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INVESTIGATION OF THE NATURE OF THE EFFECT OF OLIGOPHOSPHONATES ON THE DENSITY OF COMPOSITIONS BASED ON HIGH-DENSITY POLYETHYLENE

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Abstract. Plastic masses have firmly entered the life of a modern person. Many physical and mechanical characteristics of polymer materials and products based on them are determined by a physical quantity called density. It depends on the chemical structure of the initial polymer, the presence of crystalline regions in it, as well as the content of various functional additives. High-density polyethylene is one of the widely used polymers in various fields of industry and agriculture. Therefore, the development and investigation of the nature of the effect of new stabilizers and modifiers for polymer materials is an urgent problem.

Keywords: oligophosphonates, density, composition, high-density polyethylene

• • • 0,92-0,96 / ³ [1].

[2]

-[-O-C₆H₄-C()₃-C₆H₄-(-O-P()-O-C₆H₄-C()-C₆H₄-)_n-O-C()-C₆H₄-C()-],

n = 1; 5 (n –).

: -1 n=1; -1* –

; -2 –

n=1; -3 –

n=1;

-4 – n=5.

(/)

: -1= 0,4; -1* = 0,7; -2 = 0,7;

-3 = 0,7; -4 = 0,2.

230–240 °

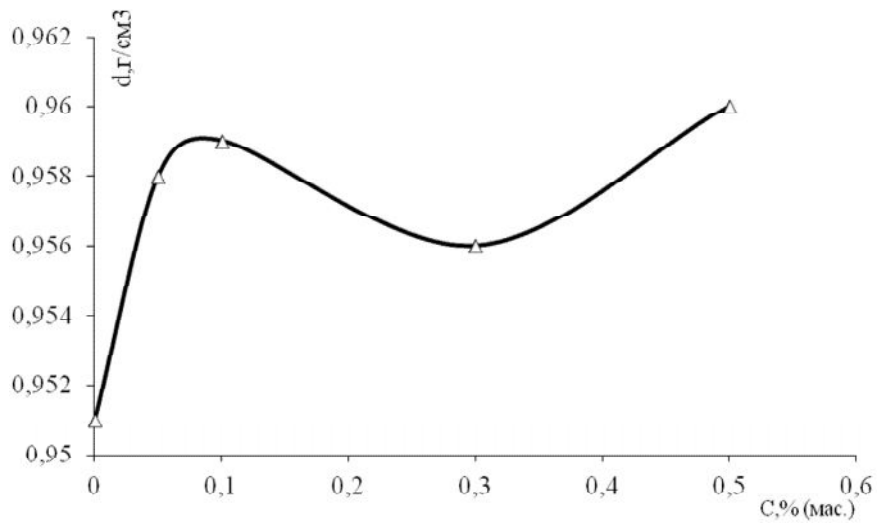
155–230 ° , . .

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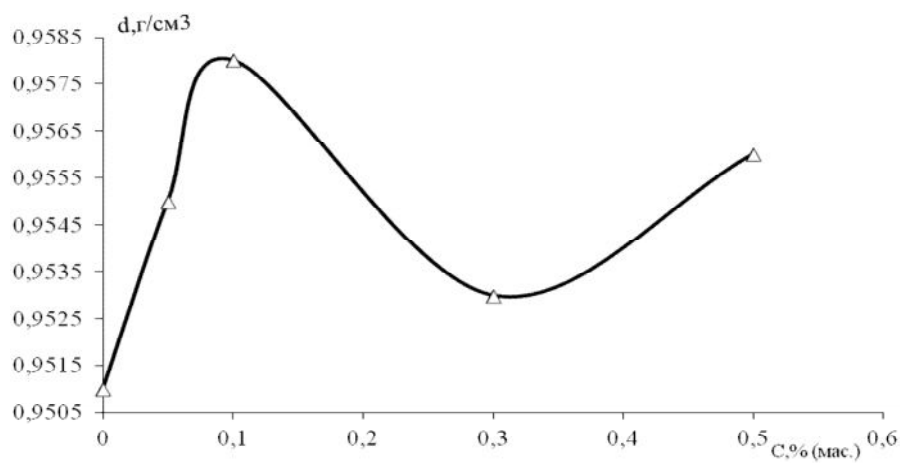
(- =)

1–5.



1 –

-1



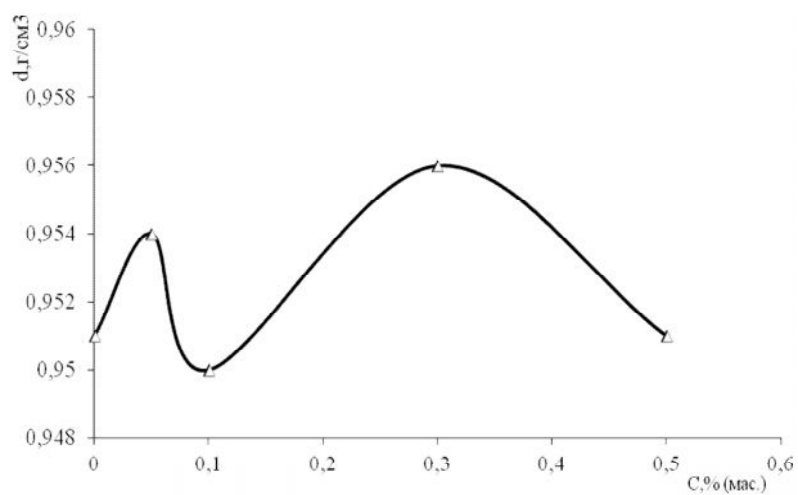
2 –

-1*

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(«

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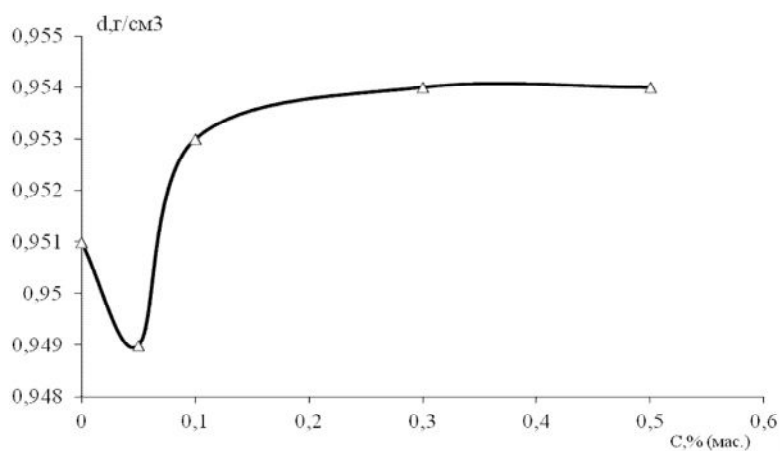
3 –

-2

-, , , , . . . - , [3–5]

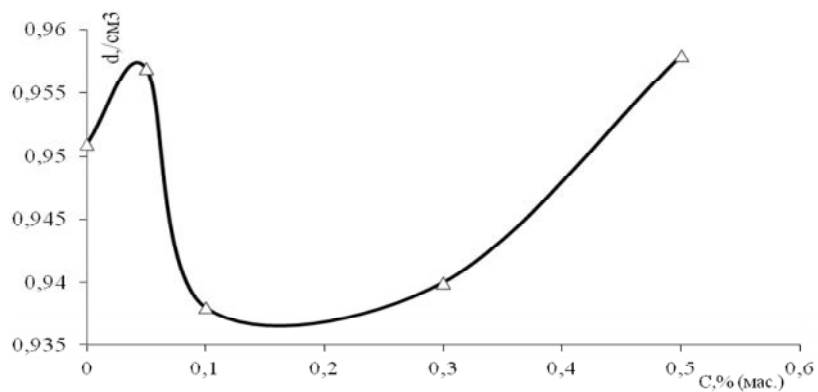
-, - (V_E) (V_W) 20,6 g/cm^3 , 7,6 g/cm^3 .

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4 –

-3



5 –

-4

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1. : , 1978. 544 .

2.

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3. : , 1955. 558 .

4. : , 1981. 320 .

5. . . , : , 1983. 248 .