



Carmagen Course No. 1240

MIXING FUNDAMENTALS AND DESIGN GUIDELINES

Objective

Develop an understanding of mixing concepts relating to process needs. Develop familiarity with design guidelines for selecting and sizing mixing systems. Provide tools for troubleshooting and retrofitting existing mixing equipment to improve process performance.

Who Should Attend

Technical staff and supervisors involved in designing and operating mixing systems in laboratory, pilot plant and commercial units. Upon completing this course, the participants will have a good understanding of mixing concepts related to process needs. They will obtain familiarity with design guidelines for selecting and sizing mixing systems.

Description

Good mixing is a prerequisite for the success of petroleum and chemical processes for minimizing investment and operating costs. Mixing is carried out to homogenize fluids in terms of concentrations, physical properties and temperature, and to create dispersions of mutually insoluble phases. Chemical reactions with mass transfer limitations can be enhanced to provide high yields. The applications range from 0.01 m³ reactors to 20,000 m³ product storage tanks and continuous in-line mixers.

The course is given through presentations with example problems commonly encountered in the petrochemical industry. Video demonstrations of various mixing simulations will be shown where possible. Discussions on specific mixing applications and problems will be encouraged.

Fundamental mixing concepts and suitable mixer types, designs and scale-up issues for the following mixing classes:

- Fundamental Mixing Concepts
- Blending of Miscible Liquids
- Blending of Viscous Liquids
- Suspension of Solids - Sinking vs. Floating
- Immiscible Liquid-Liquid Mixing
- Gas-Liquid Dispersion
- Blending in Large Tanks
- Crude Tank Sludge Control
- In-Line Motionless Mixers
- Heat Transfer in Agitated Tanks
- Specially Designed Mixers
- Mixing of Dry Solids and Pastes

Course Duration

2 days

All the right people in all the right places.

