

622.235.535

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Stability conditions of rocks above a karst cavity on which simultaneously act static and dynamic stresses are determined. Dependences of stresses from a coordinate on the perimeter of spherical cavity at falling of seismic wave at the interface of two structures of different durability are defined.

Key words: seismic wave, explosion, rock mass, stresses, stability, cavity, dynamic and static criterion.

[1–3].

[4–6].

[7].

[8-10].

[11],

$$\sigma_c = (\sigma_{c1} + \sigma_{c2}) \geq [\sigma] = 9,80 \dots 14,70 \cdot 10^6 \text{ ;} \quad (1)$$

$$\sigma_p = (\sigma_{p1} + \sigma_{p2}) \geq [\sigma] = 1,47 \dots 1,96 \cdot 10^6 \text{ .} \quad (2)$$

(1) (2).

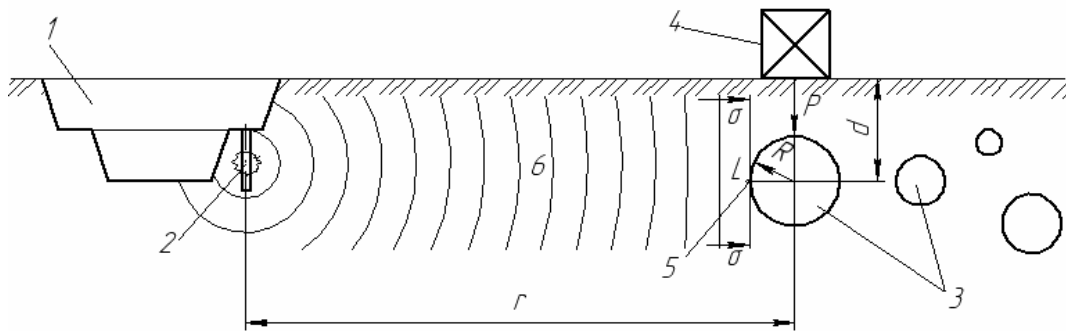
(. 1).

(, 36°).

($R = 15$),

$\frac{30}{120} = 0,25$ [12].

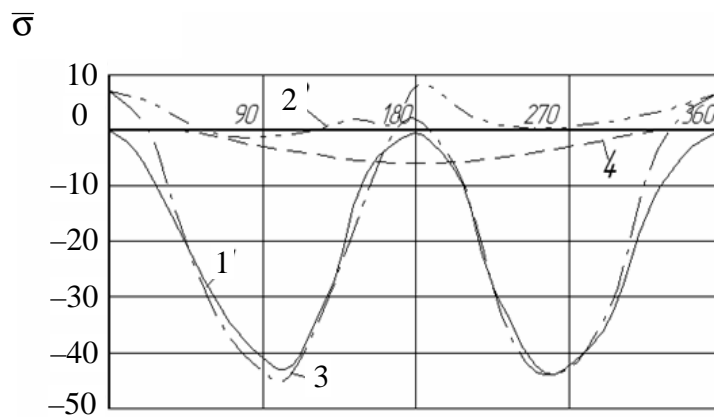
$0,2 \cdot 10^6$ / .
 $g = 0,25 \cdot 10^4$ / 3 .
 $= 0,1 \cdot 10^5$.



. 1. : 1 - ; 2 - ; 3 - ; 4 - ;
 5 - ; 6 -

. 2

$(\sigma = +)$

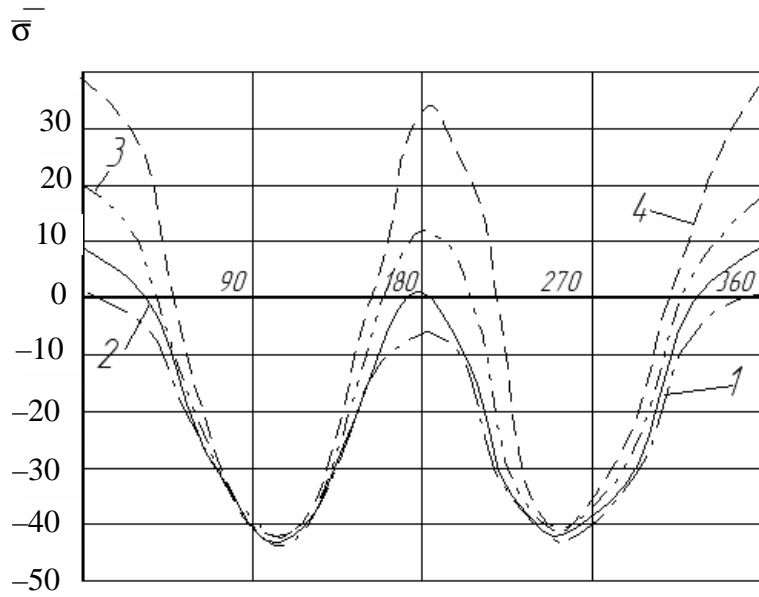


. 2.

; 3 - ; 4 - : 1 - ; 2 - ,

(1) (2) = 108°. . 3 ,

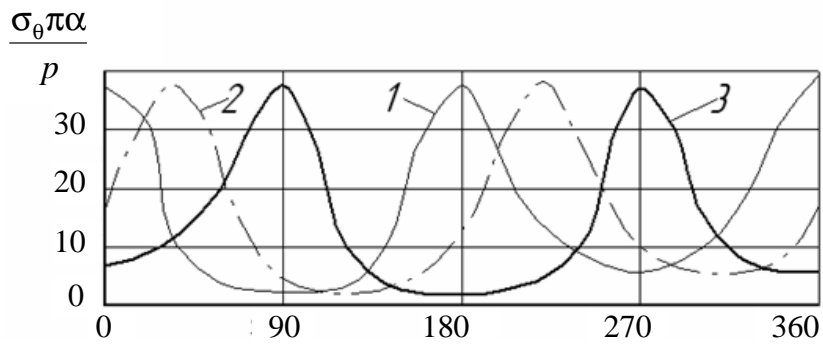
= 0° 180° ,



. 3.

: 1 - $\sigma = 0$; 2 - $\sigma = 0,2 \cdot 10^5 / \text{cm}^2$; 3 - $\sigma = 0,5 \cdot 10^5 / \text{cm}^2$; 4 - $\sigma = 1,0 \cdot 10^5 / \text{cm}^2$

(. 4).

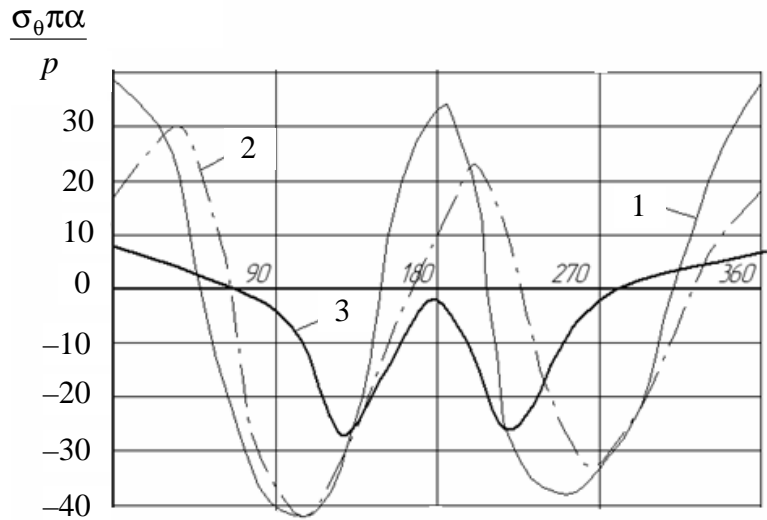


. 4.

: 1 - 0°; 2 - 36°; 3 - 90°

= 36°,
(. 5).

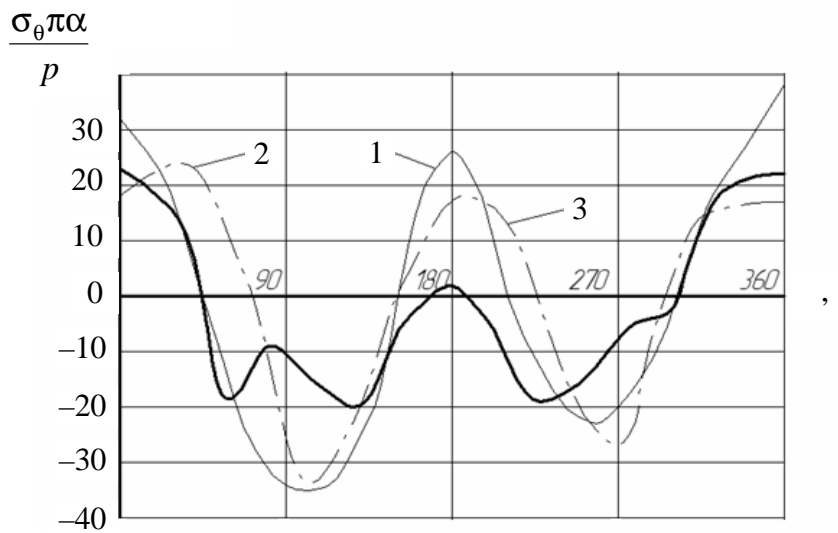
138° 202°



. 5.
2 - 36°; 3 - 90°

: 1 - 0°;

()_{max},
()
(. 6).



. 6.

: 1 - 0°; 2 - 36°; 3 - 90°

= 36°, = 0° 180°. = 40°

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