

# Terinex Flexibles Limited

## Application Non-Technical Summary

### Issue 1.0: October 2023

The Operator proposes to operate a flexographic printing activity, specialising in the printing of a variety of flexible packaging. The process will use organic solvents in the press to print the ink to the base material (substrate) which is usually polythene film. The process will also use solvents for ink viscosity adjustment (thinning) and cleaning.

The installation will initially comprise two flexographic printing presses (with scope for a third) with solvent emissions abated via a three-tower regenerative thermal oxidiser (RTO). Solvents will be recycled for internal re-use via a distillation unit.

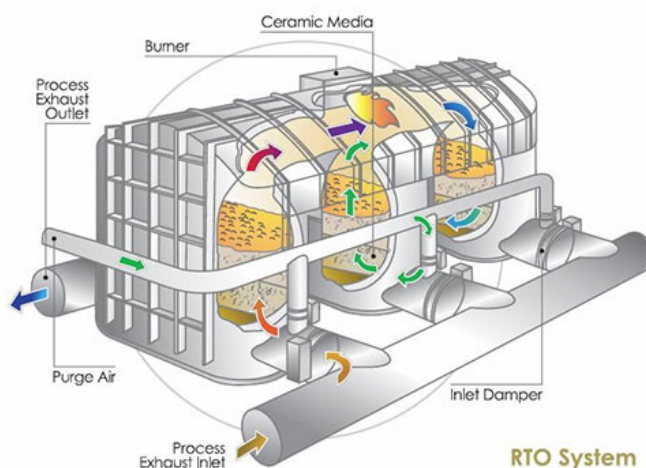
Printed products will pass through post printing techniques as required by product specification, for example laminating, winding and slitting.



Press



Solvent distiller



RTO System

The permit application has been written using the Surface Treatment with Solvents BAT Reference document (STS BRef). This document details the Best Available Techniques (BAT) for controlling emissions to air, land and water.

Emissions released to air will be controlled and released to air via the RTO chimney, which has been sized using complex air dispersion modelling to ensure that emissions do not have any significant impact on the surrounding environment, even at maximum emission limits.

---

The RTO is a gas combustion process, and will effectively burn off unrecoverable vapour phase solvents. When the press is running, the RTO is a self-sustaining process known as 'autothermal', meaning that the solvent laden air provides its own fuel for combustion, and is not reliant on the gas burner. The RTO emissions will include:

- Unburnt solvent (proposed limit  $\leq 20 \text{ mgC/Nm}^3$ )
- Oxides of Nitrogen (proposed limit  $\leq 100 \text{ mg/Nm}^3$ )
- Oxides of Carbon (proposed limit  $\leq 100 \text{ mg/Nm}^3$ )

The above emissions will be tested annually by an independent MCerts testing organisation. In-stack monitoring will not be required as the calculated max solvent load at emission limits is below the STS BRef threshold.

An annual solvent management plan will also be produced to demonstrate the solvent flows in the activity, and to demonstrate compliance for 'fugitive' emissions, which is limited to 12% of the total solvent input. This is to ensure that solvent is being used as efficiently as possible and the RTO remains effective. If for any reason the contained and fugitive emission limit cannot be met, the Operator also has the option of compliance with the Total Emission limit. This is also calculated by solvent management plan.

For day-to-day compliance with permitted activities, the Operator proposes to implement a documented Environmental Management System (EMS). Key elements of this EMS will include:

- (i) Solvent management and recording.
- (ii) RTO operations (normal operations and other than normal operating conditions).
- (iii) RTO maintenance.
- (iv) Procedures for dealing with leaks and spills and training.
- (v) Emissions testing.
- (vi) Annual reporting including solvent management plan and statement of site condition.

The Operator proposes to fully implement the EMS within 12-months of the commencement of operations in order to ensure that systems implemented work effectively with the equipment once installed.

As part of the permit application, the Operator has undertaken assessment of ground condition, and has identified some legacy pollution associated with former land uses. Ongoing soil and groundwater testing is not proposed because the solvent processes will all be fully contained. This position will be revised if there are any other than normal operating conditions resulting in a significant leak or spill likely to affect the local environment. All data collected over the life of the activity will be used at the time of permit surrender, in order to demonstrate that the operation of the installation has not resulted in any risk of significant harm to the environment.

It is envisaged that the Council will undertake at least an annual inspection to confirm compliance with permit conditions, to review emissions testing reports, solvent management plan and other annual reports to confirm that the installation is operating to Best Available Techniques.

#### Limitations:

This non-technical summary is intended as a compact overview of the permit application. If you require more detailed information, please refer to the technical application and the BAT assessment documents.