Description
The suggested technology is used to improve the environment near electrode factories for annealing workpieces of electrode equipment in roof and roofless multicell furnaces. High-performance purification of waste gases from benzapilene and tarry aerosols is achieved by adding granulated alumina. Alumina is distributed uniformly in circulating catalyst loaded into the furnace together with the electrode workpieces to accelerate combustion of benzapilene and tarry matter. Approximate lifetime of one portion of alumina is 5-10 years.

Technical appraisal and economic benefits
Combustion of tarry matter in the furnace reduces power input for annealing and excludes expenses for gas purification as part of traditional annealing. The new gas purification technology is advantageous over its analogues as it implies environment improvement. It is economically sound, the alumina expenditure is recovered in a year, at the alumina lifetime of 5-10 years. Combustion of tarry matter has the following economic benefits:
- 10% reduced consumption of natural gas in annealing furnaces;
- reduced consumption of power and water steam and lower costs due to removal of electrical tarry matter filters;
- cheaper cleaning of baffles from tarry matter and fire safety maintenance;
- reduced pollution fines.

Application areas
Production of electrode equipment from electrographite materials.

Development stage
Initial phase of production at OAO "Novosibirsky Elektrodny Zavod" (Linyovo, Novosibirsk region,).

Patent situation

Commercial offers
- licensing agreement;
- research and development for reducing expenditure and improving purification of waste gases.

Estimated cost
Under the contract.

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