

Cleaning of Lined and Coated Tanks

EFTCO “CLCT” Document

EFTCO is the European Federation of Tank Cleaning Organisations that represents 21 member association in 25 countries in Europe with 630 tank cleaning stations. 3 associated global member complete the number of active members.

More than 25 years ago, the EFTCO Cleaning Document (ECD) was launched with today more than 4 million completed documents per year. This makes the ECD the most recognise and #1 Cleaning Document in Europe, with growing global expansion.

The EFTCO Cleaning Document (ECD) is a support document for every single tank cleaning in the supply chain process. It proves which cleaning steps have been performed. The uniform cleaning codes for describing these steps can be downloaded in several European languages on www.EFTCO.org .

All our members ensure the quality standards and guarantee the future availability of the ECD. In order to ensure a common understanding of the cleaning process for coated and lined tanks, EFTCO would like to define the process in this CLCT memorandum.

This CLCT memorandum should not be seen as an instruction, but a best practise guideline for the cleaning of lined and coated Tank Truck, Container and Railcars.

This should be the 1st version with possibilities of updates for content improvement, especially when new findings become available.

Chapters

-  Order for cleaning
-  Cleaning processes
-  Inspection
-  Liability and exclusion of responsibilities
-  Documentation
-  Cleaning instructions

Order for cleaning

It is the clients responsibility to provide a proper order with all necessary details to avoid any equipment damages, accidents and unsatisfactory order execution. The client is the transport company and/or equipment owner, possibly represented by the driver.

The cleaning order should be in written format and if possible no usage of data transfer by the use of a driver. The order should involve the following information:

- clear equipment identification number
- time of arrival
- last product – supplemented by the Product safety data sheet
 - especially if product is unknown to the cleaning station
- information to any known amount of residue
- lining or coating type
- information to any known lining or coating damages
- detailed cleaning instruction
- naming the necessary and possible inspection after cleaning
- special documentation requirements

It is the responsibility of the cleaning stations to fulfil all specific requirements for the cleaning of lined and coated tanks. In case any requirements can not be fulfilled, the client needs to be informed immediately. Process deviations must be clarified with the client. Starting the cleaning process means implementing and accepting the necessary requirements.

Cleaning processes

The cleaning process instructions needs to be provided by the client with a clear, unmistakable indication of the cleaning process for the equipment involved.

The specific requirements to the cleaning process must be provided by the client with clear guidance on:

- pressure – avoid needle pins
- temperature
- usage of cleaning solvents
- instruction of damage avoiding with lined or coated neck rings

This document will give some individual instructions defined by clients.

Inspection

The EFTCO/ECD 'definition of clean' is set by inspection at the end of the cleaning

"A tank shall be described as clean when there are no visible traces of the last product or cleaning agent following an inspection from the man-lids".

Due to possible diffusion of the product in the coating / lining, possible odour may be unavoidable.

Tank entry should not be done to minimize human risks due to the product residue (diffusion) in the lining and to avoid mechanical damages.

Liability and exclusion of responsibilities

Since diffusion never leaves the tank free of product residues and cargo atmosphere, the confirmation of cleaning excludes these factors.

Hidden damage to the lining or coating after cleaning cannot be the responsibility of the cleaning plant unless the opposite can be proven.

Documentation

The documentation of the cleaning will be done by EFTCO Cleaning Document (ECD) according to the ["Rules for issuing EFTCO Cleaning Documents \(ECD\)"](#)

The exclusions of not possible inspection and diffusion after cleaning must be taken into account.

Cleaning instructions

Instructions are provided and taken responsibility by customers. For example

1) VERVAEKE cleaning of RUBBER LINED tanks

Based on experience and discussions with various rubber lining suppliers, **VERVAEKE** makes the following **recommendations**:



SCOPE: cleaning of RUBBER LINED tanks – proposed standard cleaning specifications (unless otherwise specified by the cleaning customer)

- *Cleaning nozzles must rotate smoothly over the rubber lining (they must not remain stationary).*
- *Cleaning agent: **Water***
- *Nozzle pressure: **Optimal 30 bar, maximum 40 bar.***
- *Water temperature: **Maximum 50°C.***
- *Nozzle design: **Nozzle configured in function of pressure, for example with a minimum internal diameter of 2 mm (according to optimal pressure while ensuring rotation).***
- *Distance from the nozzle to the rubber lining: **Minimum 500 mm, optimally as centrally positioned as possible in the tank (approximately 900 mm).***

2) ChemLine

Advanced Polymer Coatings, in discussions with past clients, have found these to be a summary of their lining cleaning practices.

Practices for cleaning purposes should be limited to the following:

1. Owners should contact the chemical manufacturer to see what their recommendation is for cleaning out a vessel that has carried or stored their product
2. Water washing not to exceed 180°F (82 °C)
3. Maximum 150°F (65,5 °C) caustic solution cleaning
4. Pressure water jetting
 - a. Maximum 3000 psi (206,8 bar) pressure washing
 - b. The water stream must be sprayed. Needle jets are NOT allowed
 - c. The direction of the stream must be at RIGHT ANGLES to the lining
5. Cleaning Chemicals
 - a. Do not clean with chemicals without the authorization of Advanced Polymer Coatings
 - b. See approved chemical list on page 2 of this document
 - c. MSDS must be provided for all detergents to be used for cleaning purposes
6. Steam cleaning – not recommended by APC. However, the following practices are used by some clients
 - a. Maximum 15 psig (1 bar) steam not to exceed 30 minutes exposure
 - b. Maximum steam temperature is 120°C
 - c. Move the steam lance across the surface continuously
 - d. The head of the steam lance must be at least 300 mm away from the lined surface
7. After washing
 - a. Drain excess water
 - b. Ventilate the tank to allow to dry completely

3) Others

to follow when available