



# ARC.ITEC™

## ELECTRODE ARMS

for electric arc furnaces

- AC or DC electric arc furnace
- Ladle furnace

Market : Steel making



### Main features

- Electrode conductive arms, based on a bimetallic copper/steel structure have more or less become a standard on the modern Electric Arc Furnaces
- As a most important element of the electrical supply of the furnace, it has to be designed not only to ensure the mechanical supporting of the electrode and to carry the current to the electrode, but also to optimize the electrical performance of the furnace.
- The particularity of the arms made by **E.ITEC®** is their direct cooling of the copper parts, which ensures a better cooling efficiency than the usual bimetallic arms.
- Usual additional functions like electrode spray cooling, cooling of the clamp, are included, as well as some specific air-cleaning circuits for the parts where dust may be a problem (contact pads, insulating plate between arm and mast)
- Another important feature is the new design of the contact pads, which allow better conditions of delivery (price and manufacturing time) for this replacement item)



# ARC.ITEC™

## ELECTRODE ARMS FOR ARC FURNACES

### Design

- . A complete range of arms, covering all current values from 25 kA to 99 kA, and all electrode diameters from 12" (304mm) to 28" (711mm)
- . Though the efficiency of cooling is improved by direct cooling, the current densities remain at usual values around 5 A/mm<sup>2</sup>, which means that the operating temperature will be lower with the same cooling flow, or equal for a lower cooling flow
- . assembly is made by MIG welding (no TIG). Alternatively, silver brazing can be used for some parts.
- . All insulating parts are made to resist high temperatures. There is always a double insulation between the conductors and the earth.
- . The clamp can be made of stainless steel, or carbon steel, depending on customer's choice
- . Compressed air is blown on the "sensitive" parts, where dust could become a problem. The air circuit can be managed directly from the control room
- . The hydraulic supply for the jack is a classic 220 bar oil supply. The stroke of the jack is 45mm, which allows easy movement of the electrode
- . The arms design is optimized with the FLUX 3D software, a reference in the world of electromagnetics.

### Range

Model	Rated Current	Electrode Ø	Dimensions	Clamping	Pad Model
A2810	28300A	10"	450x306mm	160 kN	P2810
A2812	28300A	12"	450x306mm	160 kN	P2812
A2814	28300A	14"	450x306mm	160 kN	P2814
A3512	35000A	12"	500x306mm	200 kN	P3512
A3514	35000A	14"	500x306mm	200 kN	P3514
A3516	35000A	16"	500x306mm	200 kN	P3516
A4314	43700A	14"	550x306mm	230 kN	P4314
A4316	43700A	16"	550x306mm	230 kN	P4316
A4318	43700A	18"	550x306mm	230 kN	P4318
A5616	56000A	16"	550x400mm	350 kN	P5616
A5618	56000A	18"	550x400mm	350 kN	P5618
A5620	56000A	20"	550x400mm	350 kN	P5620
A5622	56000A	22"	550x400mm	350 kN	P5622
A6820	68000A	20"	600x400mm	400 kN	P6820
A6822	68000A	22"	600x400mm	400 kN	P6822
A6824	68000A	24"	600x400mm	400 kN	P6824
A8222	82500A	22"	650x404mm	550 kN	P8222
A8224	82500A	24"	650x404mm	550 kN	P8224
A8226	82500A	26"	650x404mm	550 kN	P8226
A9924	99000A	24"	750x404mm	620 kN	P9924
A9926	99000A	26"	750x404mm	620 kN	P9926
A9928	99000A	28"	750x404mm	620 kN	P9928

E.ITEC® SAS with capital of 90 000 Euros

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