PARAMETERS OF DRILLING-AND-BLASTING OPERATIONS FOR THE USE EMULSION EXPLOSIVES

KONONENKO Maksym, KHOMENKO Oleh & MYRONOVA Inna
Dnipro University of Technology, Dnipro, Ukraine

The analysis of experience of emulsion explosives application for the last 10 years has allowed to establish a tendency for increasing in their usage on underground mining operations. Safety of operations conducting, smaller volumes of products of explosion and high power rates of emulsion explosives lead to decrease in influence on a condition of miner and atmospheric air. However, lack of the approved and widely applied method of calculation of drilling-and-blasting operations parameters which consider power characteristics of emulsion explosives constrain their implementation.

The coefficient of explosives operability that was calculated on working capacity or explosion heat underestimates up to 30% indicators for emulsion explosives. For an exception of these disadvantages, the offered method of calculation of drilling-and-blastions operations passports defines working capacity coefficient with accounting of extent of realization of detonation velocity. Calculation of drilling-and-blasting operations parameters is based on definition of sheak zones and fracturing formation around blast-hole charges.

The rational arrangement of blast-holes in a face of mine working is based on accounting of the areas of cuts, which are braeaking-off and outline parts of a face. The offered technique of development of passports of drilling-and-blasting operations is based on industrial measurements of detonation velocity during change of density and diameters of charges of Ukrainit-PP emulsion explosives type. The technique is recommended for calculation and drawing up passports of drilling-and-blasting operations during mine workings drivage.

Key words: drilling-and-blasting operations, emulsion explosives, explosion heat, operability of explosives, detonation velocity, contortion and fracturing

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DEVELOPMENT OF TECHNICAL SOLUTIONS AIMED AT IMPROVING TECHNOLOGICAL CAPABILITIES, DESIGN CHARACTERISTICS AND INCREASING THE SERVICE LIFE OF BRIQUETTE PRESSES

BAIUL Konstantin[1], VASHCHENKO Sergey[1], KHUDYAKOV Alexander[1]
PROKUDINA Elvira[1] & SOLODKA Nataliia[2]
[1]Z.I. Nekrasov Iron & Steel Institute of National Academy of Sciences of Ukraine, Dnipro, Ukraine
[2]SHEI Ukrainian State University of Chemical Technology, Dnipro, Ukraine

Purpose. Development of technical solutions for manufacturing and further use advanced roller press having advanced technological capabilities and increased resource exploitation.

Methodology. Analysis of the designs of modern roller presses has shown that for today in the metallurgical and mining industry roll presses with a productivity of 0.5 to 100 t/h are used to produce briquettes from fine fraction raw materials that ensure the processing of a wide range of materials in the low and medium pressing pressures (up to 150 MPa).

Findings. Analysis of modern roller presses has shown that for today in the metallurgical and mining industry, roll presses are widely used. Their various modifications provide productivity from 0.5 to 100 t/h when processing a wide range of raw materials in the range of low and medium pressing pressures (up to 150 MPa). The analysis of constructive decisions of roller presses shown that the main tendencies in the development of modern presses are:

- creation of supporting elements of presses in form of frame structures allows to reduce metal consumption of equipment, manufacturing, mounting repair and operation cost;