

Special Torches for Welding Processes

Dănuț Mihăilescu *, Dănuț Iordăchescu *,
Aurelia Mihăilescu **, Mihaela Iordăchescu *

* Dunărea de Jos University of Galați,

** Metallurgical College of Galați

ABSTRACT

The paper presents several original GMAW torches destined for special/universal welding processes. The first category is destined for underwater welding with local drying. The technical designing variants are original, but the fundamental is already known: an air or water curtain is providing a protected area, not permitting the access of the water (compensating the exterior hyperbaric pressure with the dynamic pressure of the curtain). The protecting gas is classically introduced in the welding arc area. The second category of torches presented is used in heavy-duty GMAW welding processes, any welding position (antigravity welding). One or two cooling parts are included, in order to permit high values for the welding current intensity. Special materials and technical designing variants were used. These torches were developed in the Robotics and Welding Department, Dunarea de Jos University of Galati-ROMANIA. Laboratory and industrial tests were performed.

References

1. **Constantin, E., Mihailescu, D., Iordachescu, D.,** *Tehnologii subacvatice - Sudarea subacvatice, (Underwater Technologies-Underwater Welding)*. Vol. II, Bucuresti, Editura Tehnica, 2000.
2. **Mihailescu, D.,** *Cap de sudare mecanizata MAG - CO₂ cu uscare locala in mediu subacvatic (Underwater GMAW Torch with Local Drying)*. In: *Lucrarile prezentate la Sesiunea Jubiliara "40 de ani de la infiintarea Institutului Mecano-Naval Galati"*, Vol. I, Universitatea Dunarea de Jos din Galati, 1991, pag. 245-246.
3. **Mihailescu, D.,** *Contributii la sudarea subacvatice a otelului naval - Teza de doctorat, (Contributions to Underwater Welding of Marine Steel-Ph.D. Thesis)*. Universitatea Dunarea de Jos din Galati, 1996.
4. **Iordachescu, D., Constantin, E.** *High Efficiency in Industrial Welding Torches*. In: *The Annals of Dunarea de Jos University of Galati, Fascicle XII, year VI-VII, 1995-1996*, pag. 34-38.
5. **Iordachescu, D., Constantin, E., Georgescu, V.,** *Sistema dispozitivelor si echipamentelor realizate prin autototare in cadrul Catedrei Utilajul si Tehnologia Sudarii (Equipment and Devices System Achieved in the Welding Equipment and Technology Department)*. Galati, Editura Evrika, 1994.
6. **Iordachescu, D.,** *Contributii la sudarea antigravitationala - Teza de doctorat (Contribution to Antigravity Welding-Ph.D. Thesis)*. Universitatea Dunarea de Jos din Galati, 1995.