



S.Norton

Responsible Solutions

WEEE SMALL DOMESTIC APPLIANCES (SDA) PROCESSING REPORT

SDAs collected from Civic Amenity DCFs contain most of the WEEE Categories, as demonstrated by the DEFRA April 2007 Protocols Study. The DEFRA report established the average percentages by category, typically including 12% non-WEEE contamination and 2% Category 5 Domestic Lighting, which does not count as WEEE. Therefore, for every tonne of SDAs collected, we currently record 86% as WEEE, broken down into the relevant categories determined by the DEFRA Protocol. (A new protocol mix is currently under development.) We do not collect or process CRTs, Display Equipment or Fluorescent Lamps.

After weighing in over the weighbridge at our Liverpool plant, the SDAs are stored separately pending a batch treatment process in our 5000 HP metal shredder. By batch processing SDAs separately, we are able to optimise the recycling of the mainly polystyrene plastics they contain.

The process itself consists of a hammer mill, which smashes the WEEE into small fragments about 100 mm in size, which are passed along a conveyor to a magnetic separator to remove most of the ferrous metals. At the same time, suction is applied to draw off any lightweight debris, such as dirt from vacuum cleaners and grass cuttings from lawnmowers. The non-ferrous and non-metallic fraction passes over a rare earth magnet to remove more metals, and on to an eddy current separator to remove the aluminium content and other metals. At various points on both the ferrous and non-ferrous conveyors, manual picking stations are used to separate motor armatures comprising both ferrous and non-ferrous metals. Importantly, they can also remove any batteries or capacitors that must be removed in accordance with Annex II of the WEEE Directive; and return for re-shredding any small items that have not been broken open in the first pass through the shredder.

The non-metallic, mainly plastic fraction falls into a bin, where it is collected for onward movement to an associated plastic recycling company in the UK, whose process includes a further metal separation technique to remove any stainless steel that has not been picked up by our other in-house processes. The plastic recycler converts this rough plastic stream by separating the mixed polymers into viable new, pelletised manufacturing materials, ready for reuse. There is little or no real “waste”, other than the dirt that was previously removed by suction at the shredder.

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The metals that have been separated are bulked up with similar recovered metals derived from other sources, such as cars or demolition scrap, and either sold to smelters in the UK or, more commonly in our case, sold by our Approved Exporter division to accredited equivalent reprocessors overseas. The amounts of metals and plastic respectively recovered from the WEEE are determined by category using the DEFRA SDA Protocols, driven by the input weight, rather than weighing the output, as the metals are collected in the same catchment areas as those recovered from other feedstocks. Care is taken to ensure that the material sent for reprocessing is sufficient to support the required WEEE recovery levels.

Our process fully meets the requirements of the WEEE Directive in terms of materials recovery and recycling, and enables the removal of hazardous items specified in Annex II of the Directive.

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