



## Heat Exchangers Design/Analysis Using MT-MECH software

### **Seminar Objective**

The seminar will cover design and analysis for typical TEMA exchangers, both vertical and horizontal, with main reference to ASME VIII - Div. 1 code, other available Codes can be handled upon specific request.

At the end of the seminar the participants will be able to properly describe the heat exchanger as input for MT-EXCH, run the calculation, evaluate the outputs.

### **Program Outline**

The standard seminar requires 3 days of 8 hours per day.

For each of the topics listed herebelow a short reference to the Code requirements will be done and tutorial examples executed, also if most of the time will be spent in real cases concerning design and/or rating of typical TEMA Heat Exchangers.

### **Day 1 - General and main components**

- General MT-EXCH overview (MT-EXCH/COMP/LAYOUT)
- Service programs, with evidence to Materials database (MT-MAT), Engineering Tables, System Units.
- Base Components (MT-COMP):
  - General remarks (Program structure, Configuration Menu)
  - Shells/Heads/Cones (internal pressure)
  - Nozzles
  - Floating Heads

### **Day 2 - Base components - Tubesheet Layout**

- Base Components (MT-COMP):
  - Girth Flanges
  - Tubesheets/Expansion Joint
  - Local Loads
- Tubesheet Layout (MT-LAYOUT)

### **Day 3 - Heat Exchangers Design (MT-EXCH)**

The explanation will be carried out on some meaningful examples for the most common heat exchangers: Floating Head, Fixed Tubesheet, Kettle and U tubes.

- TEMA types and Nomenclature
- Analysis of input data
- Analysis of output data
- Drawings