



MeltLab Options

by MeltLab Systems
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Fast • Accurate • Comprehensive

Designing a MeltLab® System

The MeltLab System can be engineered to almost any thermal analysis need of a foundry. The different categories break down into:

- Different Metal Types and methods
- Number of sampling stations and distances
- Number of temperature lances
- Remote displays: active and passive
- Reporting features

Metal Types and sampling

- Base Iron, Final Gray requires tellurium cup.
- Final Ductile Chemistries requires sulfur + tellurium cup.
- Holder Iron (inoculation/chill) requires tellurium and plain cup.
- Final Ductile Microstructure requires plain cup
- Aluminum requires Pechiney stand.
- Brass, Copper, and Copper phos alloys requires plain cup.
- Steels and high temperature alloys requires S or B type cups.

Sampling Stations

- MeltLab supports up to 9 sampling stations per license by splitting the screen into different numbers of windows.
- All stations can operate simultaneously.
- Lances can be attached to the stations or be independent mold lines.
- Sampling stations can be up to 1,000 feet apart though they should be in the same building due to electrical grounding.
- Each sampling stand requires a blue module. The limit on blue modules (Stations + Lances) is 16.

Temperature Lances

- The reason to include lances with a MeltLab is to include temperatures in the automatic data collection that MeltLab does and the record that is generated.
- With the GSPC system included, Lance readings for pouring lines can be tied to part numbers.
- Each lance requires it's own A/D module.
- MeltLab can read K, R, S, and B type temperature lances.
- The number of lances plus stations needs to be no more than 16.

Remote Displays: passive and active

- MeltLab supports various scoreboards.
- The screen display, keyboard and mouse can be duplicated over LANs.
- The office version of MeltLab runs independent of the production MeltLab, but, with both systems connected over a LAN, can show curves and make configuration changes.
- The Process Windows option can immediately show MeltLab Results on any computer on a common network both in data and graphic formats.

Reporting features

- Result data can be written to a text file, a CSV file or an Excel file on any networked or local drive.
- Data is written at the conclusion of a test.
- Data can be separated by metal type/grade.
- Data can be separated into daily, weekly, monthly or yearly files.
- Tests can be selectively chosen to be reported or not from the many different characteristics and values of each curve.

Third Party Programming

Many foundries have their own software to capture data. MeltLab will work with those programmers to show them how to successfully extract that data. The process is as follows:

- Monitor the report file for a date/time change that indicates new data has been added.
- Quickly open the file and extract the last line of the file. Parse to the column(s) to be extracted.
- Release the file so that more data can be added.