sustainable Products

CHALLENGE

Resource Use

CONTROL

Emissions

CONNECT

People

Reducing Downstream Material Waste in Hail Alley

Data centers are notorious for tougher roofing assembly performance requirements, and the climate trifecta facing a Texas construction team in April 2019 put them to the test. That spring brought hail the size of golf balls, wind gusts up to 60 miles per hour and more rainfall than residents had seen in the past century.

Data center roof design and materials must perform beyond typical commercial construction capabilities in order to protect the sensitive equipment inside. Since this data center sits in the middle of America's Hail Alley, it needed a basic design that could withstand 3-second wind gusts up to 140 mph.¹ Plus, owners were determined to get up and running quickly, putting the pressure on the Dallas-based crew to get the building ready to store data.

Rick Chappell, strategic account specialist for Sika Sarnafil Roofing Systems, also understood the necessity of having a temporary roof assembly to take wind and rain out of the scheduling equation.

The plan was to install a portion of the assembly using materials that could act as a temporary roof. It had to be durable enough to protect against foot traffic so different trades could complete installations, and have the strength to withstand many impending storms.

"With a data center roofing assembly, we look at redundancy more than anything," said Chappell. "One drop of water leaking into the data center will destroy everything."

This led to specifying DensDeck® Prime Roof Board in two places, acting as a thermal barrier as well as a cover board above the insulation and below the membrane to enhance wind uplift resistance.

The versatility of gypsum

"Having the ability to attach the thermal barrier to the steel decking and to apply the vapor retarder over it allowed the interior building construction to continue. You're not waiting on the different phases of the roofing assembly to 'dry-in' the building," Chappell explained. "And the ease and quickness of application is great!"

DensDeck Prime Roof Board made a second appearance in the assembly design, this time with a ½-inch board in the cover board position. The cover board was adhered over two layers of polyisocyanurate insulation (polyiso), with Sarnafil feltback membrane adhered to the cover board.

How it contributes to sustainability

DensDeck® Roof Boards can extend the average life of your roof system by increasing membrane durability and protecting the insulation. This can help improve overall return on investment.

A recent FMI study found that using a cover board on a single-ply membrane roof increased the median life expectancy by 4 years when compared to a single-ply membrane roof without a cover board.²

DensDeck Roof Boards help increase the puncture resistance of the roofing assembly, allowing it to withstand above-average foot traffic from routine maintenance. This helps to mitigate the risk of damage to your commercial roof.

Building a more resilient roof system helps lower the chance of needing more materials to repair and replace a damaged roof in the future. This helps reduce waste and contributes to sustainable building practices.

[SEE MORE FROM GEORGIA-PACIFIC](#)

¹<https://buildgp.com/densdeck/case-study/data-center-roofing-in-record-breaking-raines/>

²FMI Roof Cover Board Survey completed in May 2020. Actual results may vary.