
CALCULATION PROGRAMME FOR COKE OVEN EQUIPMENT ON THE EXAMPLE OF SULPHATE DEPARTMENT

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It is stated that Ukraine has recently lost a significant part of its industrial capacities, including in the coke industry. Therefore, after the war, the restoration of industrial potential will become an urgent issue.

It is shown that a preliminary calculation of all equipment will become an urgent issue. In this regard, a computer programme for such calculations has been prepared on the basis of the methods developed by SE "UKHIN" and NTU "KhPI". The programme includes a number of typical sections that have the same internal structure. Organizationally, the programme consists of a number of sections, namely: table of contents; general information; initial data; calculations; calculation results; references; reference book; user manual. The programme allows you to perform calculations of both individual technological units and the entire technological chain.

The basic principles of this programme are explained using the example of the sulphate department of a coking chemicals recovery shop. The algorithm was developed on the basis of Excel spreadsheets and includes calculations of material and heat flows of the technological process. The calculation allows for the selection of equipment and determination of the main parameters of the equipment. Relevant reference data is provided for selecting and adjusting physical constants and key process parameters. The calculation programme is accompanied by appropriate explanations that facilitate the selection of constants and parameters. This makes it possible to adjust the calculation progress. To prevent erroneous decisions from being made, appropriate blocking of incorrect data has been introduced. Such information will be useful for specialists in the field of coke oven equipment design, as well as for teachers and students of higher education institutions in the relevant field.

Keywords: ammonia, coke industry, computer programme, technological units, equipment, ammonium sulphate, saturator, dryer.

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