

The University of Utah Metal Sorting Facility

We have developed two solid state devices capable of sorting non-ferrous metals from other non-ferrous metals or from non-metallic materials. While our electrodynamic technology (EDX) is targeting the separation of materials commonly found in the recycling waste stream for which there is significant value, but for which there is no readily available sorting methodology, it has broad implications. Our lab is offering diagnostic services to characterize customer materials to determine candidacy for potential separation using the EDX method.

Materials submitted for testing and sorting should ideally be fairly uniform in size, but this is not absolutely required. They may contain non-ferrous metals, glass, plastics, PC board material, electronic components, wood, foam, sand, dirt, and other debris. Samples must be free from biological, chemical, or radiological hazards or anything that could cause harm to laboratory personnel. We are bound by the safety standards of the University of Utah. At the present time, we are set up to support the characterization, sorting, and separation of recycled materials. This can provide a potential customer to determine if their material is a good candidate for separation via EDX.



EDZ Zorba 500 Target Application: Sorts wrought and cast aluminum from “red metals” (copper, brass, and zinc) in automotive shred residue (trade name Zorba). The technology can also be used to separate any pair of non-ferrous metals with sufficient differences in conductivity, geometry, size, or any/all combination of these attributes. Although not required, the material to be sorted will ideally be fairly uniform in size and ranging from 1.0 – 3.0 cm in size.

EDZ 200 Target Application: Sorts granulated solid core copper or aluminum wire from other metallic or non-metallic impurities, ranging from 1 – 6mm in size. The technology can also be used to separate any pair of non-ferrous metals with sufficient differences in conductivity, geometry, size, or any/all combination of these attributes. Although not required, the material to be sorted will ideally be fairly uniform in size and ranging from 1.0 – 6.0 mm in size.

U of Utah REMADE Metal Sorting Facility Equipment List

- EDX Zorba500 research prototype 500 lbs/hr processing rate
- EDX Zebra200 research prototype 200 lbs/hr processing rate
- Sieve and mass analysis to determine size and weight distribution of sample
- X-Ray Fluorescence to determine elemental composition of sample