

.622.24.05

*Results of research the effectiveness of drilling rigs in the open pits of Ukraine are presented. Dependence of drilling performance on the destruction method, type and parameters of drilling tools and rock strength are estimated.*

*Key words: quarry, rocks, destruction method, rock strength, drilling rig, submersible air tool, drill performance.*

40 320  
-  
( . 1).

30–35 %

[1].

1.

	ROC L8 «Atlas Copco»		
	-250	-125	
, /	15–20	10–15	30–60
(f)	12–18	10–14	16–20
,	398	80	317
( ./ .),	0–30	0–30	0–90
, /	0,78–1,2	10	3,4
,	32	25	54
,	250–270	125–160	85–203
,	750	8,0	16,8
,		-	
		-125	Copco-44/54/64
,	300	20	40

- , ;  
-  
.  
- ,  
.  
1 -250, -125, ROC-L8,  
,  
-  
.  
 $d_c = 160-320$  35  
 $f = 6-18$ .  
200 , ,  
150–190 .  
215–250 20–40 %  
( ) [1].  
, , ,

85-190

[2].

[3].  
 $N$  ( ),

$$N = 3m_0 D n G, \tag{1}$$

$m_0$  - ;  $n$  - ;  $D$  - ;  $G$  -

$N$  ( )

$$N = \frac{0,45 \cdot R^2 \cdot P_c \cdot V}{2 \cdot (1 + )}, \tag{2}$$

$R$  - ;  $V$  - ; ( = 1,4-1,6);

(1) (2)

$G$  ( )

$$G = \frac{2 \cdot A \cdot}{V_y \cdot}, \tag{3}$$

( = 0,5-0,7);

$W$  ( )

:

$$W = \frac{N}{G}. \quad (4)$$

:

$$W = \frac{N}{G} = 3 \cdot m_0 \cdot D \cdot n, \quad (5)$$

:

$$W = \frac{N}{G} = 0,5 \cdot V \cdot \dots \quad (6)$$

$$m_0 = 0,042; D = 0,215; n = 1,33^{-1}; V = 8 \text{ / }; = 0,5, \quad D = 0,215;$$

$$W = 2 \text{ / } \dots, \quad W = 0,036 \text{ / } ,$$

40–50

«Atlas Copco»,

[4].

85 305

54

5–7

0–90° ( . 1).

“Atlas Copco”



1. “Atlas Copco” : a – ;

“Atlas Copco”

, 85 305  
( . 2).

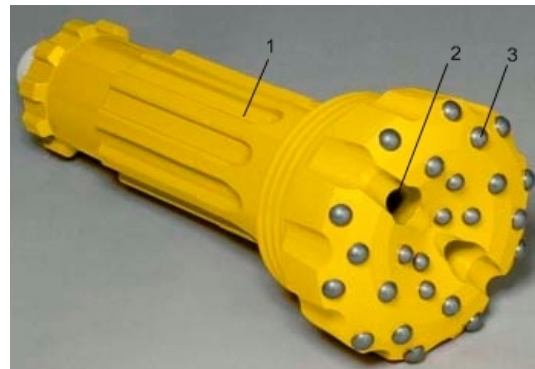
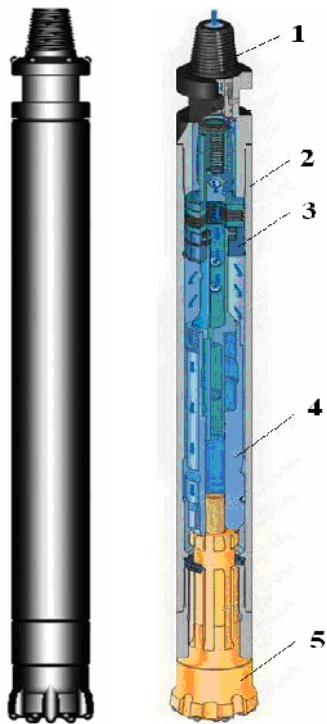
COP ( . 2).

2.

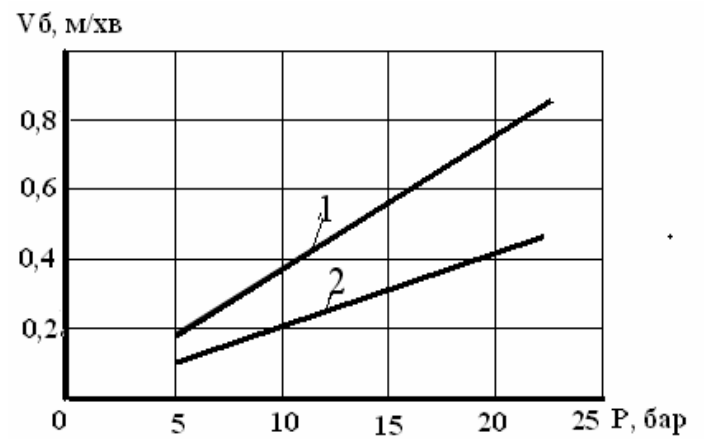
“Atlas Copco”

	COP 34	COP 44	COP 54	COP 64	COP 84
,	982	1059	1143	1312	1458
,	84	100	125,5	142	160
,	32	49	84	124	155
,	6–25	6–25	6–25	6–25	6–25
, / , :					
10	82	105	126	175	176
18	165	185	245	342	345
24	215	250	370	475	480
,	85–105	105–140	127–152	165–203	195–305

( . 3)



3. : 1 – ; 2 – ; 3 –



2. ( )

“Atlas Copco”( ): 1 –

; 2 –

; 3 –

; 4 –

5 –

4.

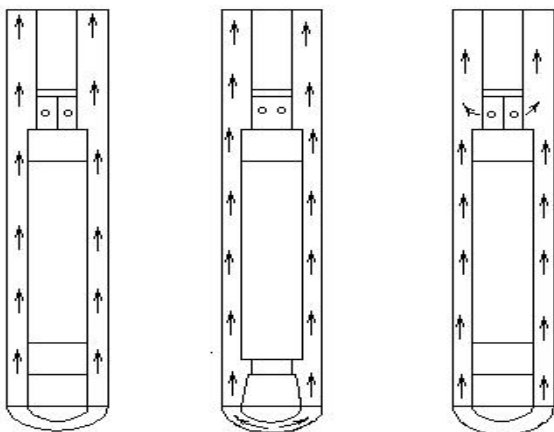
COP 64: 1 –

; 2 –

( . 4).

(3–5 с)

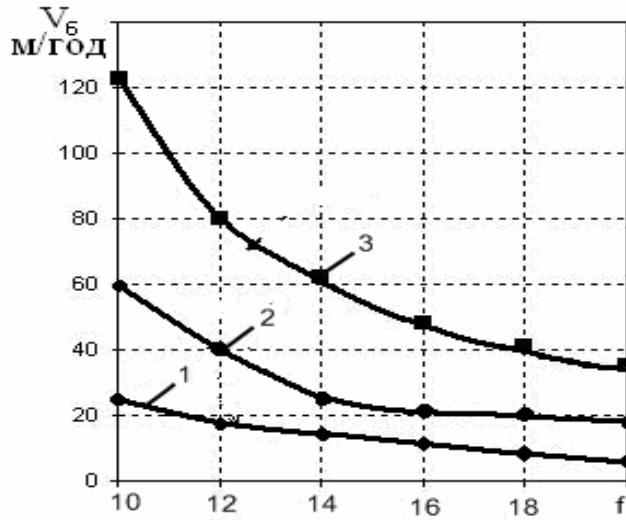
( . 5).



5.

: –

– ; –



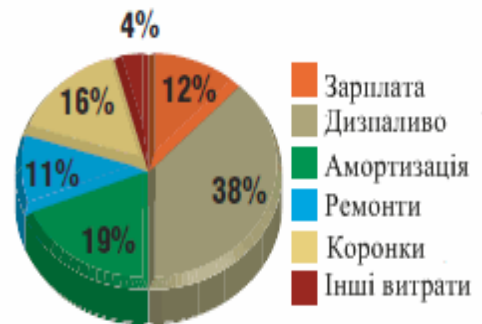
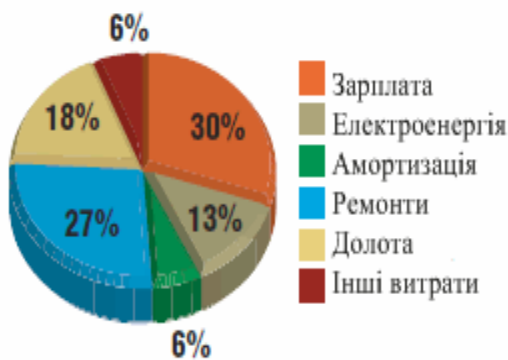
6, f 10 20.

6. : 1 - -125; 2 - -250; 3 - "Atlas Copco" ROC-L8

f = 10 ROC-L8 6  
-125, 2 -250.

f = 14 ROC-L8 3  
-125. f = 20 ROC-L8  
-125 6, -250 - 2

ROC-L8 ,  
2010 . 5600 ( . ), 20 %  
-125 (4650 . ).  
-250 4800 . .  
ROC-L8 40,8 / . ., 10,2 %  
-125 (47,2 / . .) 14,5 % (49,6 / . .) -  
-250 ( . 7).



7. 1 . . : - ; -

“Atlas Copco”

–

–

(

),

“Atlas Copco”

–

–250 –125

“Atlas Copco”

“Atlas Copco”,

–

1. . . . –

/ . . . // . – 2006. – 12. – . 25–27.

2. : . . . / . . . /

∴ , 2007. – 680 .

3. <http://www.stroy-life.ru/index.htm/> . . . , . . . .

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12.05.2011 .

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