

Student _____

Group _____

Laboratory work № 5 «Analysis of electric arc characteristics and equipment for TIG welding»

Argon is an _____, _____ gas; it does not _____ with metals and does not _____ in them;

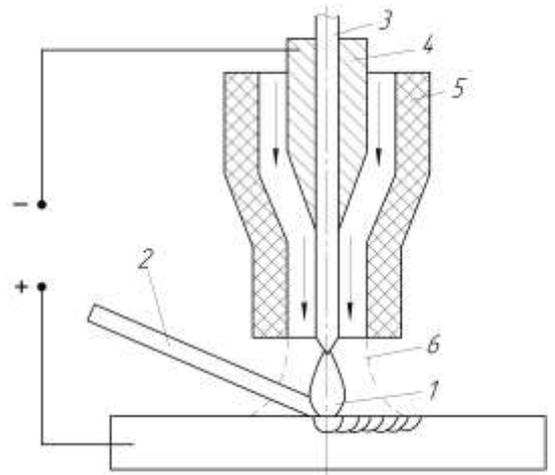
There are two types of argon arc welding: _____ and _____.

_____ is usually used as the material of non-consumable electrode. The electrode can resist high _____, and has _____ thermal emission. Arc remains stable even when the current _____.

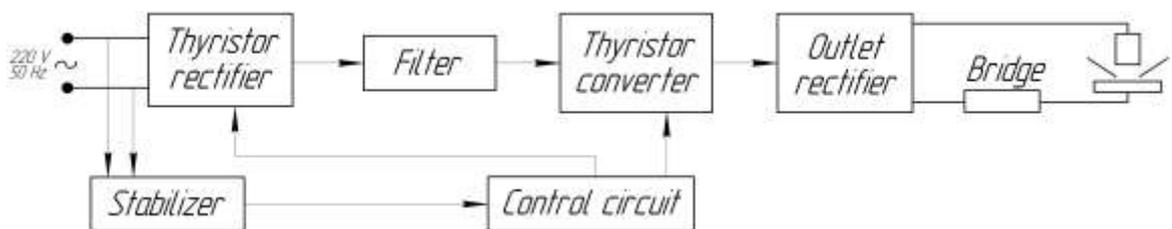
Only _____ output characteristic can guarantee steady-state arc under TIG welding.

Scheme of TIG welding:

- 1 – _____,
- 2 – _____,
- 3 – _____,
- 4 – _____,
- 5 – _____,
- 6 – _____



Schematic circuit of the IST-125 inverter



_____ current which comes to input terminal of thyristor rectifier, is transformed to _____ current, then – to the _____ current in thyristor converter, later the current is again rectified by the outlet rectifier to _____ current and comes to output terminal of inverter.

Measured results to plot the output characteristic slope of IST-125

Arc length, L, mm	1	2	3	4	5
Arc voltage, U, V					
Current I, A					

Current, I, A	5	10	20	30	40	50
Voltage, U, V (L=2mm)						
Voltage, U, V (L=5mm)						

Sum of anode voltage drop and cathode voltage drop, $U_a+U_k =$ _____

Voltage drop per arc length unit, $U_o =$ _____

Conclusions: _____

Rating _____

Instructor's signature _____