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Guidance on Practice for the use of Flexitanks for transporting lubricants

GP 82-31

BP GROUP
ENGINEERING TECHNICAL PRACTICES

Foreword

This is the second issue of BP Lubricant Supply Chain Guidance on Practice 82-31, which gives recommendations and requirements for the safe use of Flexitanks for bulk transport of lubricants, base oils and additives.

Revision History		
Rev	Date	Comments
1	Q1 2004	Initial draft prepared and reviewed with European PTN
2	06/04/2004	Edited by RJM and submitted to LSC EA network for comment/approval
3	23/08/2004	Final edited version for release, incorporating comments from suppliers
4	2/11/2005	Pressure test requirements corrected, minor format changes

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1. Scope

This document is intended to outline the design and operational considerations that must be made when Lubricants and other bulk liquids are loaded into, transported in and discharged from large flexible tanks, commonly called “Flexitanks”.

It is not intended to replace the need for a thorough evaluation of the proposed operation, and preparation of detailed procedures, by suitably qualified and experienced equipment suppliers and logistics partners, based on a full understanding of the requirements and standards referred to in this GP. However, it should serve as a basis for such detailed evaluation, and bring to the attention of local staff and their suppliers and partners BP’s acceptable practice, relevant BP and Industry Technical Standards and other related information.

This document does not deal with the general aspects of bulk loading of lubricants; GP 82-12 covers these.

2. Normative references

This text mainly refers to the following BP standard as normative document, itself based on listed normative references.

BP standards

GP 82-12	Guidance on Practice for Bulk Loading and Unloading of Lubricants
GP 82-51	Guidance on Practice for Fire Protection and Response

NFPA (National Fire Protection Association)

NFPA 30	Flammable and Combustible Liquids Code
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3. Terms and definitions

For the purpose of this document the following terms and definitions apply:

Combustible Liquid

Any liquid that has a closed-cup flash point at or above 38°C (100°F). Combustible liquids are classified as Class II or Class III as follows: (a) Class II Liquid — any liquid that has a flash point at or above 38°C (100°F) and below 60°C (140°F); (b) Class IIIA — any liquid that has a flash point at or above 60°C (140°F), but below 93°C (200°F); (c) Class IIIB — any liquid that has a flash point at or above 93°C (200°F).

Flash Point

The minimum temperature of a liquid at which sufficient vapour is given off to form an ignitable mixture with the air, near the surface of the liquid or within the vessel used. It is determined by the appropriate ASTM test procedure as described in NFPA 30 Section 1.7.4.

Lubricant

A heavy petroleum fraction, to be classified as “Combustible Material” (Class IIIB, covering materials with flash points above 93°C (200°F)).



4. Symbols and abbreviations

For the purpose of this document the following symbols and abbreviations apply:

EPDM	Ethylene Propylene Diene Monomer
OSHA	Occupational Safety and Health Administration

5. Flexitanks

5.1. General

- a. A Flexitank is a flexible bag, fitted with the appropriate valve connections, that transforms a standard 6 m (20 ft) dry box container into a tank container for non-hazardous bulk liquid transport.
- b. Typically it is constructed from a nylon/polyurethane/polyethylene material (thermoplastic) or from synthetic rubber (elastomer). Typical nominal capacities range from 14 m³ (3,700 gal) to 24 m³ (6,300 gal).

Polyethylene is the preferred material as it is fully recyclable and poses a minimum threat to the environment. Other materials are acceptable - the critical issue is compatibility with the material being transported.

- c. Bags are supplied either on pallets or inside separate boxes. They are unrolled inside the container, after the container sides have been lined with plastic or card sheeting to protect the bag from chafing during transport
- d. The bag is retained in the container by a rigid bulkhead fitted behind the rear doors. Valves for filling and discharge are fitted either to the top or bottom of the bag. Bottom fitted valves are located through the rear bulkhead.

Smaller flexible tanks, generally known as Flexibags, also exist. Typically, these are 1 m³ (250 gal) size bags enclosed in a rigid, collapsible, container mounted on a pallet and hence easy to handle and store when empty. These Flexibags are not covered in this Guidance on Practice.

6. Use of Flexitanks for transport of lubricants

6.1. Operational requirements

- a. Flexitanks shall only be used in road and ocean going shipping modes of transportation. Flexitanks, whether inside containers or not, shall not be used on or shipped by:

- Barges or small vessels
- Jetties
- Piers

This requirement is based on the difficulty of protecting against spillage, as there is a higher risk of such spillage from Flexitanks than from standard rigid tank vehicles.

- b. Acceptable modes of transportation for containers with Flexitanks include:

- Road going tractor trailers (but these shall not be driven on jetties or piers)
- Ocean going commercial ships.

