DECARBONIZING HEALTHCARE FACILITIES BY USING REUSABLE RADIATION SHIELDING

"I believe [healthcare] will continue to lead green building to a broader health-based set of ideas about building design, construction, and operation. With those ideas will come better life-cycle assessment tools and better methodologies for evaluating the health issues around our buildings, the materials, and the processes inside our walls."
Robin Guenther

ARSP

www.ARSP.com

DECARBONIZING HEALTHCARE FACILITIES BY USING REUSABLE RADIATION SHIELDING

The What?

What problems currently exist in the decarbonization of healthcare facilities involving the radiation shielding sector?

The issue lies in the outdated designs that have been in use since the 1960s. There's a glaring lack of stewardship, sustainability, and consideration for carbon neutrality, with even less thought given to reducing greenhouse gas emissions.

To put it plainly, our industry is failing, and failing badly.

The Objective - Decarbonization in HealthCare Facilities

An effective strategy to decarbonize the construction of new healthcare facilities involves implementing carbon-neutral processes. One key feature of this approach is to adopt reusable, penetration-free radiation shielding systems. This aligns with the principles of a Circular Economy Strategy.

Traditional single-use radiation shielding lead barriers, used in healthcare facilities, contribute significantly to greenhouse gas emissions and resource depletion. When these barriers are removed, the associated costs for decommissioning, abatement, and disposal are substantial due to their hazardous nature creating a negative environmental impact. Its a major contribution to the Healthcare Industries GHG footprint.

By transitioning to reusable radiation shielding systems, we can reduce the need for continuous production of new materials, thereby decreasing greenhouse gas emissions and conserving valuable resources. This shift promotes sustainability, mitigates environmental impact, and contributes to the overall decarbonization efforts in healthcare facility construction.

What can we do

A key advancement in the ARSP system is our proprietary coating that encapsulates raw lead sheets used in radiation shielding. All lead naturally releases toxins and it is our mandate to limit these toxins. This provides a better work environment during and after construction.

Our coating effectively limits the release of lead oxide within healthcare facilities, ensuring a cleaner and safer environment for staff and patients alike. Lead remains an indispensable component of radiation shielding due to its unmatched effectiveness and reliability. However, lead poisoning continues to pose a significant global challenge, with an estimated annual cost of 6 trillion dollars to the healthcare industry.

By encapsulating lead sheets and promoting the reuse of our ARSP system, we're actively contributing to mitigating this crisis. It's imperative that we collaborate to address this borderless pervasive issue and reduce emissions associated with it.

Let's come together and embrace the ARSP solution to protect our communities and safeguard the health of future generations.

Who are We?

Dave and Fred Lambert, with a combined 99 years of experience in designing and installing radiation shielding barriers, have been at the forefront of innovation in the field. Dave's groundbreaking stud cavity lead angle design laid the foundation for the development of the **ARSP system - the only penetration-free, reusable radiation barrier available today.**

The Task at Hand and our Solution

150,000,000 pounds of sheet lead are produced annually, primarily for radiation shielding installations in new x-ray and cancer therapy rooms worldwide. These costly barriers, being single-use applications, contribute to a growing demand for lead shielding, exacerbating environmental concerns.

If we, as a collective group - comprising of Facility Owners, Designers, Construction Managers, and all stakeholders within the healthcare industry - embrace this movement and heed the calls for action by implementing the ARSP system in the project tender process, it will be a contributing factor to reaching carbon neutrality by 2050. Over the next 26 years, we could provide 3.9 billion pounds of reusable lead sheet for newly constructed hospitals and clinics.

The ARSP leads panels installed are reusable for 200 years -the lifecycle of the lead sheet. This means by 2050, by ensuring all new healthcare facilities implement the ARSP System, there will be a significant reduction in the amount of new lead sheeting required meeting the challenging task of becoming carbon neutral.

Who among us is ready to do more than just talk the talk? Who is willing to carry the torch for those industry GHG Reduction trailblazers who have passed - to ensure they still have a voice, and that their legacies continue to inspire us as we forge ahead together? I DO, AND I WILL!

GET IN TOUCH

1-780-446-3232 | fred@ARSP.com | www.ARSP.com

ARSP

THE EPA VALUES THE SOCIAL COST OF CARBON AT $190 PER TON. BY IMPLEMENTING THE REUSABLE ARSP SYSTEM GLOBALLY AND ACCOUNTING FOR 1 YEAR OF LEAD USAGE OVER THE LIFECYCLE (200 YEARS) OF THE LEAD SHEET, WE CAN REDUCE CO2 EMISSIONS BY 470,086,635 TONS, RESULTING IN A SOCIAL CARBON COST SAVINGS OF $89,316,460,650.00.

THE USA TYPICALLY REQUIRES
40,000,000 LBS
OF SHEET LEAD EVERY YEAR.

THE WORLD TYPICALLY REQUIRES
150,000,000 LBS
OF SHEET LEAD EVERY YEAR.

BY SWITCHING TO THE REUSABLE ARSP SYSTEM, USING 1 YEAR OF TYPICAL LEAD USAGE FOR THE LIFECYCLE (200 YEARS) OF THE LEAD SHEET, THE REDUCTION IS COMPARABLE AS SHOWN IN THE EPA GREENHOUSE GAS EQUIVALENCIES CALCULATOR:

40,000,000 LB OF SHEET LEAD IS EQUIVALENT TO 275,784,160,960 KG CO_2

EQUIVALENT CO_2 REDUCTION

- 302,935,280,098 LBS OF COAL BURNED
- 70.9 COAL-FIRED POWER PLANTS IN ONE YEAR
- 736 NATURAL GAS-FIRED POWER PLANTS IN ONE YEAR
- 638,498,634 BARRELS OF OIL CONSUMED
- 31,032,312,474 GALLONS OF GASOLINE CONUSMED
- 27,090,782,020 GALLONS OF DIESEL CONSUMED
- 54,427,708 HOMES' ELECTRICITY FOR THE YEAR
- 12,669,268,994 PROPANE CYLINDERS USED FOR HOME BBQS

EQUIVALENT GREENHOUSE GAS EMISSIONS AVOIDED

- 95,758,389 TONS OF WASTE RECYCLED INSTEAD OF LANDFILLED
- 11,978,943,148 TRASH BAGS OF WASTE RECYCLED INSTEAD OF LANDFILLED
- 13,679,770 GARBAGE TRUCKS OF WASTE RECYCLED INSTEAD OF LANDFILLED
- 72,583 WIND TURBINES RUNNING FOR A YEAR

EQUIVALENT TO CARBON SEQUESTERED

- 4,560,114,813 TREE SEEDLINGS GROWN FOR 10 YEARS
- 321,986,122 ACRES OF US FORESTS IN ONE YEAR
- 1,768,716 ACRES OF US FORESTS PRESERVED

150,000,000 LB OF SHEET LEAD IS EQUIVALENT TO 1,034,190,596,000 KG CO_2

EQUIVALENT CO_2 REDUCTION

- 1,139,757,291,992 LBS OF COAL BURNED
- 266 COAL-FIRED POWER PLANTS IN ONE YEAR
- 2,760 NATURAL GAS-FIRED POWER PLANTS IN ONE YEAR
- 2,394,369,860 BARRELS OF OIL CONSUMED
- 116,371,170,924 GALLONS OF GASOLINE CONSUMED
- 101,590,431,827 GALLONS OF DIESEL CONSUMED
- 204,103,902 HOMES' ELECTRICITY FOR THE YEAR
- 47,509,758,378 PROPANE CYLINDERS USED FOR HOME BBQS

EQUIVALENT GREENHOUSE GAS EMISSIONS AVOIDED

- 359,093,957 TONS OF WASTE RECYCLED INSTEAD OF LANDFILLED
- 44,921,036,473 TRASH BAGS OF WASTE RECYCLED INSTEAD OF LANDFILLED
- 359,093,957 GARBAGE TRUCKS OF WASTE RECYCLED INSTEAD OF LANDFILLED
- 272,187 WIND TURBINES RUNNING FOR A YEAR

EQUIVALENT TO CARBON SEQUESTERED

- 17,100,430,424 TREE SEEDLINGS GROWN FOR 10 YEARS
- 1,207,447,949 ACRES OF US FORESTS IN ONE YEAR
- 6,632,686 ACRES OF US FORESTS PRESERVED

GET IN TOUCH

1-780-446-3232 | fred@ARSP.com | www.ARSP.com