THERCAST®

Starting with THERCAST® Foundry processes

THERCAST® provides valuable support in creating the best design for your castings regardless of your technologies.

THERCAST® has a template dedicated to sand casting, shell casting, low-pressure casting, high-pressure casting, etc.
THERCAST® allows you to simulate your foundry processes in a predictive way. On the first day of this training course, you will learn how to configure and launch a project according to the given foundry technique. Analyzing results will be covered in order to study the full process, physical variations and defects. During the second day, advanced functions such as self-radiation and heat cycling will be presented.

LEVEL

Beginner

PREREQUISITES

There is no prior requirement for this course.

GOALS

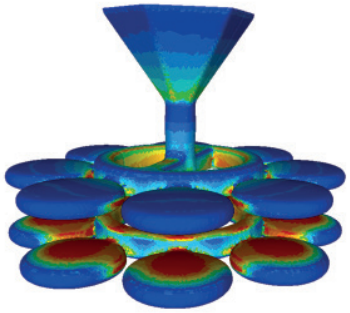
- **Data setup for continuous casting**
- **Launching computation and/or a computation sequence**
- **Analyzing simulation results**
- **Studying full process (filling, cooling)**
- **Studying physical value variations (temperature, liquid fraction, etc.)**
- **Identifying and interpreting casting defects (shrinkage, porosity, etc.)**
- **Customizing your working environment**

TRAINING	DURATION	PRICE EXCL. TAX	PARTICIPANTS
In-company	2 days	2600 € per training	1 to 3 people

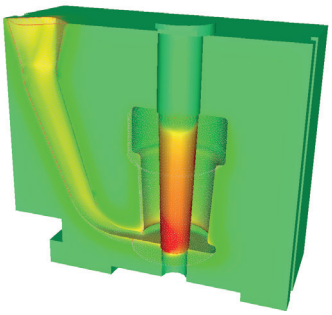
Contact us to arrange the date and place of the training.

DAY 1 > 8.30 a.m. to 12.00 p.m. & 1.30 p.m. to 5.00 p.m.

Introduction	▫ Transvalor presentation ▫ Course goals
Graphic environment	▫ Working environment presentation ▫ Project concept with case and stage management ▫ Full description of the backstage
Material file manager tool	▫ Creation of a material from its nominal composition ▫ Managing the unit system ▫ Displaying physical properties
Segregation models	▫ Generation data for computations with segregations ▫ Visualizing elements concentration micro and macro-scale segregation ▫ Introduction to micro-segregation models
Presenting grain structure	▫ Pole figure display tool ▫ Displaying grain orientation
Tutorial Foundry casting in rigid or virtual mold	▫ Configuring the project units ▫ Defining objects (Metal, Pin, Mold) ▫ Meshing: quality, generation ▫ Defining mold and ground exchanges ▫ Defining pin kinematics ▫ Defining the computation type ▫ Defining calculated criteria ▫ Defining initial filling ▫ Defining filling properties ▫ Defining simulation parameters
Launching computations	▫ Quick launch ▫ Procedure for restarting computations
Advanced options for analyzing results	▫ Displaying scalar results: temperature, liquid fraction, etc. ▫ Display options: iso-volumes, cutting planes, curve patterns ▫ Identification of sensitive areas (shrinkage, porosity, etc.) ▫ Combined analyses: multi-cases, multi-windows options ▫ Exploitation of results: animations, VTFx exports



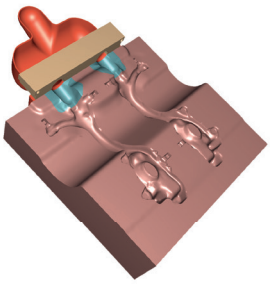
Self-radiation during casting



Casting of a foundry part

DAY 2 > 8.30 a.m. to 12.00 p.m. & 1.30 p.m. to 5.00 p.m.

Industrial case	▫ Data setup, starting computation and results analysis
Functions	▫ Pre- and post-processed sensors ▫ Heat cycling with pressure casting application ▫ Complex movements of objects with pressure casting and tilted casting application ▫ Self-radiation between different domains
Application: 'Lost wax molding'	▫ Creation of a solid shell with generation of an extra thickness from the initial surface ▫ Defining of a surface and/or volume shell
Conclusions	▫ Questions and course assessment



Tilted casting