

2024 PPC Waste Audit

1. Introduction

1.1. Background

This audit is a requirement of the PPC permit BX3371G section 2.4.1.2. This audit relates solely to the permitted installation, but it should be noted that Continental Automotive have an internal requirement to reduce waste by 2% every year. Continental Automotive also maintain certification to ISO 14001, ISO 45001 and ISO 50001.

1.2. Details of the installation

In reference to the details of the installation they are essentially unchanged from those in section 1.2 of the original report. However, as previously advised, an additional process of acid zinc nickel plating and the additional passivation and sealant have been included. These additional processes are contained within the existing site boundary.

The chemical stores have now been relocated within the building and adjacent to the wall of the plating plant. This remains in the permitted area.

1.3. Continental Automotive Environmental Position

Continental Automotive maintain the same worldwide targets for all their plants, the exception being in the use of water in water scarcity areas where the target for reduction in water usage is higher.

In respect of this audit, this means a waste reduction of 2% per year both in total waste disposed and waste per 1,000 pieces produced. There is also a requirement that 95% of all waste produced is recycled.

In the period 2021 to 2023, the waste reductions are as follows:

- › Total waste reduction of 50% (from 1,017T in 2021 to 515T in 2023)

- › Waste per 1,000 pieces reduction of 30% (300 kg/1,000 pieces to 200 kg/1,000 pieces)

1.4. Continental Teves Ebbw Vale – Current Position

Production volumes have been steadily decreasing since the Covid-19 pandemic and the Russian invasion of Ukraine which affected the largest customer for the site.

As a result of this, Continental Automotive decided transfer all the original equipment calipers that Ebbw Vale produce to another site. Spares and kits remain. There is also transfer of work into the plant of air-suspensions from a plant in Germany that is closing.

The consequence of this for the permitted installation is that it will produce a slightly lower volume of parts than it currently does. The expectation is therefore that the total waste volumes will reduce and the waste per 1,000 pieces must be managed to ensure that it too meets the requirements.

1.5. Audit Scope

The waste minimisation audit is limited to the IPPC installation boundary and includes the plating plant, effluent treatment plant and chemical store.

2. Sector Guidance

Under section 2.4 of the PPC permit "Efficient use of raw Materials" it requires that a review of the initial audit be completed and a description of progress made against the action plan be submitted to the Agency at every 4 years thereafter. Consideration should be given to:

- › Analysis of raw materials used.
- › Assessment of opportunities for reduction
- › Provide an action plan for improvements using:
 - › Process Mapping
 - › Materials balance
 - › Action Plan

3. Current Status

3.1. Raw Materials

Continental Automotive have a central department that oversees the chemicals that may be used within its' own processes and for materials used in the manufacture of these chemicals or products. This department ensures that each plant is aware of the restrictions in their region as well as compliant with Continental standards (Typically EU and German legislation.).

Currently, in relation to the permitted installation, the focus is on removing cobalt from the passivation process and in the longer term, replacing boric acid in the plating solutions.

3.2. Environmental Impact

A full inventory of all hazardous material is maintained on site by the Head of Plating and Environmental Management. This register is maintained on a commercial system called EcoOnline and amongst other things, ensures that all the Material Safety Data Sheets are the latest available. The data in this system remains the property of Continental Teves UK and will be made available to Continental should they wish to leave the contract. ESH issues are discussed at a daily 12.15 meeting with the senior management and in the ESH quarterly review meeting.

3.3. Waste Production

Waste from the plating and effluent treatment plant falls into the following categories:

- › Waste plating solutions (acidic)
- › Waste passivates (acidic)
- › Waste sealants (alkaline)
- › Waste Cleaners (alkaline)
- › Waste pickle solutions (acidic)
- › Sludges from cleaning tanks in the above process tanks
- › Waste sludge from dewatering in the wastewater treatment
- › Waste filters
- › Damaged anode baskets

- › Packaging – mainly plastic drums and bags
- › Waste heat

To minimise these wastes, Continental Ebbw Vale undertake the following actions:

- › Maintain the maximum drain-off time above tanks to minimise the amount of drag-over of contaminants.
- › The use of reusable filters in zinc plating.
- › Washing of anode bags until they are no longer serviceable.
- › Processing as much waste as is possible internally from pickling and cleaner tanks to prevent unnecessary external transport (waste tankers)
- › Minimise the amount of packaging used – use of IBCs rather than 25kg drums and more recently, receiving high grade hydrochloric acid in 25kg drums that are returned to the supplier for reuse instead of the 5kg bottles previously used.
- › Minimising drag-out from process tanks.
- › The plant boiler and extraction system are on a timer, so they are only on when required.

4. Conclusions

- › In general, Continental Teves Ebbw Vale are undertaking many actions to reduce their waste production. There are areas where improvements can be made, for example, production of sludge in effluent treatment process and efficient use of water.
- › The current business situation means that there will need to be a focus on the permitted installation to decide the best way it should be operated in the future.

5. Recommendations

- › Ensure that the plating reject rate is kept as low as possible, this will mean less resources will be consumed in the plating process and less heavy metals will be discharged to the effluent plant producing less sludge.

- › It is known that the central lab of Continental Automotive are working with suppliers on chemistry that have lower concentrations of heavy metals in them. These need to be used in Ebbw Vale as soon as is practical to further limit the amount of heavy metals sent for treatment.
- › The effluent sludge is approximately 70% water. If the sludge is dried it will release that water back into the atmosphere as opposed to tying it up in a landfill site; it would also mean less waste production. Commercial sludge dryers have been investigated and have not been cost effective at the volumes produced. However, there is some waste heat on site which, with some adaptations, could be used to dry the sludge. This may not be as effective as a commercial dryer but would give a significant reduction in waste.