

DETERMINATION OF ENVIRONMENTAL EFFECT FROM CONVERSION OF DIESEL RECIPROCATING INTERNAL COMBUSTION ENGINE OF HYBRID ELECTRIC VEHICLE ON CONSUMPTION

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In Fig. 1 illustrates the results of calculations, namely the graphs of the values of the K_{fe} criterion and its relative change δK_{fe} due to the conversion of the engine from 100 % consumption of traditional motor fuel to 100 % alternative fuel, from the value of engine torque at a constant speed of its crankshaft (i.e. by load characteristics).

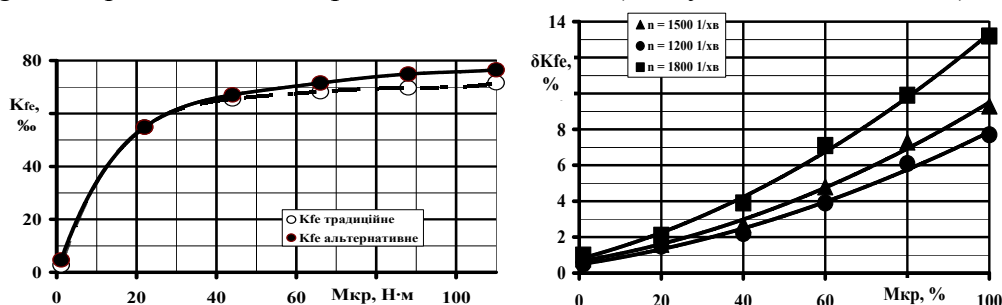


Figure 1 – Results of the study

The results of the main calculations – regime and average operating values of fuel and environmental efficiency of the diesel operation 2Ch10.5/12 according to the ESC exploitation model, i.e. the value of the K_{fe} criterion, and the corresponding effect δK_{fe} for using of alternative fuel are summarized in Table 1.

Table 1 – Results of the study

Indicator		Number of operation regime in model of exploitation												Average operating values	
		1	2	3	4	5	6	7	8	9	10	11	12		13
K_{fe}	%	4.1	62.1	66.7	63.6	63.0	63.5	57.5	68.7	57.5	71.3	48.9	67.7	62.3	63.0
K_{fe}	%	1.1	7.5	3.6	4.7	3.2	5.1	1.6	8.5	1.8	10.7	2.3	7.2	4.5	6.6

References

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