

# Module 12 Cost estimation method for drying

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## **Free-on-Board cost and installed cost of the equipment**

- Equipment-price data concern the free-on-board (FOB) cost and the installed cost of the equipment. The installed cost of a drying system covers the cost of the purchased equipment, cost of equipment installation, and costs of piping, wiring, and instrumentation. These costs can be estimated on the basis of vendors' data or, with less accuracy, on the basis of known costs for the equipment or system built previously, assuming a great degree of similarity.

# Fixed cost

- Fixed costs (fixed charges) of a drying process are incurred for a long period of time and tend to be unaffected by fluctuations in the production level. The factor method of fixed-cost estimating is based on some simplifications such as:
- Fixed cost of drying is a function of installed cost of a drying system and FCI.
- Variable part of maintenance cost is given together with fixed part as a percentage of FCI.

# Variable cost

- The variable cost of drying is the last item in the cost-estimation process and it is predicted on the basis of heat and mass balances, shortcut factors, or, if available, vendors' data, unit cost of raw materials, labor, and utilities.
- The cost of raw material depends on the applied technology and required characteristics of the end product.
- The cost of labor depends significantly on the mode of a drying process: batch or continuous.
- The utilities costs are usually estimated on the basis of mass and heat balances, on the equipment characteristics, and on the utilities' prices.

Thank you