

2. GÉOTECHNIQUE ET HYDRAULIQUE

2.2 DYNAMIC SHIP MOORING ANALYSIS (DMA)

OBJECTIVES

- Provide a solid background in the basics of ship mooring analysis, which can be used to derive design loads for mooring structures or the 'mooring' downtime of marine terminals.
- Analysis of special mooring scenarios (e.g. heavy lift operations), planning of mooring arrangements for specific berths and environmental conditions prior to construction/arrival of a new design ship class (upgrade of berths).
- Training of personnel in safety and efficiency of mooring.



PUBLIC

The course is primarily prepared for consultants working on mooring system analysis/ design (i.e. port designer/ engineers/naval architects).

It is also useful for: terminal operators / port authorities / ship operators, checking mooring arrangements and planning mooring systems for their berths/ships.



PRE-REQUISITE

Knowledge and background in Port Engineering

PROGRAMME :

Introduction (Day 1)

- Objectives of ship mooring analysis
- Berth/mooring types
- Ship types
- Mooring equipment (shore and ship)
- Special mooring devices

Mooring Principles (Day 1)

- Definitions
- General mooring guidelines / recommendations / criteria
- Mooring line arrangements
- Forces acting on the ship

Mooring Analysis Theory (Day 1)

- Ship reaction forces
- Environmental forces (wave, wind and flow forces)
- Mooring system forces (fenders, lines, bollards/QRHs)
- Other external forces (e.g. passing ship forces)
- Static vs. dynamic mooring analysis

Using SHIP-Moorings Software Package (Day 2 and 3)

- Introduction to SHIP-Moorings (main program) and POST-Moorings (post processing)
- Practical sessions to evaluate typical ship mooring related tasks/problems with SHIP-Moorings

PEDAGOGICAL MEANS AND METHODS :

- Methodological and theoretical presentation
- Case studies, presentations and situation scenarios

DURATION :

Three days

EVALUATION TOOLS AND METHODS USED BEFORE, DURING AND AFTER THE TRAINING :

Real life situation scenarios