



Learn more about how your regulated medical waste is sterilized with our unique process.

The Sterilization Process

Triumvirate has a unique approach to convert regulated medical waste (RMW) into a benign, reusable plastic lumber product, helping clients achieve financial and sustainability goals. Here's how we do it.

Your regulated medical waste is picked up by our trained personnel and delivered to our sterilization and manufacturing facility where the treatment process begins. The waste then travels through a 6-step journey to sustainability.

Screening: Medical Waste is screened for recyclability. Most, if not all, regulated medical waste is a good candidate for recycling. **Regulated medical waste is picked up by our trained personnel and delivered to our sterilization and manufacturing facility where the treatment process begins.** Triumvirate screens the material and regulated medical waste is separated from other waste streams: radioactive, hazardous, and sharps. **Infectious, chemotherapeutic and pathologic are handled separately. Triumvirate will not recycle waste mixed with radioactive.**

Sterilization: Non-recyclable waste is treated and disposed of according to the conditions of our operating permits. All recyclable wastes are sterilized. **This machine accepts untreated RMW at a rate of approximately 2000 pounds per hour. At this rate, one 8-hour day saves enough energy to power a full body MRI machine through over 3400 scans.** Once within the system, the RMW is shredded and exposed to a combination of water and calcium-oxide a **FIFRA-registered disinfectant.** Resultant waste is flash heated. **Not only does it expose medical waste to 300 -400% increase in temperature quickly, but the speed assists in inoculating any bugs.** This process has proven to be effective on biocontaminants to better than a log 6 kill. **This exceeds the legal requirements for declassifying the materials as hazardous by 1000 times as verified by an independent testing laboratory.**



Learn more about what happens to your regulated medical waste after it's processed into plastic.

The Production Process

After all regulated medical waste and other waste has been sterilized through Triumvirate's sterilization process, the material is **carried on a conveyor, dumped into a collection container and transported to Plant 2.** The material is dried and then goes through several additional steps before it's ready for distribution. Here are the steps:

Physical Separation: Once sterilized, the materials which formerly were RMW are physically separated to remove and recycle components that do not lend themselves to the manufacturing process. Steps taken to separate these materials include magnets as well as an air classification system. These materials include metals and glass.

Material Optimization: To ensure an optimal plastic lumber product that meets end-user requirements, Triumvirate then blends and compounds the sterilized material with other co-polymers, colorants and conditioners.

Extrusion Process: The blended material is extruded into molds to create the final lumber product. The molds are heated and the plastic is melted to take the form of the molds.

Cooling & Testing: After melting, the plastic sets as the mold cools and then ejects the lumber. The resultant plastic lumber is tested prior to shipment. One 8-hour day of recycling RMW into plastic saves enough energy to power a full body MRI machine through over 3400 scans.

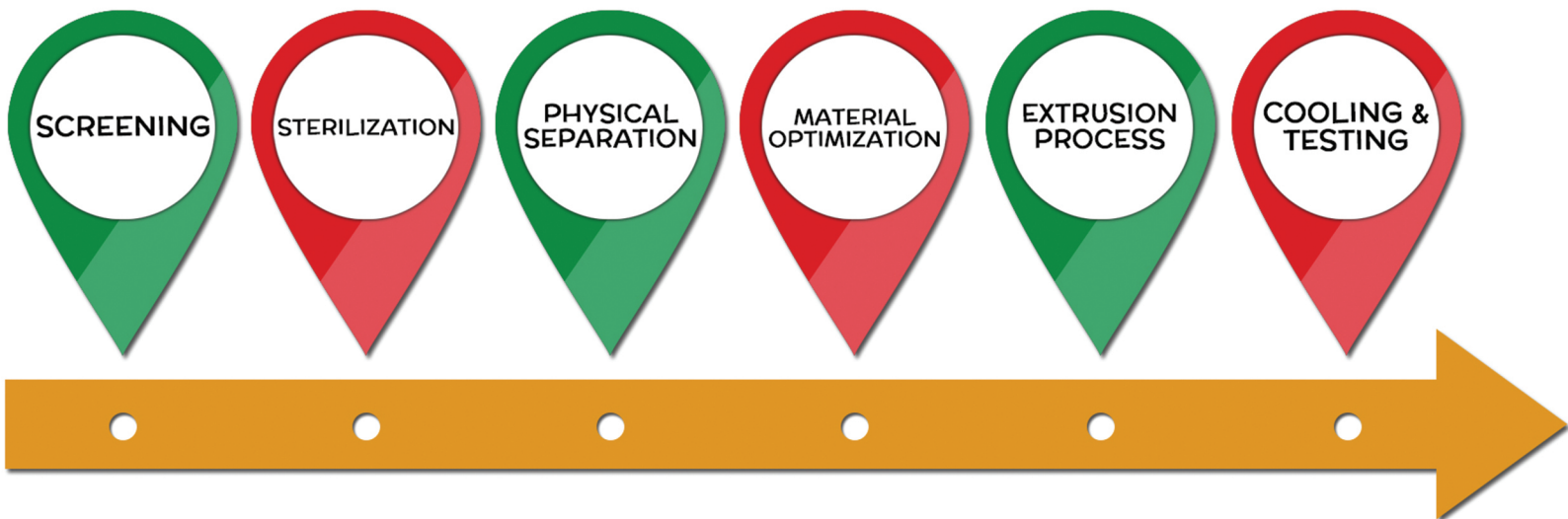


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The plastic lumber is used in a variety of products including construction material, landscape timbers, farm tools and speed bumps. While the cost of regulated medical waste disposal is expected to increase 50% over the next 2 years, reselling this repurposed material allows Triumvirate to process our clients' regulated medical waste at a significantly reduced cost. All Triumvirate's plastic lumber is created with a focus on safety, sustainability and reliability.



6-STEP JOURNEY TO SUSTAINABILITY



Plastic Lumber Production