

PUBLIC COMPANY ORLEN LIETUVA

APPROVED BY:
Director of Quality, Labour
Safety and Environmental
Control
15 July 2024
Order No TV1(1.2-1)-2024-0322

OCCUPATIONAL HEALTH AND SAFETY PROCEDURE BDS-19 USE OF RUBBER HOSES

I. GENERAL

Purpose and Scope of Application

1. The purpose of Occupational Health and Safety Procedure BDS-19 *Use of Rubber Hoses* is to establish occupational health and safety requirements to be observed at Public Company ORLEN Lietuva (hereinafter, the Company) in the procurement, storage and use of rubber hoses intended to convey oil products, steam, water, air and other media in process facilities.
2. This Procedure shall apply to all employees of the Company and contractors (to the extent required by a relevant contract concluded with the Company) using rubber hoses at the Company.
3. Requirements of this Procedure do not apply to rubber hoses used in laboratories, for firefighting, gas welding and cutting and other specialty industrial hoses.

II. REFERENCES

4. This Procedure has been developed in view of the provisions of ORLEN S.A. Standard S7 T3 *Selection and Use of Flexible Hoses*.

III. DUTIES AND RESPONSIBILITIES

5. Organizational unit manager shall:

- 5.1. Ensure procurement of suitable rubber hoses, their registration, storage and use as prescribed by the present Procedure;
- 5.2. Organize the inspection and marking/tagging of rubber hoses (inspect and mark/tag rubber hoses himself or assign this to responsible subordinates);
- 5.3. Ensure that rubber hoses being used have manufacturer's certificates as well as operation and maintenance manuals in Lithuanian language;
- 5.4. Organize familiarization of employees using rubber hoses with operation and maintenance manuals and the present Procedure;
- 5.5. Organize the selection and installation of proper couplings for the connection of rubber hoses;
- 5.6. Ensure that rubber hoses, which do not comply with requirements prescribed by the present Procedure and/or manufacturer, are taken out of service and removed from process facility.

6. Employees using rubber hoses shall:

- 6.1. Before each use, check rubber hoses as prescribed by the present Procedure;
- 6.2. Report any identified defects, which do not allow using rubber hoses, to the unit manager.

IV. REQUIREMENTS FOR PROCUREMENT OF RUBBER HOSES

7. During procurement of rubber hoses, it must be specified that supplier must provide rubber hoses together with certificate and operation and maintenance manual(s) in Lithuanian language.

8. It is recommended that rubber hose being procured:

8.1. Have the medium for which the hose is intended (e.g. for petroleum products, chemicals, steam, etc.), maximum operating pressure, maximum operating temperature, year and month of manufacture specified on the hose;

8.2. Have all exterior of the hose of respective color or have it designated with continuous stripe along entire length of hose. Color-coding of hoses according to material conveyed:

8.2.1. Petroleum products - green or black with green stripe;

8.2.2. Steam - red or black with red stripe;

8.2.3. Other medium - yellow or black with yellow stripe.

V. STORAGE AND WAREHOUSING OF RUBBER HOSES

9. Rubber hoses must be warehoused as prescribed by manufacturer.

10. Hoses should not be piled or stacked to such an extent that the weight of the stack creates distortions or deformations on the hose lengths stored at the bottom (Fig. 1).

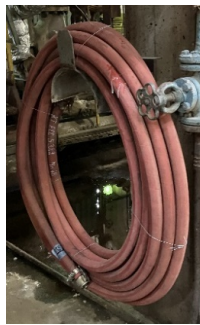


Fig. 1. Fittings used for the storage of rubber hoses - examples

11. Hoses must be stored protected against any contact which may result in cuts, scratches or cracks and contact with chemicals such as solvents, fuels, lubes, greases or volatile substances.

VI. REQUIREMENTS FOR THE USE OF RUBBER HOSES

12. Rubber hoses can be used for maximum 3 years from the start of use and maximum 6 years after the date of manufacture, unless manufacturer prescribes otherwise.

13. Rubber hoses intended for steam may be also used to convey other non-hazard mediums such as water, air, nitrogen.

14. Before the start of use:

14.1. Each rubber hose must be registered with Rubber Hoses Logbook (hereinafter, Logbook) (the form is provided in Attachment 1 hereto).

14.2. Each rubber hose must have a tag of respective color code defined herein specifying hose registration number, date when service expires and date of next inspection (examples of tags are provided in Attachment 2 hereto);

14.3. If multiple interconnected hoses are being used or a hose is divided into multiple hoses, each hose must be inspected and marked/tagged.

15. Rubber hoses must be connected to process equipment using special couplings (Fig. 2). The hose and couplings must be compatible with fluid in the facility, operating pressure and temperature characteristics.

16. Rubber hoses must be fixed to the couplings with special metal clamps (Fig. 3).

17. Rubber hoses must be protected against kinking. Bending angle cannot exceed

minimum bending radius specified by the manufacturer as otherwise this may result in the deformation of the hose. It is prohibited to place rubber hoses on sharp edges, hot surfaces, power cables.



Fig. 2. Rubber hose mating couplings - examples



Fig. 3. Metal clamps for rubber hoses - examples

18. The use of rubber hoses with visible defects (soft spots, bulges or blisters, kinks or permanent deformation of the hose from its original form) or with service life expired is prohibited;

19. If rubber hoses in use cross the passages of vehicles and areas where the fall, displacement of objects is likely, they must be protected against mechanical damage or enclosed.

20. Before uncoupling from pressure systems, pressure in the hose must be reduced to atmospheric;

21. Rubber hoses which were used to convey petroleum products or other chemical substances, must be flushed with water or purged with air or nitrogen. The end of hose must be securely fastened.

22. Rubber hoses which are used for closed pressure systems (e.g. when the medium of hose is pressurized by medium transfer pump) must be selected according to medium, maximum operating pressure and maximum operating temperature.

VII. CHECK AND INSPECTION OF RUBBER HOSES

23. Before each use, rubber hoses must be checked:

23.1. Check if rubber hose is tagged as prescribed by the present Procedure, if tag is clearly legible, if hose service and inspection dates are not expired;

23.2. Check hose for soft spots, bulges or blisters in cover, kinks or permanent deformation of the hose from its original form.

24. Rubber hoses must be inspected at least once every 6 months. During inspection:

24.1. Check couplings for any slippage;

24.2. Check couplings for any worn parts, worn threads, excessive corrosion or rust, cracks in any part of the coupling, any damages of coupling seals;

24.3. Check hose for soft spots, bulges or blisters in cover, kinks or permanent deformation of the hose from its original form.

25. Each hose inspection findings must be documented in the Logbook and tags must be updated.

26. Any hose with defects identified during check or inspection must be taken out of service and removed from process facility and disposed off as prescribed by the Company' Rules on Waste Management.

VIII. FINAL PROVISIONS

27. Responsibility of the arrangement of periodic review and, where necessary, updating of the present Procedure shall lie with the Director of Quality, Labour Safety and Environmental Control.

IX. ATTACHMENTS

Attachment 1 – Rubber Hoses Logbook (form).

Attachment 2 – Rubber Hose Tags (examples).

Prepared by:
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Rubber hoses for petroleum products - example of tag

REG. No.: _____

**END OF SERVICE
(DATE):** _____

DATE OF NEXT INSPECTION: _____

Rubber hoses for steam - example of tag

REG. No.: _____

**END OF SERVICE
(DATE):** _____

DATE OF NEXT INSPECTION: _____

Rubber hoses for other mediums - example of tag

REG. No.: _____

**END OF SERVICE
(DATE):** _____

DATE OF NEXT INSPECTION: _____