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14 2020 . ,  
125  
, 4 , 45 , 10 ,  
104 .  
” ”  
” ”

18 2021 . 9,00  
” “

” “  
, -226 .

# I.

## I.1.

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⤵ :

⤵ ;

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2012 . – 2018 .

4.

2012 . – 2018 .

	2012	2013	2014	2015	2016	2017	2018
	20	22	35	26	29	37	43
	2012	2013	2014	2015	2016	2017	2018
	37	23	23	35	30	24	36
	2012	2013	2014	2015	2016	2017	2018
	10	13	12	8	16	13	17
	2012	2013	2014	2015	2016	2017	2018
	11	6	19	8	4	13	8
	2012	2013	2014	2015	2016	2017	2018
	78	64	96	75	79	87	104
, %							
	2012	2013	2014	2015	2016	2017	2018
	26 %	34 %	36 %	35 %	37 %	43 %	41 %

4,

I.2.

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1.

2.

3.

4.

1.

2.

13.

**II.**

,4 ,45 ,10 125  
104

**III.**

2012-2019

Turkstat [6],

2012 – 2018

583

208

89

43%.



## 1.1.

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## 1.2.

## 1.3.

.1.1



1.1.

.1.2



1.2.

1.4.

130

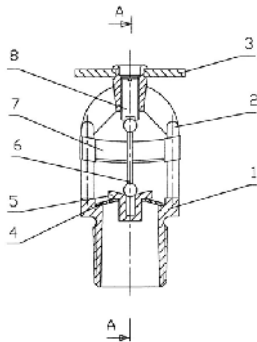
12

1, 2 3 ( ).

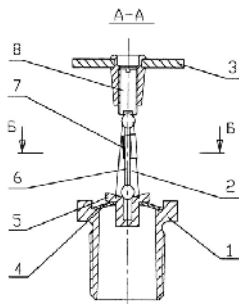
4 5,

” “  
6,

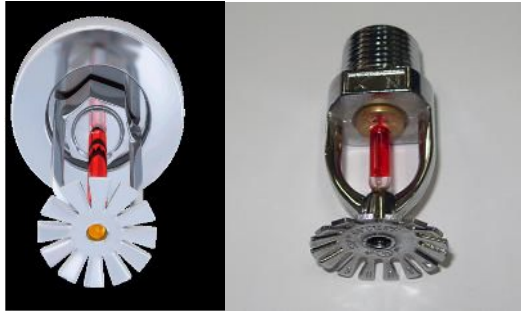
1 7  
8 - . 1.7.



1.7.



( ) - . 1.8



1.8.

— .1.12



1.12.

1 ) — ( ) (1

1.

2.

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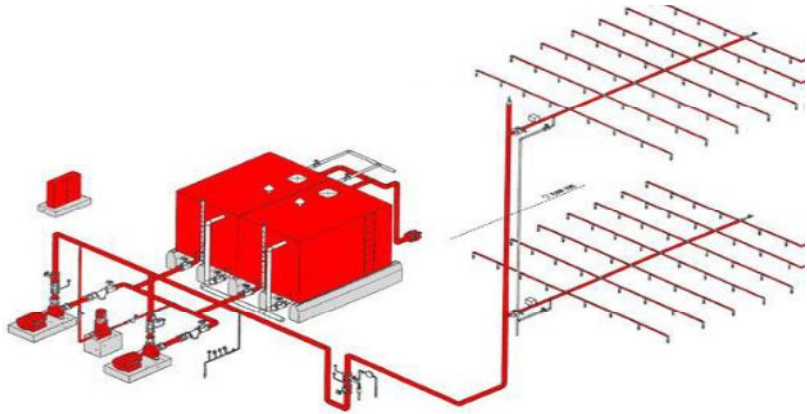
### 2.1.

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- , , , , ,  
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2.1.



2.1.

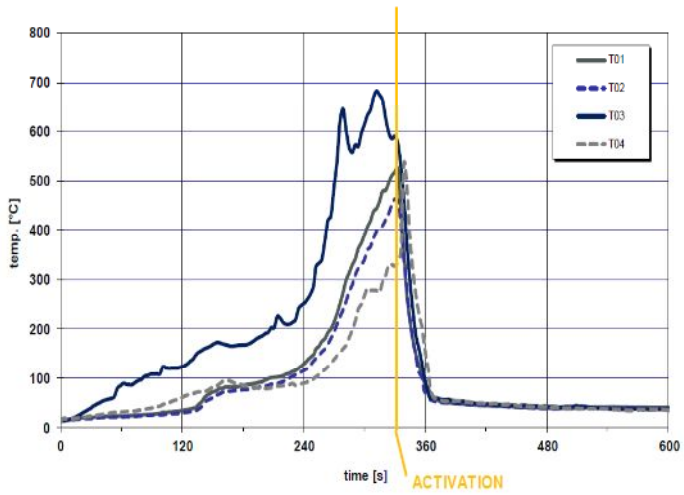
5 °

5 °  
240 ,

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 - 5<sup>0</sup> ,  
 - - ,  
 - 5<sup>0</sup> -  
 - .  
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[32]. . 2.2

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 , -  
 , .



2.2.

01–50 mkm; T02–100 mkm; T03–150 mkm; T04–200 mkm



[37].

21% 15%,

2.2.



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•

- , 29%

2.3. ,

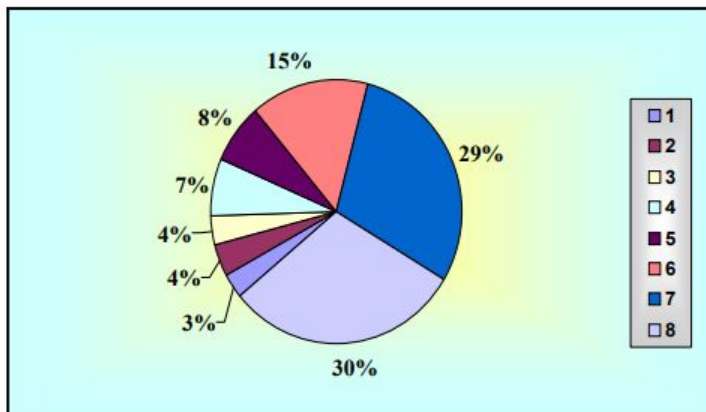
• • ,

12

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, 1. . 2.8 , -

[46-49] .



2.8.

- 1-,, “ ;
- 2- ;
- 3- , " " , ;
- 4- ;
- 5- ;
- 6- ;
- 7- ;
- 8- ,

➤ ” “ 3 %

[50].

” “  
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• ;  
➤ ,

,  
➤ ,

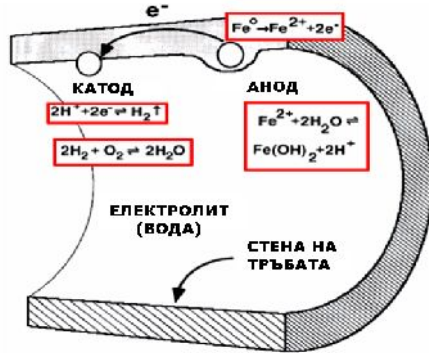
➤ ;  
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• ( ) 3 :  
• " " ;  
• (MIC).

(60÷80 %)

. 2.12.



2.12.

[59]:

1.

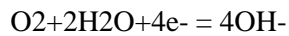
2.

3.

( . . )

4.

( )



5.

. 2.15

( )



20-



98 % ( 2)

[66]:

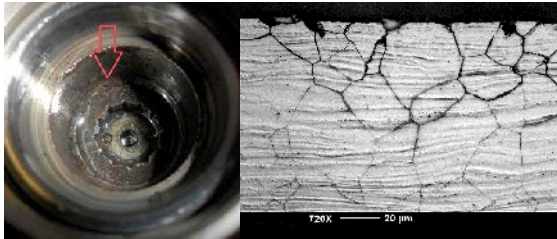


98 % N2

2.15.

( )

- . 2.17.



2.17.

( )

(MIC)

– . 2.18.



2.18.

1.

2.

3.

4.

5.

### 3.1.

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- ✓
- ✓
- ✓

### 3.2.

$F$  ;  
 $q$ ,

лага  
 ната  
 $F_{\text{пож}}^L$   
 на

[80]:

$$K_{\text{СПР}} = \frac{1 - \frac{F_{\text{пож}}^L}{F_{\text{расч}}}}{1 - q} \quad (3.1)$$

” -

“.

:

$$\eta = q_{\text{расч}} / q_{\text{факт}} \quad (3.2)$$

:

- q

- q

;

;

:

$$\eta = I_p / I_u \quad (3.3)$$

:

- I -  
- I -

;  
;  
I

[82]:

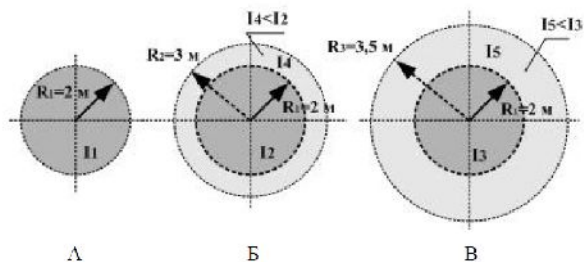
$$I_u = \frac{10K\sqrt{P}}{S} \quad (3.4)$$

:

- -  
- -  
- S -

;  
;

. 3.1



3.1.

„ “

$R_1 = 2 \text{ m}$ ,

$R_2 = 3 \text{ m}$   $R_3 = 3,5 \text{ m}$  ( „ “ „ “ )

. 3.1

3.1.

		R1 = 1 m	R1 = 1,5 m	R1 = 2 m
		(I1)	(I2)	(I3)
	0,1	0,093	0,091	0,096
	0,2	0,149	0,148	0,136
	0,3	0,202	0,184	0,166

10 % .  $I_3$   $R < 2,0$  m , - 2,0 m, R .

$W_f$ ,

определена .  
 тивна ин  
 ел се опр  
 [86] :

$$W_f = \frac{F_{e\Phi} - F_0}{F_{e\Phi}} \cdot 100 \% \quad (3.5)$$

:  
 -  $W_f$  - , %;  
 -  $F$  - ,  $^2$ ;

1.

” “ ” “

2.

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3.

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4.

**4.1.**

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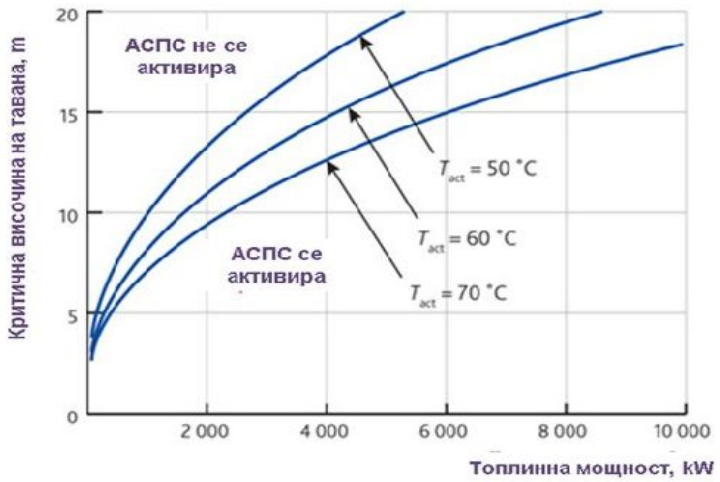


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4.2.

( re-action)

– .5.1.



5.1.

( )

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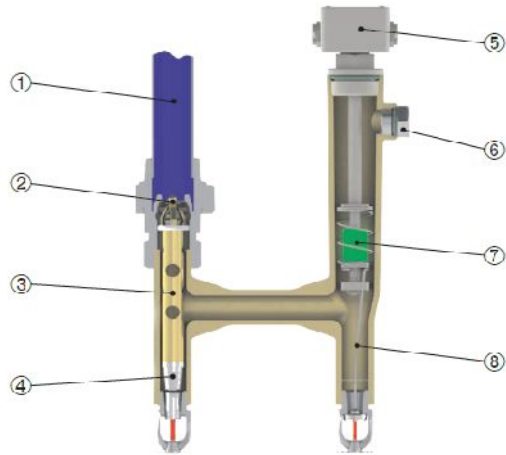
,

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.

( re-action)

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5.2.

- 1- ; 2-
- 3- ; 4-
- 6- ; 7-
- 8-

1.

2.

( re-action).

3.

4.

5.

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## IV.

### IV.1.

1.

2.

3.

### IV.2.

1.

2.

3.

4.

( re-action).

## V.

1. Kemal, Terzioglu., Ali, Chakar., COOPERATION SYSTEM IN INDUSTRIAL PLANTS., VIII INTERNATIONAL SCIENTIFIC CONFERENCE n ARCHITECTURE AND CIVIL ENGINEERING ArCivE 2017 1–3 June 2017, Varna, Bulgaria;

2.Kemal, Terzioglu., Ali, Chakar., SMOKE DISCHARGE SYSTEM IN INDUSTRIAL FACILITIES; VIII INTERNATIONAL SCIENTIFIC CONFERENCE n ARCHITECTURE AND CIVIL ENGINEERING ArCivE 2017 1–3 June 2017, Varna, Bulgaria;

3. K., . . . . . IX

ArCivE 2019.

31 -02 , , .