

FINAL REPORT



TOEFCO ENGINEERED COATING SYSTEMS, INC.

NILES, MICHIGAN

**FINAL REPORT:
EU-OVEN16-LBAYCO**

RWDI #2102929

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SUBMITTED TO

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EXECUTIVE SUMMARY

RWDI USA LLC (RWDI) was retained by Toefco Engineered Coating Systems, Inc. (Toefco) to complete the emission sampling program for the EU-OVEN16-LBayco at their facility located at 1220 North 14th Street in Niles, Michigan. Toefco specializes in industrial spray coating application projects with a large variety of coating material and application processes.

Toefco was issued MI-ROP-N2610-2017 by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and must complete source testing on EU-OVEN16-LBayco as required under the Flexible Group (FG-BURNOFFOVENS).

The Source Testing Plan for this testing was submitted on March 26th, 2021 to the Michigan Department of Environment, Great Lakes, and Energy, Air Quality Division Technical Programs Unit (TPU). Testing was conducted on June 8th, 2021. Results from the sampling program are presented in the 'Tables' section of the report, with more detailed sampling results located in the Appendices. Below is a summary of selected results

Table 5.1.1: Average Emission Data – Hydrogen Fluoride

Parameter	Emission Rate (mg/m ³) ⁺			
	Run 1	Run 2	Run 3	Average
Hydrogen Fluoride	0.26	0.76	2.66	1.22

⁺Data standardized to 70 degrees Fahrenheit and 29.92 inches Hg.



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1 INTRODUCTION

1.1 Overview

RWDI USA LLC (RWDI) has been retained by Toefco Engineered Coating Systems, Inc. (Toefco) to complete the emission sampling program for the EU-OVEN16-LBayco at their facility located at 1220 North 14th Street in Niles, Michigan. Toefco specializes in industrial spray coating application projects with a large variety of coating material and application processes.

Toefco was issued MI-ROP-N2610-2017 by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and must complete source testing on EU-OVEN16-LBayco as required under the Flexible Group (FG-BURNOFFOVENS). Testing was conducted on June 8th, 2021.

1.2 Schedule and Summary of Testing Parameters

RWDI completed the testing program June 8, 2021. Table 1.2.1 outlines the sampling dates, parameters and methods completed for the testing.

Table 1.2.1: Summary of Sampling Event

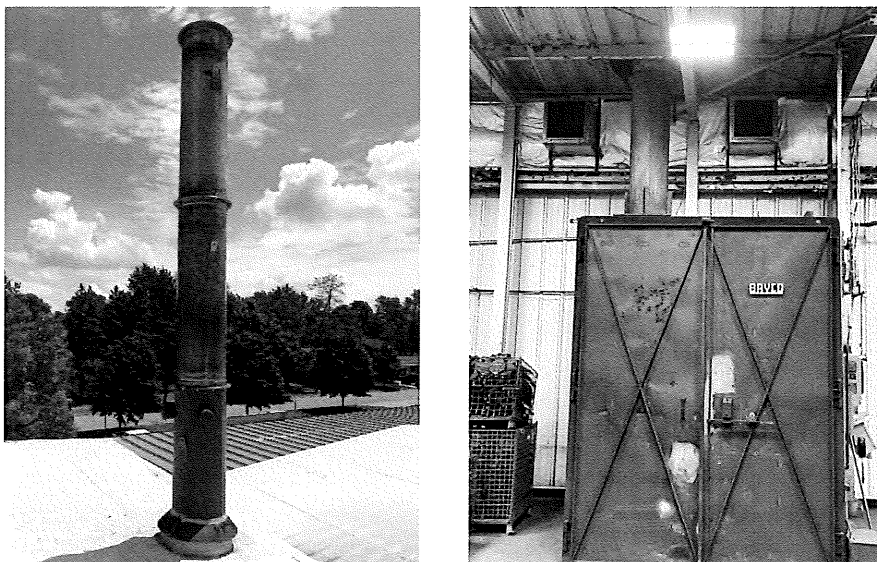
Sampling Location	Parameter	Sampling Method	Number of Runs	Run Duration
June 7 th , 2021	Arrive on site and set up test equipment			
June 8 th , 2021				
EU-OVEN16-LBayco	Flowrate	USEPA Method 1,2	Three (3)	60 min
	Oxygen/Carbon Dioxide	USEPA Method 3	Three (3)	Grab Sample
	Moisture Content	USEPA Method 4	Three (3)	60 min
	Hydrogen Fluoride	USEPA Method 26	Three (3)	60 min

2 SOURCE DESCRIPTION

2.1 Facility Description

Toefco is located at 1220 North 14th Street in Niles, Michigan. Toefco's main business operations consist of the coating of automotive and heavy equipment parts with high performance paints intended for high temperature applications (e.g. exhaust system components). The facility currently has two coating lines with associated conveyors, wash operations, spray booths, cure ovens, and several stand-alone spray booths and curing ovens for smaller coating projects. The facility operates one (1) burn-off oven that is used to remove coatings from racks from the coating process. The burn-off oven operates on a cycle that heats the parts up to 850°F where the coatings are loosened and subsequently removed through other processes within the facility. The exhaust emissions from the burn-off oven are controlled by a thermal oxidizer.

Figure 3.2.1: EU-OVEN16-LBayco Example Photos



4 SAMPLING METHODOLOGY

The following section provides brief descriptions of the sampling methods and discusses any modifications to the reference test methods. A summary of test durations, methodologies, and sampling location is provided in **Section 1.2**.

4.1 Stack Velocity, Stack Gas Temperature and Volumetric Flow Rate Determination

The exhaust velocities and flow rates were determined following the US EPA Method 2, "Determination of Stack Gas Velocity and Flow Rate (Type S Pitot Tube)". Velocity measurements were taken with a pre-calibrated S-Type pitot tube and incline manometer. Volumetric flow rates were determined following the equal area method as outlined in US EPA Method 2. Temperature measurements were conducted simultaneously with the velocity measurements and measured using a chromel-alumel type "k" thermocouple in conjunction with a digital temperature indicator. These measurements were taken before and after each test run and the flow rates were averaged for the emission calculation.

The dry molecular weight of the stack gas was determined following calculations outlined in US EPA Method 3, "Determination of Molecular Weight of Dry Stack Gas". Stack moisture content was determined through direct condensation and according to US EPA Method 4, "Determination of Moisture Content of Stack Gas". Moisture was collected as part of the EPA Method 26 testing.



6 OPERATING CONDITIONS

Personnel at the Toefco facility verified that the oven was operating within normal conditions and were responsible for monitoring process data including primary and secondary chamber temperature (thermal oxidizer) and amount of material being burned, as presented in **Appendix F**. A member of the RWDI sampling team contacted the operator before each test, to ensure that the process was at normal operating conditions.

7 CONCLUSIONS

Testing was successfully completed on June 8th, 2021. The source was tested in accordance with referenced methodologies following the EGLE approved Pre-Test Plan.