Engineering . Industry, transport of Energy, Connections

Mastering high currents

ARC.ITEC™

APPLICATION SHEET **S42A**

ARC.ITEC™ EL

CABLES FOR ELECTROMETALLURGY

Main areas of use :

- Ferrochrome
- Ferrosilicon
- Ferromanganese
- Silicon-manganese
- Ferronickel
- Silicon metal
- Special alloys

- DC plasma furnaces
- Submerged arc furnaces
- ESR furnaces

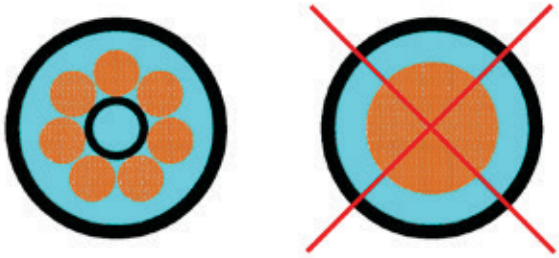
ARC.ITEC™ EL : cables for electrometallurgy

E.ITEC® provides specific high current connections for the submerged arc furnaces, used in the ferroalloys industry.

Whatever the final product (ferro-silicon, ferro-manganese, ferro-chrome, ferronickel, silicon-manganese, etc.) and whatever the brand of the furnace, using ARC.ITEC™ EL water cooled cables will allow the optimization of the performance.

ARC.ITEC™ EL water cooled cables can be fitted with a monitoring system which measures and records continuously the current value in each of them. Their lifetime can be estimated and preventive maintenance can be done by planning an internal inspection by endoscopy.

The specific internal design made with copper wires wrapped arround a stainless steel spring ensures an efficient cooling. In case of small bending radius, in relation with the installation and operating parameters, water continues to flow freely and without constraint.



Internal design of the
ARC.ITEC™ EL water cooled cables

E.ITEC® - SAS with capital of 90 000 Euros
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ARC.ITEC™

ARC.ITEC™ EL : our standard range

Model	Cross section (mm²)	Construction	Rated current (A)	Overall diameter (mm)	Minimum bending radius (mm)	Terminal type	Flow rate* (m^3/h)
EL 10	980	7 x 140	8000	90	350	All (I-II-III-IV)	0,32
EL11	1120	8 x 140	9000	100	400	All (I-II-III-IV)	0,35
EL13	1260	9 x 140	10000	100	400	All (I-II-III-IV)	0,38
EL15	1500	5 x 300	12000	100	400	All (I-II-III-IV)	0,46
EL17	1680	12 x 140	13500	125	450	All (I-II-III-IV)	0,52
EL18	1800	6 x 300	14500	125	450	All (I-II-III-IV)	0,56

* for each cable, at rated current, with total overheating ΔT = 10K

Terminals

Type I: connection on standard pipe

Type II: Connection on clamp

Type III: connection on contact plate

Type IV: connection on threaded pipe

Preventive maintenance and services

Monitoring system

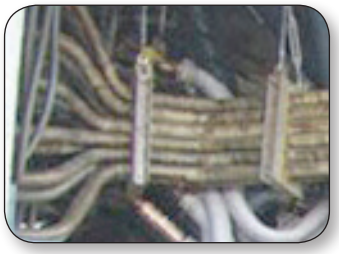
The monitoring system continuously measures and records the value of the current in each cable of the installation.
Their lifetime can be estimated and preventive maintenance can be done by planning an internal inspection by endoscopy.
This operation makes it possible to inspect the inside of a cable in position, without dismounting it.
Maintenance operations can be performed at site by E.ITEC® 's technicians.

Endoscopic inspection

Other products

Air cooled connections

E.ITEC® also provides air cooled connections according to the needs of the process.
These connections can be individually sheathed depending on the required thermal and mechanical protections.



Bustubes

The bustubes are manufactured after analysing existing system and following an electromagnetic and thermal study of a solution to optimize the energy efficiency of the unit and the lifetime of the cables.

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