Owens Corning SCR Board Wins Converts in Maryland

Coal-fired power plant, Maryland

Case Study

Mike Kilmon is a 17-year veteran of the industrial insulation business and he has used a lot of insulation products in that time. When a job came up recently requiring material for 200,000 square feet of a Selective Catalytic Reaction unit, Kilmon set out to get "the best product out there." His choice: SCR Board from Owens Corning.

"I was a little apprehensive at first," admits Kilmon, who manages the Baltimore Office of Insulation Specialties, Inc. "I'm a die-hard fan of mineral wool; I've used that product for a number of years. But I'm very satisfied with the Owens Corning SCR Board. Once we put the panels on, we can see that it's doing the job; it's knocking down the heat.

"We use a temperature gun to check every area that we insulate and I have been really pleased. Some temperatures were above 200 degrees (F), and it's gone down to under 90 F. So it's doing its job. The plant's impressed with it, and I am happy with it."

Rolland Hemling, contract administrator at the site, also admits to being a mineral wool fan who is impressed with the performance of the Owens Corning SCR Board.

"Oh yeah, I was surprised to see it do the job that it's doing," says Hemling. "We like it. We're using a significant amount of it. We originally planned to do only the sidewalls but we decided to also do the top of the units with SCR Board."

What does he like best about the product? "The light weight," he says. "And the insulation is just as good as the mineral wool."

"We're putting a significant amount of it on the structure, the precipitator, and we are covering a massive area, so the lighter the insulation the better. The light weight also makes the product easier to handle."

Not only are individual SCR boards light and easy to handle, but Owens Corning also made a packaging change that enhances productivity. Bill Tolliver, technical leader for pipe and mechanical products at Owens Corning, explains the situation.

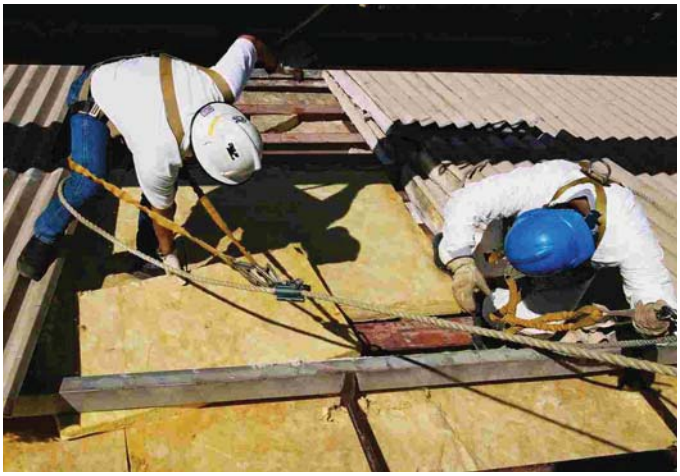
"They were getting 3" product and we were putting eight pieces in each package," says Tolliver. "That made the packages 24" thick. The contractor was having difficulty getting them up to the work site because they had to pass the material through a guardrail that has an opening of about 19 inches.

"The installers had to open the bundles and pass them through a few pieces at a time so it was a hassle handling the material. We developed some new codes and packaged the material six pieces to a package. That totals only 18 inches so they are able to get it through the handrails without a problem."

Owens Corning Sales Representative Steve Doehring says a Thermal Analysis of the SCR unit convinced the power company to invest in additional insulation even though the SCR unit had only been in service for a few years.

"The payback period was unbelievably short," says Doehring. "I believe the cost to re-insulate the system was something like $2 million, and the payback for them with additional energy savings was within the first year. And so beyond that (first year) it was all newfound money, if you will. It was big dollars in terms of short payback and significant long-term savings."

Once the decision was made to insulatate the SCR unit, Kilmon said he went to work to get the best product for the job.



Chris Murray, site superintendent (left), and Mike Kilmon, Baltimore office manager, Insulation Specialties, Inc., show how packages of Owens Corning SCR Board fit between railings at power plants.

"We like it. We're using a significant amount of it."

Rolland Hemling, contract administrator for the power company

Fiberglas® SCR Insulation Board

Owens Corning Fiberglas SCR Insulation Board is a lightweight insulation board composed of resilient, inorganic glass fibers bonded with a thermosetting resin. SCR Board is designed specifically for use on selective catalytic reduction (SCR) units in power plants.

SCR Board can also be used in boilers, vessels, bag houses, scrubbers, precipitators, ducts, breechings and many other types of industrial equipment operating at temperatures up to 1,000°F (538°C) at thicknesses up to 8" (203mm).

Being lightweight makes SCR Board easy to handle and install, even when large size panels are used. There is no tendency for pinhole elongation under vibration situations, a frequent source of heat leaks in some heavier products. SCR Board is free of shot and lighter than mineral wools with comparable thermal performance.

Boards in sizes up to 4' x 8' (1.2m x 2.4m) help reduce the number of joints, speeding installation and eliminating potential sources of heat leakage.

"These SCRs need to have as much heat going through them as possible," he explains. "That's how they work. The more heat, the better the unit works. So our goal was to get the best product out there to keep the heat inside the SCR. Price was a factor but it wasn't the overriding factor.

"You also have to look at the overall product, what it's going to do for the client and what it's going to do for the job," he continues. "Owens Corning SCR Board is made for SCR units."

Productivity is also making an SCR Board fan out of Kilmon. "Productivity has been excellent," he says. "We're covering more square feet a lot quicker than you would otherwise because the product is lighter."

In some parts of the job, Kilmon and his team are also working with fewer pieces of insulation. Owens Corning SCR Board is available in 4' x 4' sheets, compared with only 2' x 4' sheets for competitive materials. Some sections of the SCR units are exactly 4' x 4'. By ordering 4' x 4' sheets for those sections, the crews have half as many pieces of insulation to handle and apply. Having the exact size also means no seams in the insulation.

"When you have a 200,000-square-foot job, those little bits really add up," says Kilmon. "We were supposed to finish the job by April 30, and we actually finished two weeks ahead of schedule.

"We started using 2' x 4' sheets because that's what we were used to working with in mineral wool. We did that for the first three weeks of the project. Our progress was slow. Then we heard about the bigger sheets and ordered some for a certain area that was 4' x 4', and you could see the production pick up dramatically.

"Everybody was impressed, even the contract administrator," says Kilmon. "We were doing a second side of the precipitator a lot quicker than we did the first side. Things were moving right along."

Another thing Kilmon likes about Owens Corning SCR Board is its lack of dust.

"The binder seems to keep the fiberglass intact, where the mineral wool board, once you start working with it, just starts breaking apart and you've got a lot of fibers floating around. We don't have as much fibrous dust floating around working with the SCR Board.

"The workers like that," continues Kilmon. "A lot of the guys talked with me and said they feel a lot more comfortable working with the SCR Board than they did the mineral wool.

Kilmon says he is also pleased with the company that makes SCR Board.

"Service is fantastic from Owens Corning," he explains. "I've dealt with a lot of different companies and I'm really pleased with Owens Corning because of the support they give me. They don't just sell me product, they really give me a lot of support.

"I get support from salesman Steve Doehring, marketing support from Dave Cox and customer service support from Robert Mefford. If I have a question or concern, I can call them directly and they will assist me. I'm really pleased with how they back their products up.

"We average two truckloads a week and they're on time," he continues. "And what's nice about it, the trucking company calls the day before to let you know they're coming. In that way, if there are any questions or the time isn't good for me, we can work it out.

"That's good that they follow up, because I get trucks in here all the time and I never know when they're coming. If I get a trailer load of material, I've got to get labor to unload it. At least with the shipments from Owens Corning, we know that it's coming at a certain time and we can have our manpower there to unload it.

"Overall, I've been pleased with the service that Owens Corning provides; they've got a good support staff."

Based on comments from Kilmon and Hemling, Owens Corning also has a pretty good product for SCR units.

SCR Units Reduce Pollutants

Selective Catalytic Reduction (SCR) technology works like the catalytic converter in an automobile to reduce nitrogen oxide (NOx) emissions. The process uses ammonia to convert NOx emissions to harmless nitrogen and water. The chemical reaction takes place at temperatures above 620°F

In 1999, the power company completed the installation of two SCR reactors at the plant near Baltimore, the company's largest coal-burning facility. As a result, the plant is now capable of achieving a 90 percent NOx reduction and ranks as one of the country's cleanest coal-burning plants of its size.

The technology operates from May until September in Maryland, when the weather favors the formation of ground-level ozone or smog.

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