Heraeus

Electro-Nite

Econ-O-Carb®
QuiK-Carb®
TapTip®

Fast and reliable carbon determination in liquid steel

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Heraeus Electro-Nite offers a range of cups and immersion probes for fast and reliable carbon determination in liquid steel.

In combination with the iM² Sensor Lab, the liquidus arrest temperature of a solidifying steel sample is accurately measured and carbon content calculated.

Econ-O-Carb®

This is Heraeus Electro-Nite's simplest option for rapid carbon determination. Fitted with a high grade type S (Pt 10% Rh/Pt) or type R (Pt 13% Rh/Pt) thermocouple protected by a quarz tube, the Econ-O-Carb® accurately determines carbon content through thermal analysis.

The Econ-O-Carb® system consists of:

- An expandable test cup (type S=EO10 and type R=EO13)
- An Econ-O-Carb stand wireless (20866161) with appropriate, polarised contact block (LC 3106002)
- Analytical instrument iM² Sensor Lab or Carbon-Lab E
- Qube KIT O for carbon application

Econ-O-Carb® insert

To operate the Econ-O-Carb®:

1. Plug the cup on to the cup holder
2. Fill a spoon with a sample of the molten steel
3. After deoxidation with aluminium and removal of slag, pour it progressively into the cup until it is filled completely. Carbon content is calculated from the liquidus arrest temperature measurement by the iM² Sensor Lab instrument.

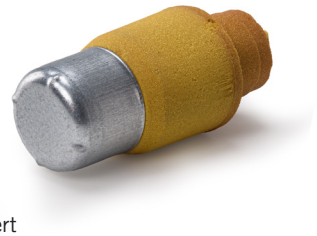
Econ-O-Carb® is packed in 100 units per box, 2000 units per pallet.

QuiK-Carb®

Wih carbon results obtained within seconds, Heraeus Electro-Nite's reliable QuiK-Carb® reading saves valuable furnace time since melting can continue without waiting for the complete analysis of a sample in the lab.

The QuiK-Carb® immersion probe consists of:

- An high-grade type S or R thermocouple enclosed in a chamber within a sand housing.
- To suit different applications, QuiK-Carb® probes are available in several lengths: 900,1200, 1500 or 1700 mm.
- Various caps ensure that the thermal arrest chamber is filled when the probe is in the steel bath.



QuiK-Carb® insert

To operate the QuiK-Carb® system:

1. With a probe holder or suitable length, dip the immersion lance with the appropriate contact block and compensating lead wires for type S or R thermocouples. For QuiK-Carb®, any Celox® or Positherm® immersion lance can be used.
2. Once the measuring probe is immersed in the metal bath, steel flows directly into the thermal arrest chamber through an inlet tube containing an aluminium strip to deoxidise the steel. As the liquid steel cools, the thermocouple traces the temperature curve and carbon is calsulated from the liquidus arrest temperatre by means of the iM² Sensor Lab instrument.

QuiK-Carb® probe

Ordering information

Thermocouple calibration	Nominal length	Partnumber
Pt 10% Rh / Pt (type S)	900mm	EO10000900
	1200mm	EO10001200
	1500mm	EO10001500
	1700mm	EO10001700
Pt 13% Rh / Pt (type R)	900mm	EO13000900
	1200mm	EO13001200
	1500mm	EO13001500
	1700mm	EO13001700

QuiK-Carb® is packed in 25 units per box, 400 units per pallet.

Econ-O-Carb®
QuiK-Carb®
TapTip®
Fast and reliable carbon determination in liquid steel

TapTip®

Taptip® is an immersion probe for both carbon and temperature determination. Retaining the features and benefits of the QuiK-Carb®, the TapTip® expendable immersion probe simultaneously measures bath temperature and liquidus temperature in steel melts.

iM² Sensor Lab can be used to read both measurement traces and calculate carbon content and superheat of the melt.

Using a probe holder of suitable length:

- For type S or R thermocouples, any Positherm or Celox immersion lance maybe used provided they are fitted with the special TapTip contact block (LC33016022) and the appropriate four-core, compensated lead wire (inner: LC33024008, outer LC33024029).

Taptip® insert

Taptip® probe

Ordering information

Thermocouple calibration	Nominal length	Partnumber
Pt 10% Rh / Pt (type S)	900mm	QL102209
	1200mm	QL102212
	1500mm	QL102215
	1700mm	QL102217
Pt 13% Rh / Pt (type R)	900mm	QL132209
	1200mm	QL132212
	1500mm	QL132215
	1700mm	QL132217
Pt 30% Rh / Pt 6% Rh (type B)	900mm	QL362209
	1200mm	QL362212
	1500mm	QL362215
	1700mm	QL362217

Taptip® is packed in 14 units per box, 350 units per pallet.

Measuring instrument

Both iM² Sensor Lab and Carbon Lab-E have the capability to wirelessy transmit measurement results. The choice of instrument depends on the specific needs and requirements of the customer, ensuring that they receive the most suitable solution tailored to their application.

iM² Sensor Lab

The iM² Sensor Lab analytical instrument measures bath and liquidus temperature and calculates carbon content. In combination with a Celox® sensor, the iM² Sensor Lab measures temperature and carbon and also active oxygen in steel.

The iM² Sensor Lab has extensive metallurgical calculation programs. A freely programmable carbon formula enables an easy match to different steel grades. Up to three different carbon formulas can be set to cover the whole carbon range.

All information about the measurement sequence, the measured and calculated valus, as well as other useful data are clearly shown on the graphical display. Up to 3000 measurements can be stored in memory to be recalled on the display or sent to an external computer. The instruments are equipped with various outputs to external devices such as large displays, signal lights, and computers.

Carbon Lab®-E

The Carbon-Lab E Wireless measures and analyzes the liquidus temperature and gives a fast determination of the carbon content in the liquid steel. Sensors are connected to the instrument through the manually operated QUBE Wireless lance or with conventional wired lances.

With Carbon-Lab E Wireless you can receive the liquidus temperature and carbon content results wirelessly. Located near the handle of the optional QUBE measurement lance is the Qube O batterypowered wireless transmission module, which transfers the temperature and carbon determination data directly to the Carbon-Lab E Wireless instrument.

Up to 1000 measurements can be taken using the QUBE O with its long-life lithium ion batteries. The batteries are charged using the dedicated charging station.

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