

ROOFING REVIEW

An Overview of Current LIGHTGUARD® Applications

Roofing Product Gives Optimum Performance For Major U.S. Government Research Facility

Argonne National Laboratory, one of the largest energy research and development organizations in the nation with a world reputation for achievement in a variety of individual scientific and engineering disciplines, is headquartered 25 miles southwest of Chicago on 1,700 wooded acres with nearly a hundred major buildings housing the most advanced scientific and technological equipment today.

Following an analysis of all buildings, the majority constructed in the late 1940's through the early 1960's, Argonne initiated a \$9 million, three-year reroofing program in the late 1980's to replace aging four-ply built-up roofs with stone ballast. According to Argonne experts, the roofs had been subjected to years of exposure to the most harmful of the natural elements—heat and cold. Additionally, nearly 75 buildings containing flat top roofs of aggregate surfacing suffered from blistering and cracking. In some cases foot traffic resulted in leakage.



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Construction Coordinator Chuck Bally and LIGHTGUARD representative Ron Rediger carefully review installation plans.

LIGHTGUARD The Clear Choice For Experts

Experts knew from past experience that LIGHTGUARD ballasted roof insulation had been used successfully in smaller Argonne roofing projects. Now that a major reroofing program would be initiated, could LIGHTGUARD be relied on again? According to Argonne experts, there were several issues to consider. "The roofing membranes needed to be protected against ultra-violet light and foot traffic," says Chuck

Bally, construction coordinator for Argonne. "Another prime concern was the need for increased insulation." Not as important, but certainly a consideration, was the need for flexibility in the roofing system to better handle various roof penetrations and features, such as blowers and vents.

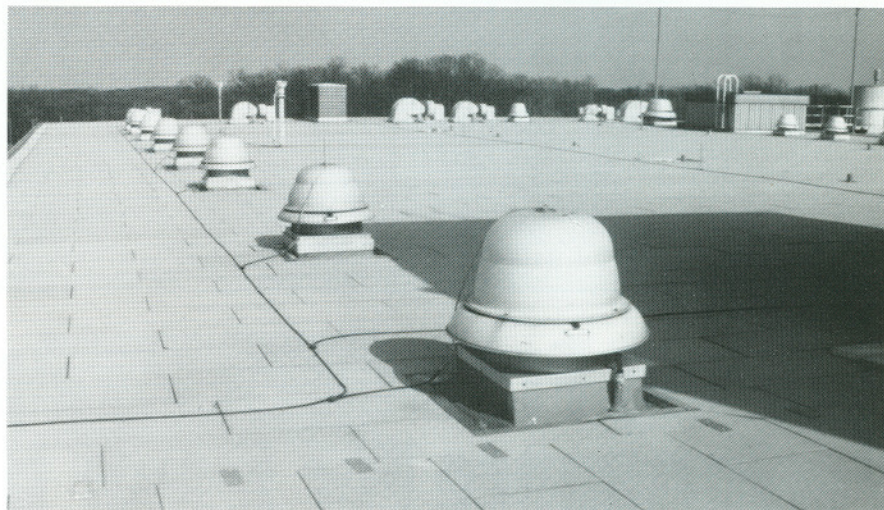
Bally and other experts, including Larry Moran, project manager, and John

LIGHTGUARD®
Ballasted Roof Insulation

Perfect, a construction field representative who at the time was the lead designer for the roofing project, collaborated extensively before choosing an insulated roof membrane assembly (IRMA) roofing system comprising the roof deck and a single-ply PVC membrane with high-UV resistant membranes for areas exposed to the sun. Rather than ballast with stone, which can splinter in freezing weather and puncture the membrane, they chose LIGHTGUARD ballasted roof insulation, which provides ballast, protection from ultraviolet light, a walking surface and added insulation. Moran points out that after the new roofing system was installed, the R-value for the roofing system, including LIGHTGUARD, increased from 16 to 25, which translated into a 50 percent increase in the roof's resistance to heat loss. Because the laboratory is equipped with a myriad of roof penetrations, LIGHTGUARD and the PVC membrane helped to make installation easier. At the completion of the project, workers had installed 1.3 million square feet of LIGHTGUARD on nearly 75 buildings.

LIGHTGUARD Protects Membrane, Saves Energy

LIGHTGUARD ballasted roof insulation is comprised of 2-foot by 4-foot panels of 2-inch or 3-inch high-compressive strength Styrofoam with a 3/8-inch latex modified concrete facing. The tight, closed-cell structure of the foam insulation panels protects the roofing membrane from extreme weather conditions, freeze-thaw cycles, ultraviolet light, condensation and foot traffic. The LIGHTGUARD panels, tongue and grooved on the long edges and installed in a staggered arrangement, serve as both insulation and ballast. Once installed, LIGHTGUARD offers an



LIGHTGUARD provides flexibility in handling roof features such as blowers and vents.

attractive appearance and a smooth, easy-to-walk-on surface.

While conventional ballasted systems weigh 11 pounds per square foot, LIGHTGUARD weighs 4.5 pounds per square foot and is ideal for insulation of single-ply roofing requiring a lighter-weight roofing system. Though lightweight, LIGHTGUARD is durable and will withstand winds of 70 miles per hour and above. Free of CFC, LIGHTGUARD is an environmentally responsible product.

System Goes On Easily

LIGHTGUARD is easy to apply ... there is no need to adhere panels to the roof membrane or use fasteners that can puncture the membrane. LIGHTGUARD eliminates rock punctures to the roof and the hazards of windblown rocks because it does not require the use of crushed stone or gravel. There is also an opportunity to reuse the LIGHTGUARD panels in the event of membrane failure, renovation or vertical expansion. "We've taken LIGHTGUARD panels off one roof, repaired it and put the panels back on," says Bally.

Now that major reroofing has been completed at Argonne National

Laboratory, LIGHTGUARD is protecting the roofing membrane from ultraviolet light and foot traffic, insulating the roof and providing a smooth, attractive walking surface. Argonne is satisfied enough with LIGHTGUARD's performance that it has selected the roofing product for another project, the Advanced Photon Source, a major new facility that will provide the world's brightest x-ray beams for research in materials science, condensed matter physics, chemistry, geosciences, biology and medicine. Construction for the Advanced Photon Source is underway and completion is expected in 1995.

LIGHTGUARD ballasted roof insulation has been used by government and industry, and schools and universities in the United States since 1976, when FinPan, Inc. began manufacturing the product. LIGHTGUARD is sold, marketed and distributed by FinPan's subsidiary, the T. Clear Corporation.

For technical information or nationwide manufacturer's agents, call T. Clear Corporation at:

1-800-544-7398.

T. CLEAR
CORPORATION

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