

Petroleum Products

General Objectives:

To deepen knowledge of petroleum products characteristics and improve skills in regard to the production process.

Specific Objectives:

At the end of training the trainees will be able to:

- ✓ Learn about constituents of petroleum products;
- ✓ Grasp main characteristics of petroleum and their significance in regard to needs of end-users;
- ✓ Learn the basics of metering technologies;
- ✓ Identify the recent changes and the trends for the future.

Audience:

Engineers, managers and commercial or technical staff whose activities are related to the production, storage, purchasing, marketing or use of petroleum products. Its content also make it suitable for the engineers and managers in the refining industry interested in improving their knowledge of petroleum products.

Workload: 30 hours

CONTENTS:

Module I – Worldwide market – Price and cost management

- ✓ World oil consumption: price variation, demand, production – Which energy for the future?;
- ✓ Unleaded gasoline, automotive diesel, heating oil, jet fuel, LPG: worldwide demand, consumption, prices and taxes.

Module II – Origin and composition of petroleum products

- ✓ Composition and main characteristics of crude oils;
- ✓ Classification and characteristics of petroleum products;
- ✓ Principle of oil refining processes and the formulation of commercial products: major properties of blending components, blending rules;
- ✓ Standard quality control tests: standards and testing organizations, test principles, accuracy of the methods, specifications.

Module III – Properties, characteristics and formulation of combustible products

- ✓ For each major product (LPG, automotive gasoline, jet fuel, automotive diesel fuel, domestic fuel oil and heavy fuel oils), the following aspects are developed;
- ✓ Market trends – Volatility characteristics – Combustion properties – Behavior under cold conditions and flowing – Corrosiveness, effect on air pollution – Stability, storage behavior – Manufacturing schemes.

Module IV – Main non-energy products

- ✓ Bitumen;
- ✓ The different types of bitumen: pure, cutbacks, polymer-modified, emulsions;
- ✓ The major standard tests: penetration, softening, ageing;
- ✓ Manufacturing schemes – Formulation – Blending rules;
- ✓ Lube base oils;
- ✓ Lube base oils manufacturing and composition of lubricants: base oils and additives;
- ✓ Properties and characteristics of base oils: viscosity index, cold properties, oxidation stability.

Module V – Additives

- ✓ Nature of the main additives and type of action;
- ✓ Incorporation of additives in the refinery: role in the blending operations, economical aspects;
- ✓ Performance additives injected in the oil depots.