

Heraeus

Econ-O-Carb[®]
QuiK-Carb[®]
TapTip[®]



The masters when it comes
to control techniques



Electro-Nite

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

In combination with the Multi-Lab III TapTip® or Multi-Lab III TOC, 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 quartz tube, the Econ-O-Carb® accurately determines carbon content through thermal analysis.

THE ECON-O-CARB® SYSTEM CONSISTS OF:

- An expendable test cup (type S = EO10 and type R = EO13).
- A cup holder assembly (LC 31016006) with appropriate, polarised contact block (LC 3106002).
- A Cu/CuNi-extension cable (LC 33024002) connecting the cup holder assembly with the measuring instrument.
- A Multi-Lab III TapTip® (IR 31790201) or Multi-Lab III TOC (IR 31790301) analytical instrument.

TO OPERATE THE ECON-O-CARB® SYSTEM:

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 Multi-Lab TapTip® or the Multi-Lab TOC instrument.

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



With 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:

- A 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.

TO OPERATE THE QUIK-CARB® SYSTEM:

1. With a probe holder of 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 calculated from the liquidus arrest temperature by means of a Multi-Lab TapTip® or the Multi-Lab TOC instrument.

ORDERING INFORMATION

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

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



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.

Multi-Lab TapTip® or Multi-Lab TOC 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 may be used provided they are fitted with the special TapTip® contact block (LC33016022) and the appropriate four-core, compensated lead wire (inner: LC33024008, outer LC33024032).
- For type B thermocouples, any Positherm® or Celox® immersion lance may be used provided they are fitted with the appropriate contact blocks (LC33016023) and the four-core, non-compensated lead wire (inner: LC33024012, outer LC33024029).

ORDERING INFORMATION

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



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

Multi-Lab TapTip® and Multi-Lab TOC

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

These instruments have 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 values, 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.

Heraeus Electro-Nite International N.V.
 Centrum Zuid 1105
 3530 Houthalen, Belgium

Phone + 32 (0) 11 / 60 02 11
 Fax + 32 (0) 11 / 60 04 00
 E-mail: info.electro-nite.be@heraeus.com
 www.electro-nite.be