

30

()

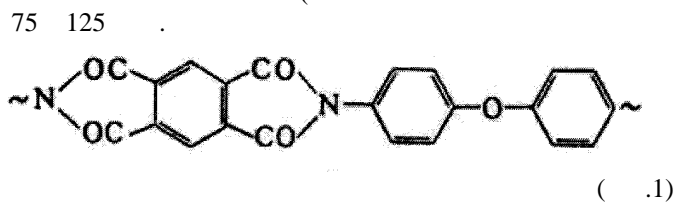
30%,

~150÷500

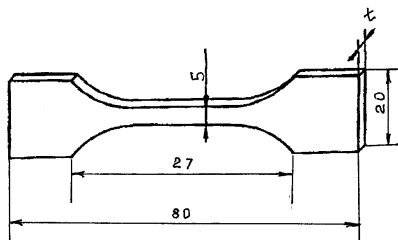
[1-9].

293 77
10⁻⁴-10⁻³ -1.

-4,4'-
kapton H



1 11262-80,
(14236-81).



.1. (t-75 125)

(293) (77)
FPZ-100/1

3,8·10⁻³ 6·10⁻³ -1 (ε̇ = V / L₀, L₀ - , ε̇ = 7·10⁻⁴;

30

ΔL»,

σ = 1%/S₀;

ΔL

(

) σ = /S₀,

S₀ - ΔL

1%,

[9]

ΔL

ΔL

()
ΔL₁
ΔL₂

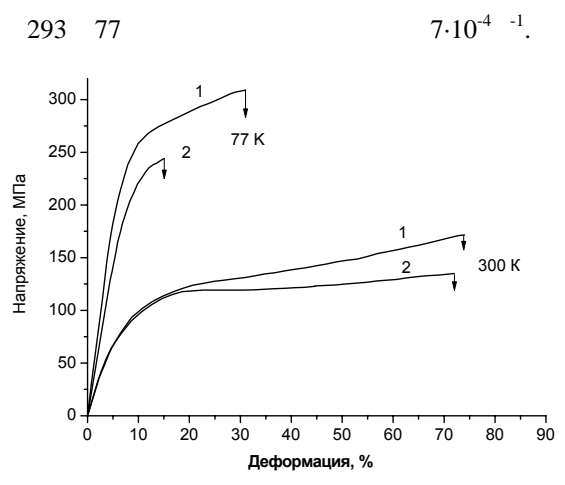
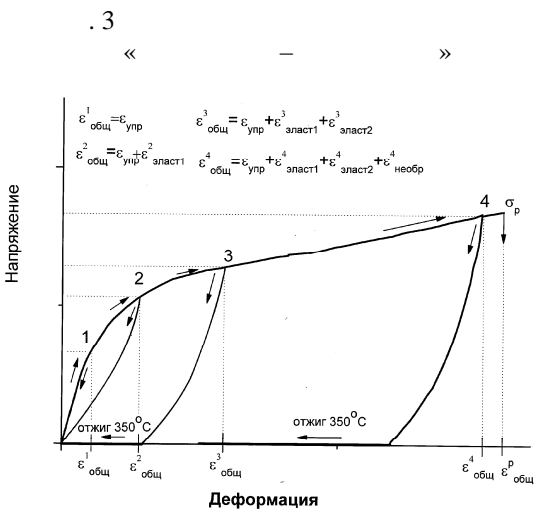
$$\Delta L = \Delta L_1 + \Delta L_2 + \Delta L_3 \dots \quad (1)$$

$$\Delta L = \Delta L_1 + \Delta L_2 \dots \quad (2)$$

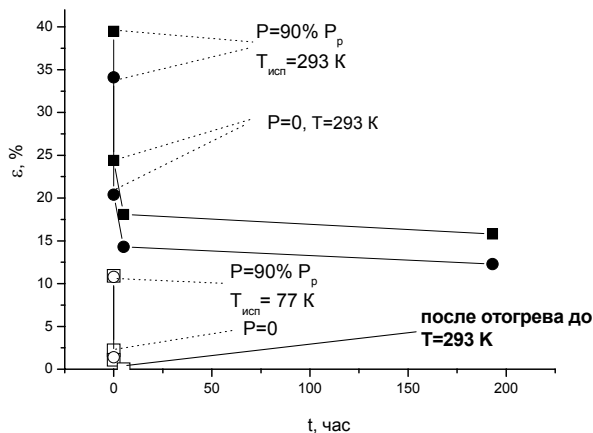
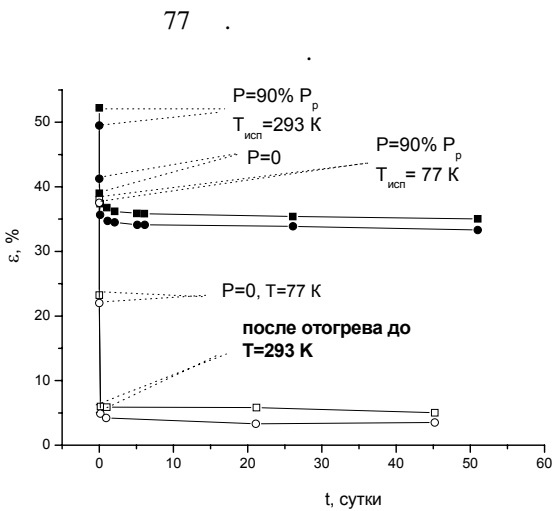
$$\Delta L = \Delta L_1 + \Delta L_2 + \Delta L_3 + \Delta L_4 \dots \quad (3)$$

$$(\epsilon_1 + \epsilon_2) \dots \quad (4)$$

$$\dots \quad (5)$$



2. $75 \cdot 10^{-4} \dots$
 (1,2,3,4) 293 $7 \cdot 10^{-4} \dots$
 3. $75 \dots (1) \dots 125 \dots (2) \dots 7 \cdot 10^{-4} \dots$
 $(\sigma - \epsilon) \dots (1, \dots 2)$
 $(\sigma - \epsilon) \dots (2, \dots 2)$
 $(\sigma - \epsilon) \dots \sigma=0$
 $\sigma \sim 90\% \sigma \dots (3,4, \dots 2)$



4.

293 77 ,

75 () 125 (),

293,

77 ,

(.4 ,).

60 , ..

= 77

75

125

[8].

ΔL 1,

293 ,

77 ,

.5

σ

ε

σ ,

.5

ε .

.1

293 77

σ σ

293 77 .

(.5)

293 ,

77

σ ε

293 ,

77

σ ε .

5-8% (

).

25-30% 293

~17% 77

(.5).

293

()

, σ ,

77

1,3 .

σ ε

, 5-8%.

125

77 - ~17%,

ε - 50%,

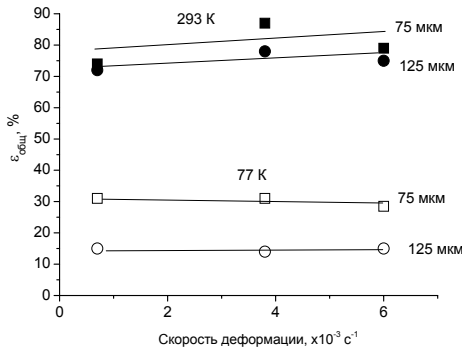
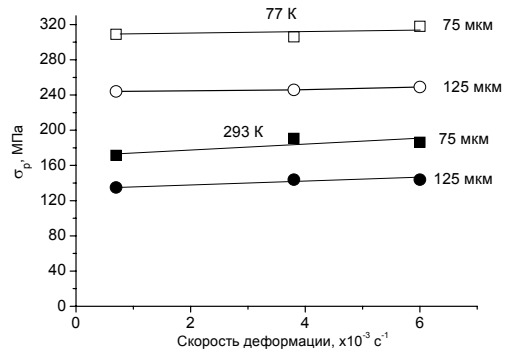
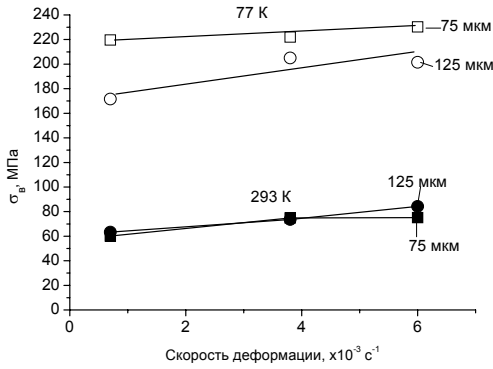
σ/σ

σ

125 (). 77 81%. [10, 11],

$$\dot{\epsilon}_3 = 6 \cdot 10^{-3} \text{ c}^{-1} \quad \sigma / \sigma$$

125
)



.5. σ (), σ ()
 ϵ ()

293

77

1

293 77 .

t,	$\frac{\sigma_{293}}{\sigma_{293}}$	$\frac{\sigma_{77}}{\sigma_{77}}$	$\frac{\sigma_{77}}{\sigma_{293}}$	$\frac{\sigma_{77}}{\sigma_{293}}$	$\frac{\epsilon_{293}}{\epsilon_{77}}$
$\dot{\epsilon}_1 = 7 \cdot 10^{-4} \text{ c}^{-1}$					
75	0,35	0,71	3,7	1,8	2,4
125	0,47	0,71	2,7	1,8	4,8
$\dot{\epsilon}_2 = 3,8 \cdot 10^{-3} \text{ c}^{-1}$					
75	0,39	0,73	3,0	1,6	2,8
125	0,51	0,83	2,8	1,7	5,6
$\dot{\epsilon}_3 = 6 \cdot 10^{-3} \text{ c}^{-1}$					
75	0,4	0,72	3,1	1,7	2,8
125	0,58	0,81	2,4	1,7	5,0

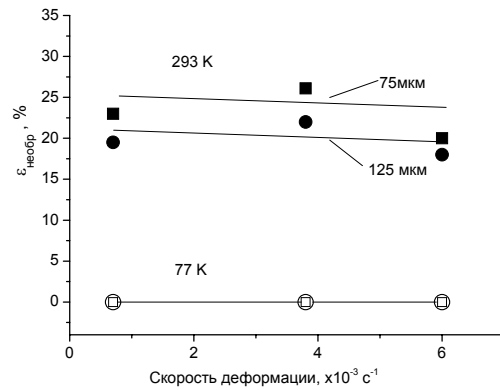
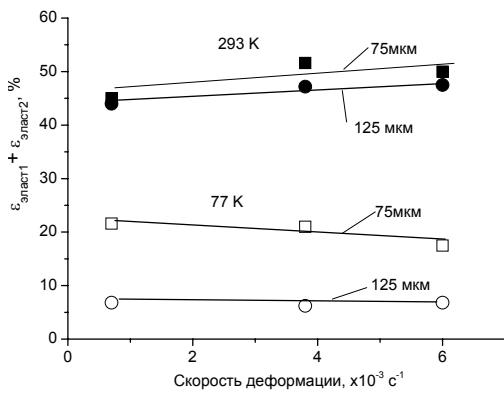
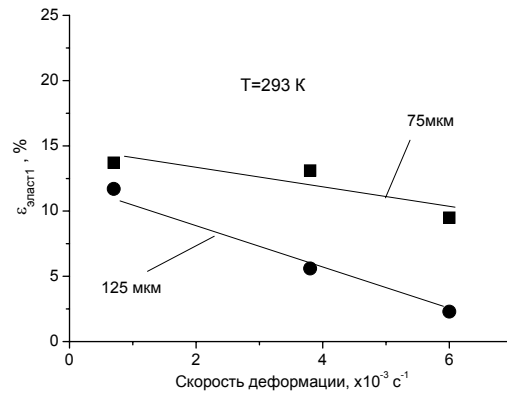
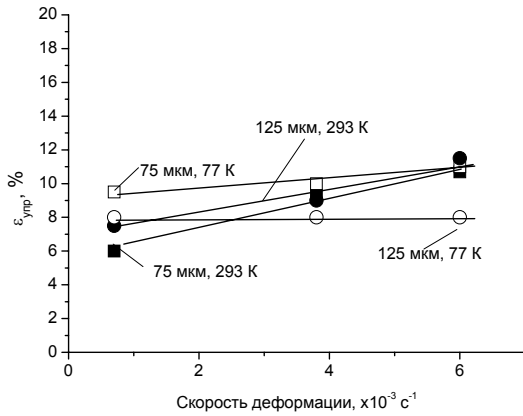
ϵ , : ϵ ,
(=293),
 ϵ . .6 .2
.3
 ϵ ($\epsilon_1 + \epsilon_2$)
 $\epsilon_1, (\epsilon_1 + \epsilon_2) \epsilon$ ϵ .
($\epsilon_1 + \epsilon_2$).

ϵ

ϵ .

$$(\epsilon_1 + \epsilon_2) / \epsilon \quad [12].$$

$$\epsilon_{1293} / (\epsilon_1 + \epsilon_2)_{293}$$



6. $(\epsilon_1 + \epsilon_2) / \epsilon$ (), $\epsilon_{1293} / (\epsilon_1 + \epsilon_2)_{293}$ ()

77 : ~2,5 (ε ε 1+2) 75 ~5 (ε) ~6,5 (ε 1+2) 125 .
 (ε =31%, 75 ε =15%, 623).
 125), 293 , 77
 77 , 293 350 . 77 ,
 [12].
 ε 1+2/ε 75
 ~0,6,
 0,45. 125 77 , 293

2

		ε 77 293				
t,	,	ε , %	ε , %	ε 1, %	ε 1+ ε 2, %	ε , %
$\dot{\varepsilon}_1=7 \cdot 10^{-4} \text{ }^{-1}$						
75	293	74	6,5	13,7	45	22,5
125		72	7,5	11	44	20,5
75	77	31	9,5		21,6	0
125		15	8,0		6,8	0
$\dot{\varepsilon}_2=3,8 \cdot 10^{-3} \text{ }^{-1}$						
75	293	87	9,5	13,0	51,4	26,1
125		78	8,0	5,5	47,2	22,8
75	77	31	10,0		21	0
125		14	8,0		6,2	0
$\dot{\varepsilon}_3=6 \cdot 10^{-3} \text{ }^{-1}$						
75	293	79	11,0	9,5	48	20
125		75	11,0	2,5	46	18
75	77	28,5	11,0		17,5	0
125		15	8,0		6,9	0

3

		ε , ε ε 77 293					
t,	$\frac{\varepsilon_{293}}{\varepsilon_{77}}$	$\frac{\varepsilon_{293}}{\varepsilon_{77}}$	$\frac{\varepsilon_{(1+2)293}}{\varepsilon_{(1+2)77}}$	$\frac{\varepsilon_{(1)293}}{\varepsilon_{(1+2)293K}}$	$\frac{\varepsilon_{(1+2)293}}{\varepsilon_{293}}$	$\frac{\varepsilon_{(1+2)77}}{\varepsilon_{77}}$	$\frac{\varepsilon_{293}}{\varepsilon_{293K}}$
$\dot{\varepsilon}_1=7 \cdot 10^{-4} \text{ }^{-1}$							
75	2,4	0,7	2,1	0,3	0,61	0,7	0,3
125	4,8	0,95	6,5	0,25	0,61	0,45	0,28
$\dot{\varepsilon}_2=3,8 \cdot 10^{-3} \text{ }^{-1}$							
75	2,8	0,95	2,5	0,25	0,59	0,68	0,3
125	5,6	1,25	7,6	0,12	0,61	0,44	0,29
$\dot{\varepsilon}_3=6 \cdot 10^{-3} \text{ }^{-1}$							
75	2,8	1,0	2,7	0,2	0,61	0,61	0,25
125	5,0	1,4	6,7	0,06	0,61	0,46	0,24

[10, 11]

()

77

$\sigma/\sigma \rightarrow 1$

[10]

[14]

[13]

[9],

77

1. kapton H (σ) (σ) ε
 10^{-4} - 10^{-3} $^{-1}$. (75 125) 293 77
2. 293 77
 ε ($\varepsilon_1 + \varepsilon_2$) ε ε ε_1 ,
 ε_2 . 293
3. 623 σ
 ε_1 , σ , ε :
4. ()
5. 77 ,
 ε_1

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