

Ray-Bar Engineering Corporation Lead's Green Facts and Aspects

- 100% Recyclable
- 100% Stable
- Safest Form

Lead is one of the oldest and most durable building materials and has been known to last for more than 500 years.

Lead is by far the most efficient and typically most cost effective shielding material. It takes much less area volume (thickness) to properly shield and far less shielding material expense costs (compared to other metals, composites, metallic polymers or "lead-free" shielding materials) for shielding medical diagnostic x-ray and ionizing gamma radiation protection. Lead is the dependable pure metal standard that all conventional radiation shielding is based on and which all other materials and composites are compared to for establishing a shielding attenuation value.

Other shielding alternatives can deteriorate and potentially fail within 20 years or less. The manufacturing methods and materials used result in early replacement. This means they potentially have both a negative cost and environmental impact.

There is an established scrap lead salvage and recovery network in the U.S. that ensures constant recycling. When compared to virtually all other products, including metallic polymers or composite materials used as a shielding substitute, lead's recovery rates are dramatically higher in Western countries. In the U.S., more than 98% of lead used in construction is recycled.

Lead is 100% recyclable after every use. It never deteriorates no matter how many times it is recycled, retaining all the natural qualities that attract architects, physicists and engineers to it in the first place.

Properly recycling lead uses far less energy than the mining and smelting process involved in its initial production. The lower melting point during the recycling process delivers impressive energy saving efficiencies, making reclamation cost effective and environmentally desirable.

Three million tons of lead is produced worldwide each year by simply recycling scrap lead from construction, shielding, roofing, pipes and batteries. In the western hemisphere, more "new" lead is produced by recycling than by new mining, thus preserving our precious resources.

Specifying lead shielding will also help keep other materials—some of which are much more difficult and expensive to recycle—from entering the ecosystem where they may end up in our landfills.

Research studies show that synthetic materials developed as a potential alternative to lead, such as metallic polymers and composite materials, have significantly higher impacts on global warming during their manufacturing process.

- Ray-Bar only uses metallic lead in solid forms, which is one of the safest and least bioavailable forms of lead.
- Ray-Bar does not melt, cast, smelt, alloy, burn or weld lead, and does not offer lead ore, oxides or other potentially hazardous forms.
- Ray-Bar can help your building projects achieve LEED certification points.
- Ray-Bar is a proud member of the U.S. Green Building Council and the Canada Green Building Council and can assist with properly documenting and submitting Ray-Bar's products and materials for your hospital or medical center's LEED materials and resources (MR) credits to apply for achieving LEED certification for the construction project