

622.232

. . « ,) . . (), . . , . .
(« »)

.
: , , , , ,
.
: , , , , ,

Results of performance calculations of electric caps to provide the failure-proof blast firing in hazardous gas and dust coal mines are presented.

Keywords: safety, explosion, charge, mine, blast hole, electric cap.

.
()
, [1, 2], (),
, [3],

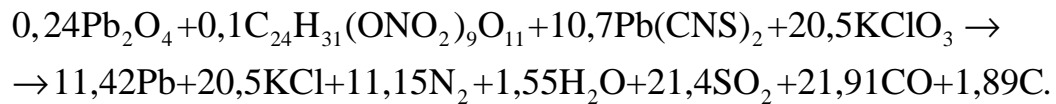
()
.
- -

[1, 2],

-100 1/100

T [5],

, , , . :
 $Q = Q - Q$,
 $Q -$; $Q -$
 . :



, c

Q (18199) Q (8162,9). [5, 6], :

$$Q = Q - Q = 18199 - 8462,9 = 9736,1 .$$

, 2500 °

[5, 6], :

$$\text{Pb} - Q_S + Q_K = 1,22 \cdot 4,1867 + 43 \cdot 4,1867 = 185 ;$$

$$\text{KCl} - Q_S + Q_K = 6,3 \cdot 4,1867 + 40 \cdot 4,1867 = 194 .$$

, 379 .

, 20 ,

[5].

3468,4 / ,
 - 2425 ° .

R_t :

$$R_t = R_0(1 + T) = R_0 \left(+ \cdot^{-4} \cdot \right) = R_0$$

«

$$C_1 \rho_1 \frac{\partial T_1}{\partial t} = \frac{\lambda_1}{r^n} \cdot \frac{\partial}{\partial r} \left[r^n \frac{\partial T_1}{\partial r} \right] + W_j(T_1); \quad 0 < r < r_0;$$

$$C_2 \rho_2 \frac{\partial T_2}{\partial t} = \frac{\lambda_2}{r^n} \cdot \frac{\partial}{\partial r} \left[r^n \frac{\partial T_2}{\partial r} \right] + Q \frac{\partial a}{\partial t}; \quad r_0 < r < R_0;$$

$$\frac{\partial a}{\partial t} = (-a) K_0 \exp \left[-\frac{E_a}{RT_2} \right]; \quad 0 \leq a \leq 1;$$

$$W_j(T) = U^2 / \left[r_0^2 l R_i T \right].$$

:

$$T_1(r, 0) = T_2(r, 0) = T_i; \quad a(r, 0) = 1; \quad T_2(R_0, t) = T_i;$$

$$\frac{\partial T}{\partial r}(0, t); \quad T_1(r_0, t) = T_2(r_0, t); \quad a(R_0, t) = 1;$$

$$\lambda_1 \frac{\partial T_1(r_0, t)}{\partial r} = \lambda_2 \frac{\partial T_2(r_0, t)}{\partial r},$$

$r -$; $t -$; $E_a -$; $Q -$ -
 ; $K_0 -$ (
); $T -$; $a -$
 ; $n -$; $\lambda, C, \rho -$ -
 ; $U -$
 ; $l -$; $R_i(T) -$
 (1 ,
 2 -).

: $\rho_1 = 8,6 / ^3$; $\rho_2 = 3 / ^3$;
 $\rho_1 = 0,8 / (\cdot)$; $\lambda_1 = 0,68 / (\cdot)$;
 $\rho_2 = 1,3 / (\cdot)$; $\lambda_2 = 1,6 \cdot 10^3 / (\cdot)$; $n = 1$.

$Q = 9736$.

$: K_0 = 10^{16} \text{ }^{-1}, E_a = 37000 \text{ } / [7].$
 $t = 4$,

$l = 0,1$, $r = 15$,
 $\beta = 0,0001 \text{ }^{\circ} \text{ }^{-1}$,
 $R_0 = 2$.

[8]

3 .

$R_i(T) = 1,24R_0$,

$R = KR N + 2L R + L_c R_c$.

30

$K = 1,24$.

K

1. /
- // - 1980. -
- . 7-12.
2. /
- // -
1987. - . 20-24.
3. / - . : , 1973. - 267 .
4. / // - 1994. - . 29-36.

