

-

5 (5 -)

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5 (5 -)

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5 (5 -) ,

(. . . 1):

$$k_{OB}^{Ti} \gg 1 (. . . 1) .$$

C, O N,

Ti

- Al, r, Zr -

Ti,

$$k_{OB}^{Ti} \approx 1 ,$$

- V, Fe, Si -

Ti

$$k_{OB}^{Ti} < 1.$$

$$Ti (k_B^{Ti} \ll 1)$$

1

[1]

	N	C	Mo	O	Ti	Zr	Al	V	r	Si	Fe	B
k_{OB}^{Ti}	5,997	2,583	1,832	1,500	1	0,824	0,814	0,801	0,561	0,360	0,310	0,082

5

(5 -),

O N.
Al Fe

O N

Ti

O N

()

(O, N),

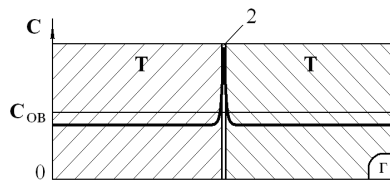
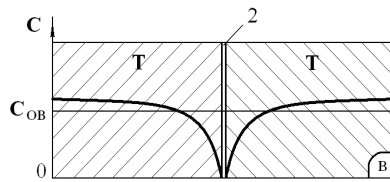
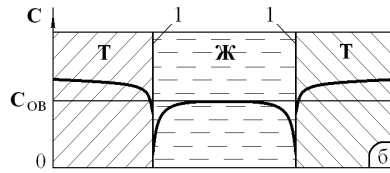
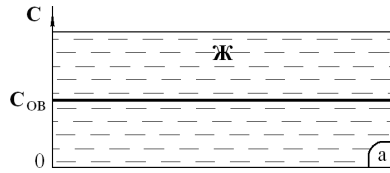
$$k_{OB}^{Ti} > 1.$$

.1.).

(.1.).

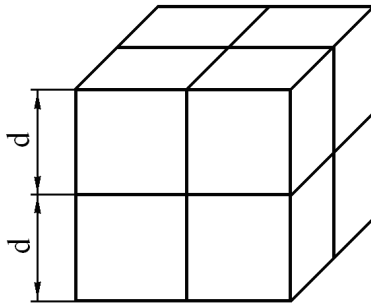
.1. .

(, ,)



1. ; - ; - ; - ; 1 - ; 2

(N,).
 (. .1.) [2 - 4], - ,



.2.

$$s = 3 \cdot \left(\frac{1}{d} + 1 \right) \quad (1)$$

d-

$$C_z = C - 3 \cdot c \cdot \left(\frac{1}{d} + 1 \right) \quad (2)$$

$$C = C_{[O]} + C_{[N]}, \quad (3)$$

$$C_{[O]}, C_{[N]} \text{ - } \%$$

Al, Fe, O, N,

$$(2) \quad (3) \quad ;$$

$$\sigma_T = 400 + 41 \cdot C_{[Al]} + 850 \cdot C_{[Fe]} + 2322 \cdot C_{[O]}^{0.41} + 1118 \cdot C_{[N]}^{1.2} - 0,903 \cdot \left(\frac{1}{d} + 1 \right), \quad (4)$$

$$C_{[Al]}, C_{[Fe]} \text{ - } \%$$

$$(\sigma_T), \quad (3)$$

$$(\sigma_T), \quad :$$

$$\Delta_{\sigma_T} = 100 \cdot \frac{\sigma_T - \sigma_T}{\sigma_T}, \% \quad (5)$$

□.

5%,

5 (5 -)

$$d = -0,00008 \cdot \sigma^3 + 0,0021 \cdot \sigma^2 - 0,0047 \cdot \sigma - 0,0001, \quad (6)$$

$$(6) \quad (4), \quad \sigma = f(\sigma)$$

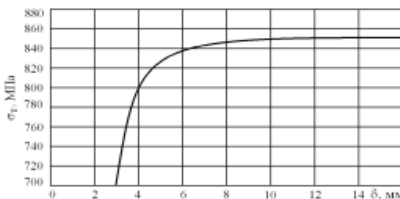
3 15 .

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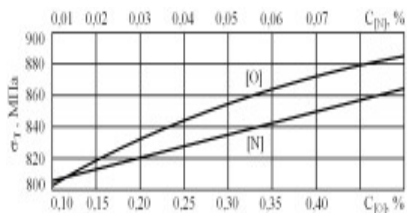
$$\sigma = f(\sigma)$$

5 -

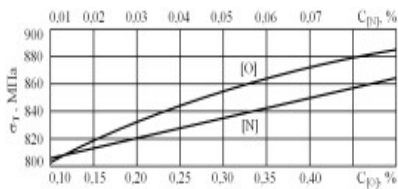
Al = 5,5%, Fe = 0,10%, O = 0,13%, N = 0,05%.



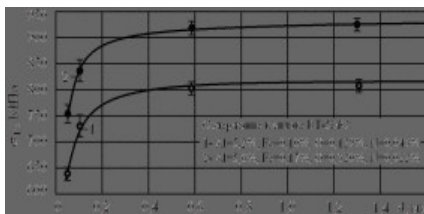
3. $\sigma = f(\sigma)$



4. $\sigma = f(C_{[Al]}, C_{[Fe]})$



5. $\sigma = f(C_{[O]}, C_{[N]})$
(4) (6)



6. $\sigma = f(d)$

5 (5 -)

4, 5 6 $\sigma = f(C_{[Al]}, C_{[Fe]}, C_{[O]}, C_{[N]})$ $C_{[Al]} = 5,5\%$, $C_{[Fe]} = 0,10\%$, $C_{[C]} = 0,13\%$, $C_{[N]} = 0,02\%$ $d = 1,3$ $\sigma = f(\sigma)$

(, N)

1. // , 1987. - 320 .
2. . - . : 1963. - 33 .
3. . - : , . - , 1988. 127 .
4. . : . : , 1960. - 323 .