



ANALYSES MORE THAN 40 THERMAL AND CHEMICAL PARAMETERS

ITACA*

THERMAL ANALYSIS SOFTWARE

Dynamic control

Remote access

Robust

Easy to use





ITACA 8

Foseco and ProService have joined forces to drive the development of thermal analysis as the leading metallurgical control tool for iron foundries.

Foseco and ProService have developed a web-based version of ITACA and ProService have appointed Foseco as exclusive distributors for its ITACA Thermal Analysis systems.

ITACA 8 is a new thermal analysis system that, in addition to all the existing functionalities of the previous version (forecasting most metallurgical defects having metallurgical such as macroshrinkage, porosity, cementite, flotation of graphite, inverse chill, graphite expansion, true position in Fe-C diagram), has other important innovations:

- 2 new modules (CASTING, TESTING) that integrate the know-how of the technical office, of the metallurgist and of quality control
- A PROCESS module that suggests and quantifies corrections to be made to the liquid iron, in order to keep constant metallurgical properties or to adapt the iron to the requirements of the casting in production. Suggested corrections can be obtained without any routine technical input
- New statistical ANALYSIS module

Thanks to new generation algorithms (SVM – Support Vector Machine), ITACA 8 achieves incomparable precision and it can control ferroalloy dosing equipment, and cored wire machines using retroactive control logic.

Control logic

The technical office creates a simple casting-sheet noting the main geometric characteristics, the testing criteria and sensitivities to defects detected by simulation software.

When the casting is poured, ITACA 8 modifies its analysis (and the interpretation of the curves and the data coming from furnaces, spectrometer and laboratory) to the needs of the casting. If anomalies are found, ITACA 8 suggests metallurgical corrections.

In the case of large differences, ITACA 8 immediately alerts the QC department to quarantine the castings for inspection.

In the case of small anomalies, ITACA 8 prepares a report and a sheet for the QC department that integrates the information from the technical office with that of the metallurgist.

The casting module uses retroactive control logic with the test results to further improve the forecasts of ITACA 8 (auto-learning).

ITACA melting shop

Wherever iron is melted, ITACA can analyse it. This new module can be installed on melting and holding furnaces measuring the % CEQ, % C, % Si and the melt temperature, without the need for the operator to load any data. This module can communicate with other ITACA workstations in the foundry, creating a complex network of information exchange between the melt producer and melt user.

ITACA web analyser

A new service (that can be activated on all the ITACA versions) permitting the foundry to be assisted constantly by Foseco and ProService technicians and its own technical and quality management without a physical presence at the production site. The service can be activated only by the customer and it is useful in the start-up phase when the collaboration is most required.

ITACA 8 main menu



ITACA 8 main page



Sampling of the ductile iron



Iron stream inoculation



ITACA advantages

experienced in foundries

- Improved iron quality
- Reduced residual Mg%
- Improved inoculation efficiency by evaluation of best inoculation practice
- Reduced charge costs
- Greater process control
- Reduced heat treatment
- Improved as-cast mechanical properties
- Greater understanding of true position in the Fe-C diagram
- Reduced degenerated graphite in nodular iron and type D or E graphite in grey irons
- Better control of the shrinkage tendency in both nodular and grey irons
- Simple interfacing with MSI+DC, PLC, spectrometers, and lab equipment

For more information from ProService about ITACA 8, visit www.itaca8.com



Stream inoculant addition



Iron stream inoculation test



Checking of cooling curve

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COMMITTED TO FOUNDRIES

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