

## **Treatment of Granular Nuclear or Heavy Metal Waste**

For further  
information on  
Treatment of Granular  
Waste Technology,  
please contact:

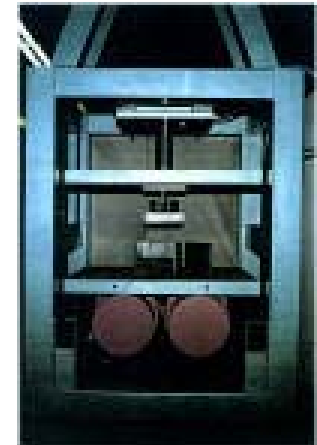
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## **TREATMENT OF NUCLEAR WASTES**



**DEPARTMENT OF  
PHYSICS &  
ASTRONOMY**

# TREATMENT OF WASTE BY VIBRATORY SHOCK COMPACTION

This technology provides a method for compacting and stabilizing granular hazardous waste. The waste material is blended with an inert material and a glass binder. The mixture is then vibrationally shock compacted at room temperature. After the compaction, the formed solid product is heated to melt the glass component, thus permitting it to flow into the remaining void spaces, wetting surfaces of both the inert material and granular waste, and sealing the pores. The inert material acts as both a physical and chemical barrier to water penetration and associated dissolution of glass binder and the granular waste.

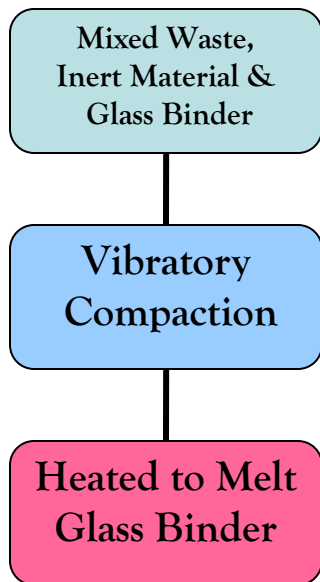


Photo: <http://www.resonantshockcompact.com>

Research, development and demonstration facilities are located at the University of Denver, Environmental Materials Laboratory.

## Benefits of the Treatment

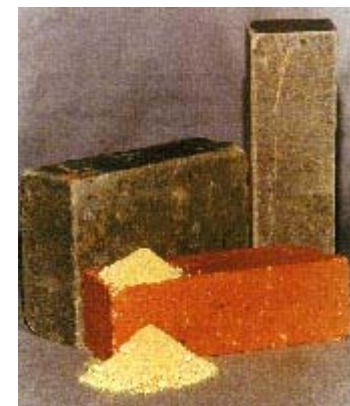
- Cost effective
- Durability
- Volume reduction
- Proven technology
- Increased success in comparison to existing vitrification technology

## Application of the Treatment

- Storage and disposal of nuclear waste

## Compaction Process

Vibratory shock compaction is a process of this technology used to compact contaminated waste into ton-sized test blocks (as shown below) that may be safely stored, transported and disposed. Sample specimens containing toxic metals have passed US EPA leaching tests. In addition, the compacted waste is heated to sinter or vitrify them thus assuring even greater environmental stability.



(source: <http://www.resonantshockcompact.com>; Resonant Shock Compaction, LLC is not associated with this technology.)