

# ISTD/ I-18-06

## SAMBREVILLE (BE)

### Context & Project Description

We are carrying out a study to clean up materials from the screening of construction waste by Bruco. These materials are composed of small organic waste, PVC, plastic, insulation, polystyrene, etc.

The objective of this project is to analyze the ability of thermal desorption to clean up these materials containing construction waste.

Organohalogens are organic chemicals that contain one or more bonds between carbon and a halogen (chlorine, bromine, fluorine, iodine). EOX (Extractable Organohalogens) are the organohalogen compounds that can be extracted by a solvent, which is the method used to measure them. The EOX concentration is the parameter analyzed in the laboratory to determine the polluted and/or depolluted state of these materials.

First, kinetic tests are performed in the laboratory to determine the target temperature of the treatment. Then, a containerized decontamination pilot, capable of handling 3 tons, is going to be set up on site in Sambreville, Belgium.



### Conclusion

Our kinetic tests in the laboratory have proven that thermal desorption is an effective way to treat materials from the screening of construction waste, containing organic waste, PVC pieces, plastics, insulation, polystyrene.

The result of our on-site pilot are also in line with our initial conclusions. Post-treatment analyses showed an EOX abatement of more than 97.27% in areas where the temperature reached 398°C, a 96.55% abatement in areas where the average temperature was 125°C and 30% in the area below the 100°C threshold.

## Key words

**Contaminants**  
PVC, plastic, insulation, polystyrene

**Max. concentration**  
16 mg/kg DM

**Volume**  
3 m<sup>3</sup>

**Tonnage**  
3 Tons

**Nb of heating tubes**  
1

**Temperature Target**  
200°C

**Heating duration**  
16 days

**Treatment targets**  
<7 mg/kg DM

**Location**  
Sambreville, Belgium

**Future Use**  
/

**Client**  
BRUCO

**Partner**  
THERMAL CLEAN SHIFT

**Consultant**  
/

**Date**  
2018

