

750

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05.02.09

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26 2010 .



750

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750 , -

$n = 1,5 - 2,0.$ -

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2008 .

500 « ».

1955 . «ALCOA» . -

750 , .

11700×15090×30195 , 8600 . -

$n = 1,08.$ -

750

750 .

1.

2.

3.

4.

1.

1,57

$n = 0,76,$

2.

14%,

$n = 0,83.$

,
1,47 .
 $n = 1,22,$

3.

750 .
,

2,4%.

750 .

,

,

«

750 »

« - »

750 .

2-

« XXI ».

, , 14-17 2006 .

4 ,

« ».

137 . 55 , 12 , -

50 .

1. ,

750

1961 .

1.

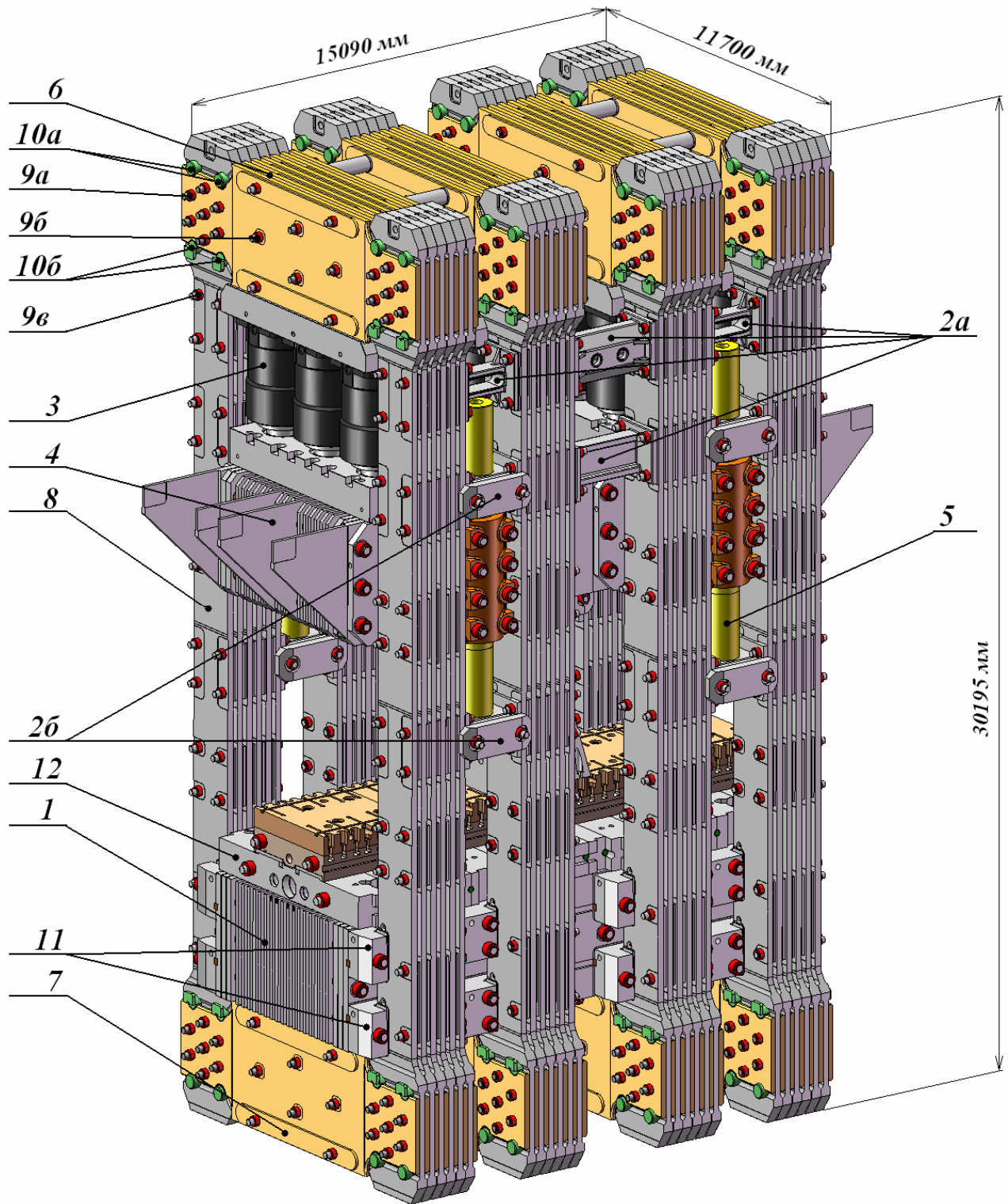
22 . (

200×200)

$\sigma_{-1} = 145$. (. 1, . 10)

$D = 450$, , « -

Ø450A3



. 1. 170 750 : 1 -
 ; 2 - ; 3 - ; 4 - -
 ; 5 - ; 6 - ; 7 - -
 ; 8 - ; 9 - ; 10 - ; 11 - -
 ; 12 - .

750

$n = 1,08.$

28 30

10%.

2.

750

()

ANSYS.

3-

8-

1-

750 (1/4)

()

(.2)

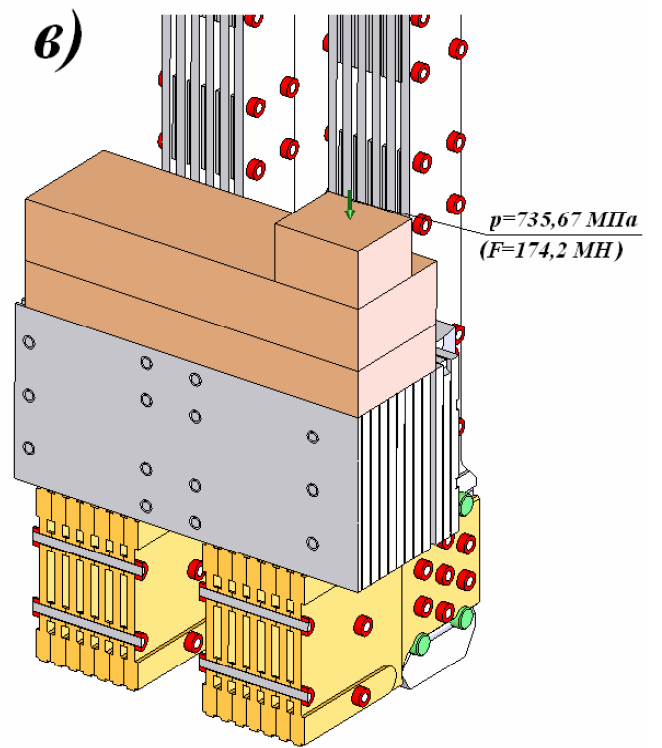
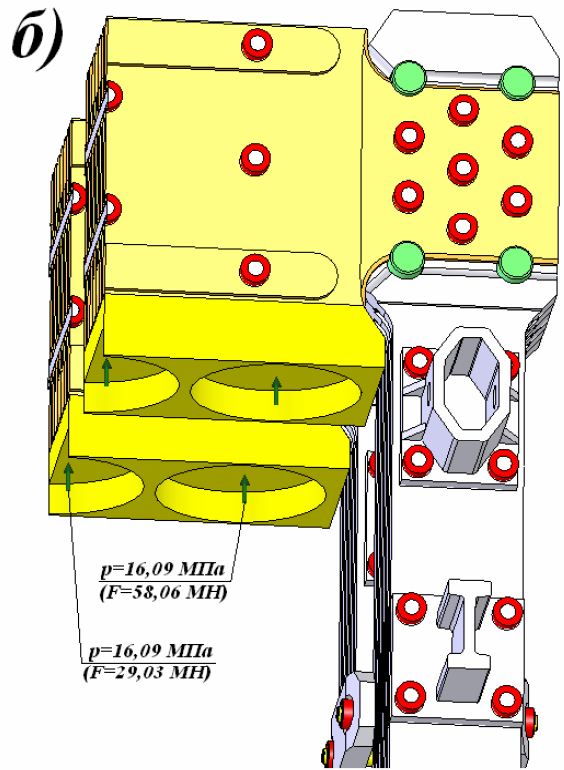
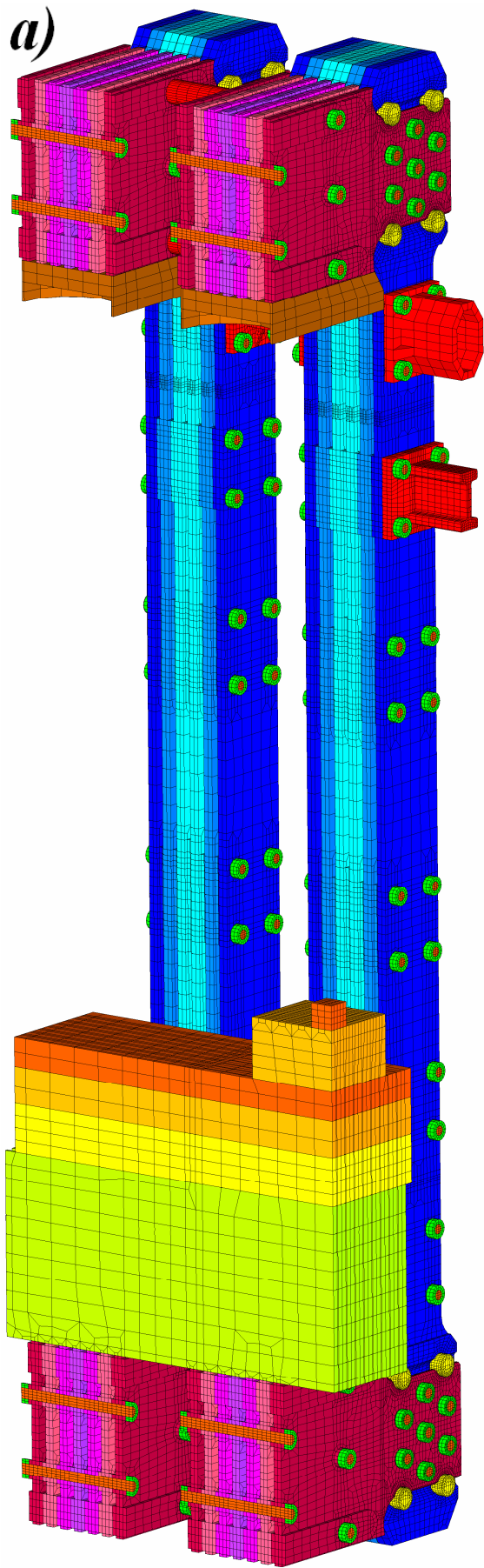
.2.

ANSYS

CONTA174 TARGE170.

$1,9 \cdot 10^6$

750



.2.

-

()

(),

()

(16÷17)%

(8÷9)%

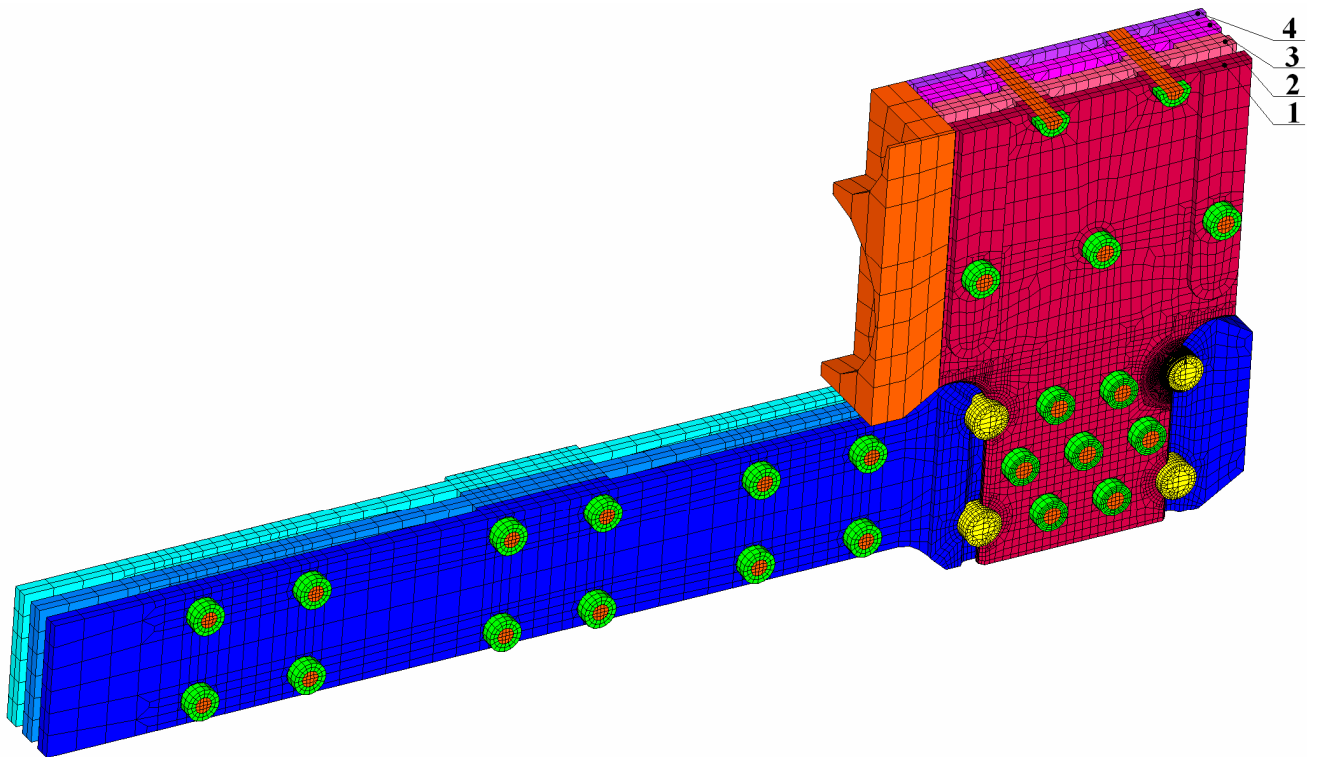
=1,03,

=1,04.

(. 3),

1/8

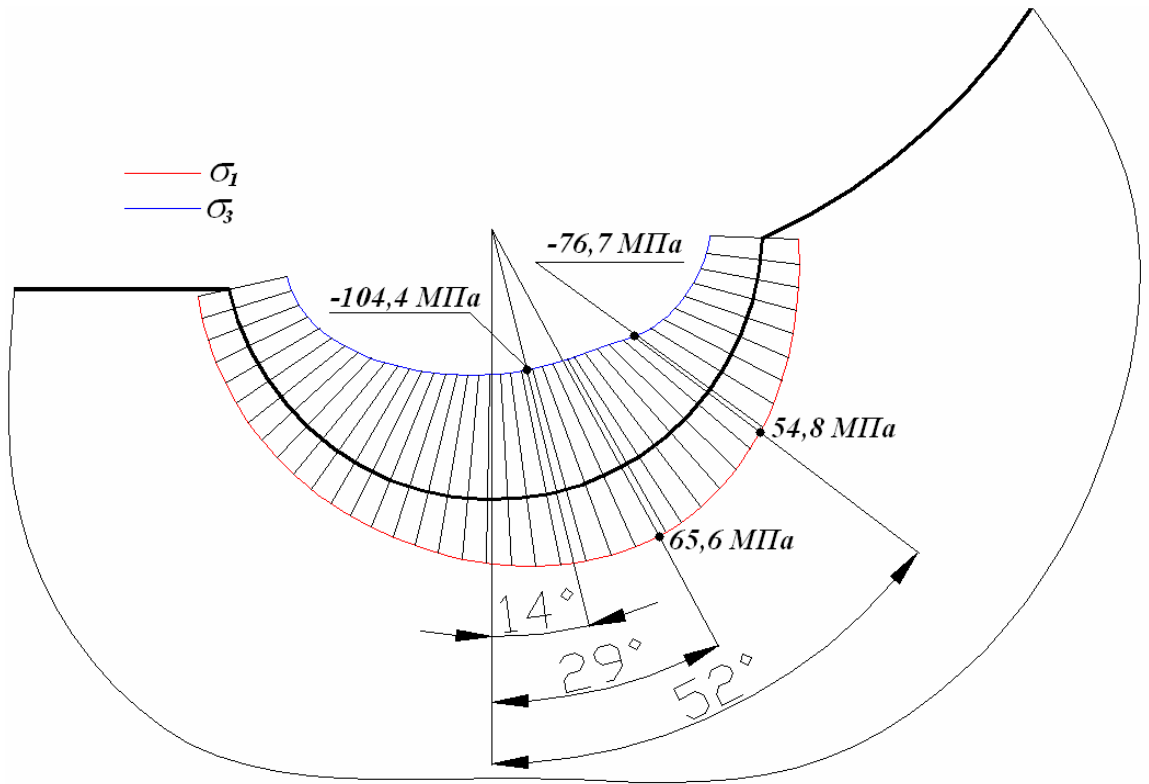
1/4



.3.

()

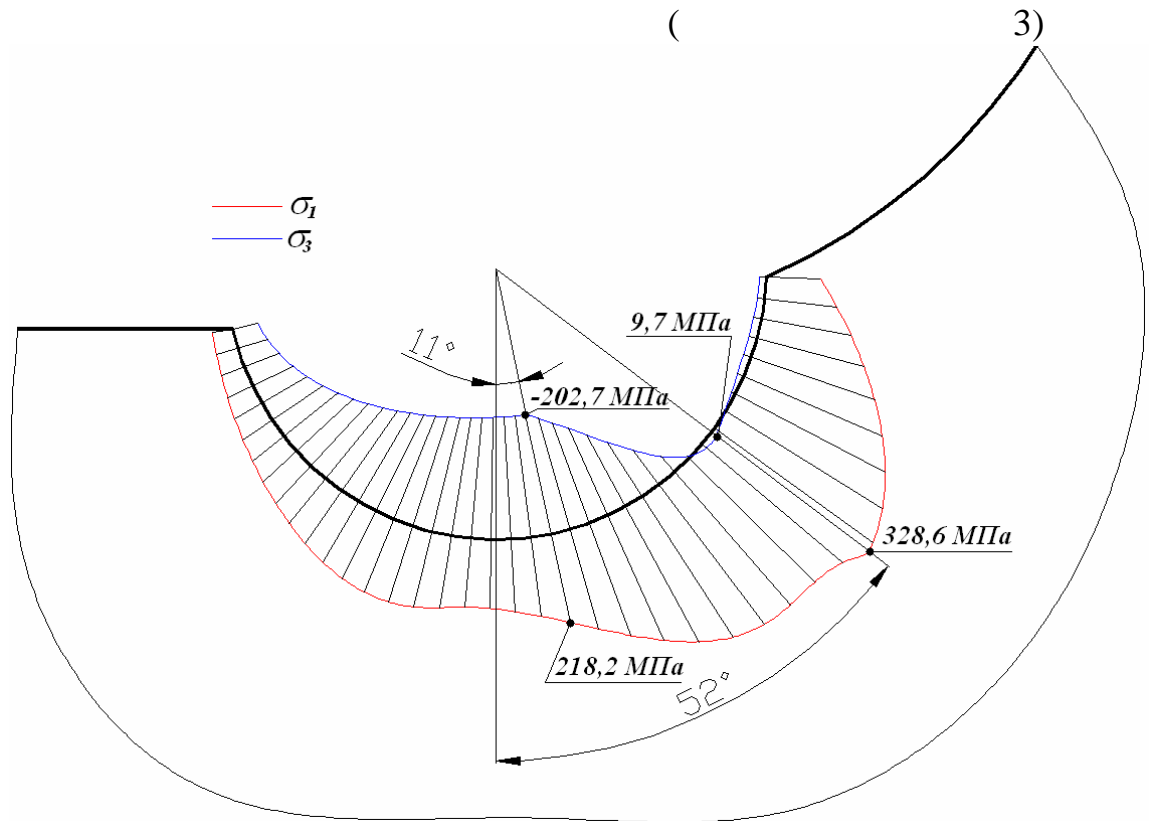
. (. 10 . 1),
 , . 10 , ,
 ,
 20%. , -
 4 :
 1. , .
 2. , .
 20%.
 . ,
 3. .
 .
 .
 4. .
 .
 σ_1 σ_3 3 4
 . 4 . 5. ,
 ,
 . ,
 .
 , .



.4.

σ_1 σ_3

(3)



.5.

σ_1 σ_3

4)

(

$$\sigma_{\max} = 202 \quad ,$$

$$\sigma_{\max} = 197,2 \quad .$$

2,4%,

$$\sigma_1 \cdot n$$

$$n = \frac{\sigma_{-1}}{\sigma_a + \psi \sigma_m} ,$$

$$\sigma_{-1} = 145 \quad - \quad 22 \quad ,$$

$$(\quad 200 \times 200 \quad)$$

$$\psi = 0,2 \quad -$$

$$\sigma_a \quad - \quad \sigma_1 \quad ;$$

$$\sigma_m \quad - \quad \sigma_1 \quad .$$

n

$$n = 0,76,$$

$$n = 0,83. \quad . \quad 1$$

$$n < 1$$

	σ_1	σ_1^{\max}	σ_a	σ_m	n
1	45,27	300,08	127,41	172,68	0,90
2	47,38	290,60	121,61	168,99	0,93
3	50,03	318,64	134,31	184,34	0,85
4	54,79	328,64	136,93	191,72	0,83

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- 8

$$D = 1$$

$$P = 10D^2 = 10$$

 h

0,0025

HB_{1/10/5} (. 18

9012-59).

 σ (22761-77).

. 2

HB_{1/10/5} σ h

	h	d	$HB_{1/10/5}$	σ
1	0		253,4	
2	2,00	0,232	233	774
3	4,15	0,250	200	673
4	4,70	0,257	190	642
5	5,55	0,265	178	606
6	6,48	0,270	171	586
7	7,90	0,280	159	550
8	8,96		140	490

(2...6). 2, 2
, 1,47 7,
7,9 , .
, 50
 σ_{-1} σ ,
 σ_{-1}
1,47 .
 n
 $n=1,22$,

3.

750

()

2000

· , ,
 , 10,75
 (11,13 ÷ 12,48) .
 26% (26,7 ÷ 28,6)%.

, , (1,04 ÷ 1,16)
 =1,04.

· , ,
 (-7,83 ÷ +8,20)%
 (-2,18 ÷ +3,01)%.
 =1,03. (1,03 ÷ 1,08)

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4.

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750

XXI

750 ,

2004 .

300

(« - »), 2006 .

350 (« »).

300

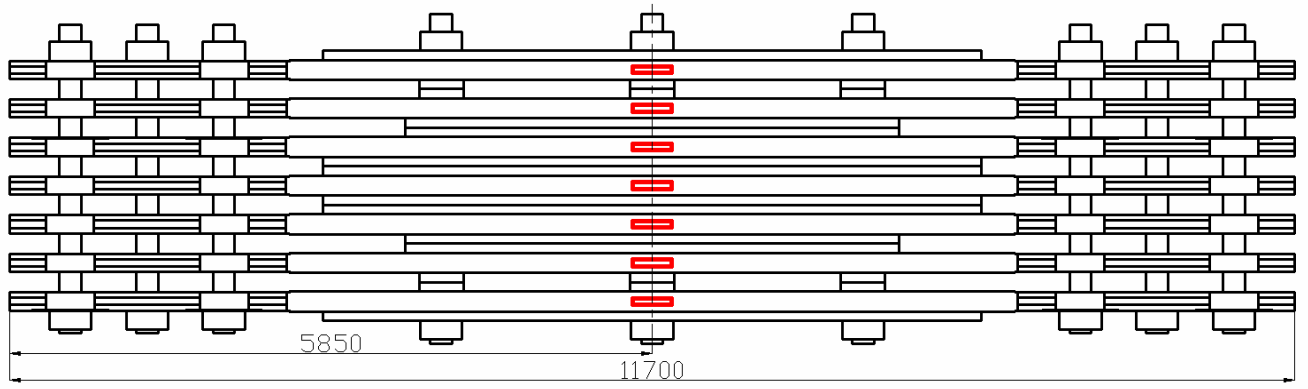
750

10 ,

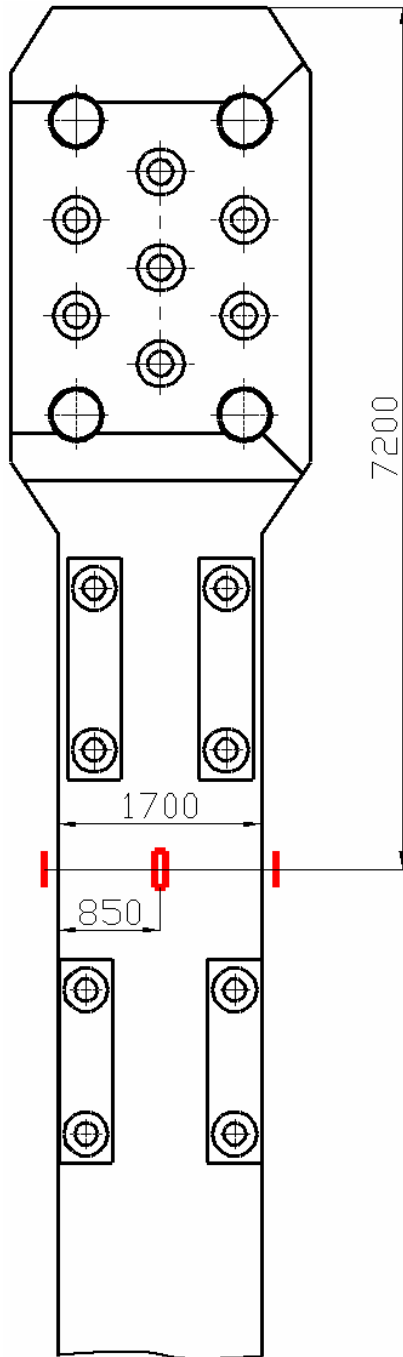
(. .6).

7200

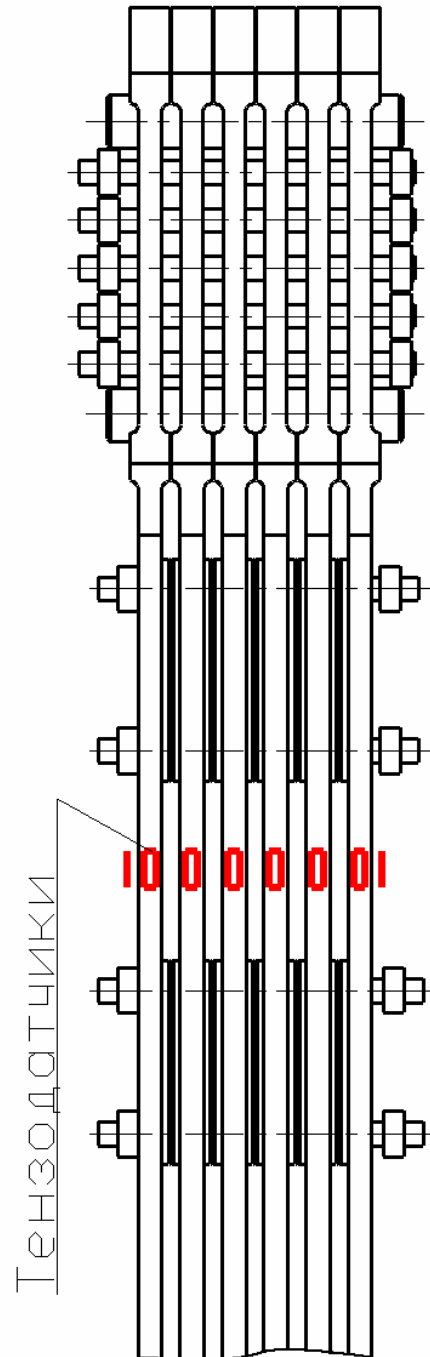
(. .7),



. 6.



. 7.



1- 2- () ,

$$F = \frac{1}{2}(\sigma_{ext} + \sigma_{int}) \cdot A,$$

σ_{ext} σ_{int} -
, A -

F

$$: F = \sum_{i=1}^6 F^i .$$

F

$$: F = \sum_{i=1}^8 F^i .$$

12 ,

, 8

192

168

(336), 20

, 4

MGCplus

HBM

(2).

1.		-
2.		-
3.		-
4.		-
5.		-
	« - »	-
	750	-
1.	750 1961	-
	$n=1,08,$	-
		-
	750	-
2.		-
		-
		-
		-

1,57

$n = 0,76,$

3.

14%,

$n = 0,83.$

4.

1,47 .

$n = 1,22,$

5.

11,5%,

4,8%. ,

6.

750 .

750 .

:

1. -

2-

« XXI ». , , 2006. . 397-

407.

2. -

750 50 //

- . 2009. 10. . 42-43.

3. //

- .

2008. 1. . 40-43.

4. -

// - . 2007. 11. . 29-32.

5. 2358873. -

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. 20.06.2009. . 2009 17.