

ACCUREC GmbH, Krefeld

AUDIT Summary Li-Ion

June 2015/October 2017

The production site of ACCUREC Recycling GmbH in Krefeld beyond 2015, provides an integrated recycling process for Li-Ion batteries. The purpose of the conducted Audit is to validate the Recycling Efficiency (RE) of Li-Ion batteries according to the specification of the European Directive 2006/66/EC and the European Commission Regulation No 493/2012.

The recycling process is based on a manual sorting step, a pyrolysis step in a rotary kiln for removing the plastic and volatile contents by a subcontractor, a specifically developed process by ACCUREC to separate non-ferrous and ferrous fractions mechanically and an external subsequent metallurgical processing step, where Cu, Ni and Co are recovered as marketable products and carbon is used predominantly as reduction agent in the process.

The first audit took place in the period from the 8th April to 3rd June 2015 and addressed the first step of classification and pyrolysing of EOL battery scrap. During that period a MIMITech-Auditor visited the plants, chose an arbitrary batch of Li-Ion batteries, took samples and supervised the mass flow. Due to relocation of the company to Krefeld and plant availability, a second audit was carried on the 5th of October 2017, where the shredding and metal separation line along with the resulting fractions was examined. After the data collection, the auditor worked out a mass balance of the process and finally calculated the "Recycling Efficiency" based on the weight of the material and the incorporated data analysed by an independent and certified laboratory as well as on written RE-statements of customer. The observation of two different input streams is justified because of the scrap's variation and therefore pronounced heterogeneity, the consideration of both steps has led finally to an aggregated number.

MIMITech GmbH certifies that the integrated Li-Ion recycling process of ACCUREC Recycling GmbH achieves a "Recycling Efficiency" (RE) of 59.3 % based on the data gathered during the audit, obviously above the 50 % recycling target of the European Directive 2006/66/EC. If the byproduct slag is used for other purposes according EU/496/2012, the RE of 70.6 % can be accounted.

Aachen, December 2017



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